Usenet Newsgroup Archive: rec.radio.amateur.homebrew

1995

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Date span: 1995-01-01 through 1995-12-31

Source text: rec.radio.amateur.homebrew.txt

Source item: https://archive.org/details/usenet-rec

Messages included in this PDF: 6,405

Message records with no readable body available in the source text: 19

Messages are presented chronologically by archived date.

Binary or encoded payloads are not printed as blocks of encoded text; a placeholder appears where such material was detected. The original source text is unchanged.

1. Re: Fm Radio Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-01 08:54:45 UTC
From: sean@interaccess
Message-ID: <3e5qkl$83p@nntp.interaccess.com>
Source record: 114900

Joe Taylor (joe.taylor@woodybbs.com) wrote:
: Hi Jeff:
: Most of the transmitters have to have a license. What kind of license
: do you plan to work with? There are a few mini-transmitters that can be
: tuned to use on the 88 - 108 Mhz broadcast band. Usually you can find
: these in kit or semi-kit form in radio magazines. They are primarily for
: "around the house" use.... short range. Remember that you "must not"
: interfere with other receiver's if you put one of these on-the-air and you
: never know when you will be transmitting on what appears to be a clear
: frequency to you, but turns out to be a distant station that you neighbor
: has spent $300 to be able to get- buying tower, pre-amps and yagi beam
: antenna. Be careful not to get in trouble.....
: Joe N4NAS
:
: Maybe Jeff you need to get a ham license!!!
: ---
: • BgNet 1.0•12 • 049/000: Pipeline BBS - Glasgow, Ky - 502-651-2556

Maybe Jeff you need to look into ALT.RADIO.PIRATE

2. Building transistor matching network from S-parameters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-01 11:56:53 UTC
From: jdc3538@ultb.isc.rit.edu
Message-ID: <1995Jan1.115653.1300@ultb.isc.rit.edu>
Source record: 114903

I'd like to match the output of a transistor to a 50 ohm load. The ARRL Handbook shows how to get there given the transistor's series equivalent resistance and capacitance. However, the Motorola data book lists "S" parameters for transistors. Are they one in the same?

73...Jim N2VNO

3. Re: Filter Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-01 13:06:44 UTC
From: jeffa@ix.netcom.com
Message-ID: <3e69d4$ed1@ixnews2.ix.netcom.com>
Source record: 114904

I purchased Zverev's book during the summer, and just saw one in a bookstore this last month, so I'd be surprised to find it out of print.

You might call the following bookstores - I don't know if they'll ship, but it's worth the try: Staceys, and the Stanford University Bookstore (try both the campus and University Ave. locations for the Stanford store). I saw Zverev on one of their bookshelves. To get their numbers call information for the 415 area code - both stores are in Palo Alto, California.

My copy was $115, but it could be more now. But it's a beautiful book.

With regards to Terman - I just saw one yesterday, though couldn't tell you the edition (sometime in the 40's, I believe). Excellent condition and good price - but I already had one.

Now if I can just find a "Radiotron Designer's Handbook"!

Cheers,

- Jeff, WA6AHL

4. Re: Building transistor matching network from S-parameters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-01 14:01:44 UTC
From: lascal@magritte.its.rpi.edu
Message-ID: <3e6ck8$gq0@usenet.rpi.edu>
Source record: 114905

J.D. Cronin (jdc3538@ultb.isc.rit.edu) wrote:

: I'd like to match the output of a transistor to a 50 ohm load. The
: ARRL Handbook shows how to get there given the transistor's series
: equivalent resistance and capacitance. However, the Motorola data
: book lists "S" parameters for transistors. Are they one in the same?

S parameters are the two-port parameters most often used to describe
2-ports above 100 mhz these days .... Since two ports are what we're
talking about, there are four params.
s11 : input reflection coefficient (magnitude and angle)
s12 : reverse transmission coefficient (magnitude and angle)
s21 : forward transmission coefficient (magnitude and angle)
s22 : output reflection coefficient (magnitude and angle)

in a good device, or two port amplifier network that is matched to 50
ohms (i.e. the two-port "box" is extended to include the transistor
and the matching network, whereas the s-parameters of the transistor
are the "unmatched" case):

the S11 value should be low since it represents the input return loss
the S12 should be low (this is the "reverse" amplification, or signal
travelling from output port to input port)
the S21 should be high (this is the "gain")
the S22 should be low, this is the output return loss, or match

Anyway.... S params are used because they are easy to measure at high
frequencies as compared to other two port parameters. Amplifier
design can easily become a scientific equation oriented design task
with s-params as far as the matching networks go.

On the other hand, for POWER transistors (i.e. anything that
is not being used in a truly class "A" mode {my best explanation}),
manufacturers usually do specify the input/output impedance at a given
frequency.

So, if you can get s parameters, you can obtain the necessary
information to determine the output impedance of a transistor
amplifier (as a whole two port network; the input network WILL affect
the output network if S12 is significant). ---OR--- you can use the
impedances given by the manufacturer to design your matching networks.

So NO, s params are not the same as the series equivalent impedance.

-L

--

Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @ Rensselaer
http://www.rpi.edu/~lascal/
Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342

5. DC to AC inverter circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-01 19:50:56 UTC
From: FLETCHER@vilas.uwex.EDU
Message-ID: <MAILQUEUE-101.950101145056.480@vilas.uwex.edu>
Source record: 114910

I am in need of a DC to AC inverter circuit. This is a project for a young man who is in my Boy Scout troop. He is most interested in electronics. Any help is most appreciated. Thanks!

--
* Bill Fletcher AF9B fletcher@vilas.uwex.edu *
* Wisconsin Public Radio *
* 821 University Ave. Voice: 608-266-6667 *
* Room 7135 *
* Madison, Wis 53706 *
--

6. Re: Ramsey Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-01 23:16:05 UTC
From: cmoore@sedona.intel.com
Message-ID: <3e7d3l$n7j@chnews.intel.com>
Source record: 114906
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <3e47q2$qnk@colossus.holonet.net>,
John Seboldt <rohrwerk@orac.holonet.net> wrote:
>
>The 2 meter synthesized rig was reviewed in QST, and according to them
>didn't meet the minimum FCC spurious radiation requirements. There's a
>hint of what's in store for you.

Hi John, just so we are not telling half-truths, two ten cent caps
cured the spurious radiation problem and are now included in the
kits.
--
73, Cecil, KG7BK, OOTC (All my own personal fuzzy logic, not Intel's)

7. Wanted address of Crystal Set kit and parts co.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 02:37:55 UTC
From: szhall@rocky.ucdavis.edu
Message-ID: <3e7ou3$j6c@mark.ucdavis.edu>
Source record: 114908

I am looking for a company who deal in crystal set parts and
kits..Please send imformation via-email..Thank you..Happy New Year..Jeff

8. Re: Ramsey Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 06:03:16 UTC
From: mamco@halcyon.com
Message-ID: <3e84v4$2rp@news.halcyon.com>
Source record: 114907
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I'm building the FX440 FM transceiver, and so far I have no complaints. Oh, I was missing a 100 ohm 1/8 watt resistor and a .01 ceramic cap, but I might have lost those upon opening. Anyway, a trip to RS and about two dollars (I picked up some other parts to round out my parts box) and I fixed that. Yeah, I guess that I was disappointed a bit because of the missing parts, and suggest that Ramsey could do better. However, all of the important ICs, transisters and specialty parts were there, so I can cut them some slack.

I was interested in a radio that would support 9600bd for the TCP/IP network here. The TEKK 440mhz data rigs are cheaper, but I wanted a way to blow off some steam and get light-headed from solder (Heh). You don't build the TEKK either, which could be a blessing, depending. Anyhow, the price and some recent articles in Comm. Quarterly piqued my interest, and I purchased the FX440.

Here's my impression:
1. I found the instructions to be complete. Not as glossy as Heathkit (R.I.P.) but plenty good enough for a blurry-eyed, time-short, attention-deficit thirty-something computer network nerd to follow.
2. I appreciate the design of the unit. I learned something building it. I am thinking how I can kit-bash the thing for a data-only homebrew radio.
3. The components seem to be of good quality. The circuit board is thick and also of good quality.
4. Each stage has worked as promised.

Bottom Line:
I have had hours of enjoyment building this kit. I had NO feeling of remorse when I ordered and received the box in the mail. I have had no problems so far. I would purchase a similiar kit from Ramsey, and recommend the FX440 440Mhz kit.

9. Homebrew? What gives? Where's the real thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 09:53:36 UTC
From: moulman@osprey.csrv.uidaho.edu
Message-ID: <3e8if0$skj@owl.csrv.uidaho.edu>
Source record: 114909

I came here looking for a newsgroup about "homebrew", as in BEER.. any body got a road sign handy?

10. VOX RELAY FOR HALLICRAFTERS HT-32A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 14:23:02 UTC
From: af104@detroit.freenet.org
Message-ID: <3e9286$pr9@detroit.freenet.org>
Source record: 114914

Anyone have a vox relay for Hallicrafters HT-32A? Mine's
melted.

Jeff
WB5KZW
810-855-9209
--

11. Re: Homebrew? What gives? Where's the real thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 15:33:20 UTC
From: galen@picea.CFNR.ColoState.EDU
Message-ID: <3e96c0$h86@yuma.ACNS.ColoState.EDU>
Source record: 114912

In article <3e8if0$skj@owl.csrv.uidaho.edu> moulman@osprey.csrv.uidaho.edu (Moulman) writes:
>...looking for a newsgroup about "homebrew", as in BEER.. any body
>got a road sign handy?

You'd think the rec.radio.amateur prefix woulda tipped 'im off.

12. Turn FM wirles mic into 2m rig?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 15:38:44 UTC
From: copeland@fohnix.metronet.com
Message-ID: <3e96m4$ebf@fohnix.metronet.com>
Source record: 114911

I picked up this Radio Shack FM wireless mic for $4 at a flea market
and was thinking about what could be done with it. It has a pot to adjust
from 88 to 108 mhz. Perhaps it could be changed into a *cheap* 2m rig?

Perhaps changing a component could make it tune 144-148 mhz?

Perhaps with a wire dipole tuned to this freq. and a higher voltage
battery this thing could hit a repeater?

Might have to add some kind of simple amplifier?

I've got a scanner for a receiver, a tech. liscense, but no radio yet.
(just passed test yesterday! also studying for morse code)

Anybody every tried something like this?

--

| There are two types of people in this world, those who separate |
| people into groups,and those who don't. copeland@metronet.com|
---

13. Re: Turn FM wirles mic into 2m rig?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 16:40:54 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <3e9aam$4dm@nntp.Stanford.EDU>
Source record: 114913

In article <3e96m4$ebf@fohnix.metronet.com> copeland@fohnix.metronet.com (Charles Copeland) writes:
>I picked up this Radio Shack FM wireless mic for $4 at a flea market
>and was thinking about what could be done with it. It has a pot to adjust
>from 88 to 108 mhz. Perhaps it could be changed into a *cheap* 2m rig?
>
>Perhaps changing a component could make it tune 144-148 mhz?
>
>Perhaps with a wire dipole tuned to this freq. and a higher voltage
The problem with the wireless mic is that it uses a free running
modulated oscillator. I believe this kind of technique is not
legal on 2 meters. It would not be stable enough to stay on
any one frequency and really needs to be xtal controlled.

It would be more trouble to modify that mic than it would be to
build an appropriate 2m transmitter from scratch.

If you are looking for interesting conversion projects, I have been
successful in converting the better 49MHz HTs from Radio Shack to 6
meters. These units are xtal controlled, have rx squelch and work
quite nicely on 6 meters.

Steve Muther WF6R

14. Homebrew - 'poor man's packet'

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 17:33:37 UTC
From: johnk@CAM.ORG
Message-ID: <johnk.3.00118FFC@CAM.ORG>
Source record: 114822

Does anyone have the schmetic/plans for the 'Poor man's packet' interface?
I've seen it in a magazine a few years ago, but can't seem to find it now. I
know there are a few designs out there, and if anyone has them or knows where
I can find them I'd appreciate it.

Thanks
John VE2-JKB

johnk@cam.org

15. Re: Homebrew? What gives? Where's the real thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 18:43:21 UTC
From: mjsilva@ix.netcom.com
Message-ID: <3e9hg9$18r@ixnews2.ix.netcom.com>
Source record: 114915

In <3e96c0$h86@yuma.ACNS.ColoState.EDU> galen@picea.CFNR.ColoState.EDU (Galen Watts) writes:

>
>In article <3e8if0$skj@owl.csrv.uidaho.edu>
moulman@osprey.csrv.uidaho.edu (Moulman) writes:
>>...looking for a newsgroup about "homebrew", as in BEER.. any body
>>got a road sign handy?
>
>You'd think the rec.radio.amateur prefix woulda tipped 'im off.
>
I dunno, you sit in your rec room with your radio tuned to a game and drink some of your amateur beer. Could happen....

Mike, KK6GM

16. Re: What's this FB in a 435 MHz GaAsFET Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 19:27:06 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <118978662wnr@ifwtech.demon.co.uk>
Source record: 114916

In article: <1994Dec29.194337.6172@arrl.org> zlau@arrl.org (Zack Lau (KH6CP)) writes:
>
> moritz@ipers1.e-technik.uni-stuttgart.de wrote:
>
> : NEVER attempt to build one of these older designs, they are often unstable
> : and by no means up to todays standards. Modern designs are computer-optimized,
> : employ new and affordable devices and noise figures around 0.3 - 0.4
> : are feasible. BTW, FB is a ferrite bead and is a doubtful method for
> : curing oscillations.
>
> What are the new devices to use? I noticed that Rainer, DJ9BV,
> was still advocating the use of the MGF 1302 GaAs FET in the
> 432 MHz design he published just last year in DUBUS--has he
> published a better design? The MGF 1302 is an MGF 1402 in
> a cheaper package--I've been using both since around 1987!
>

Zack is right about the MGF1302 being still one of the very best devices for 432MHz... but not for 144 (power GaAsFETs giver higher IP with acceptable NF) or for 1296 and up (low-cost HEMTs such as the FHX05 are better, and some good designs are becoming available). Not that you'd be able to tell much difference in the NF for any ham application except EME.

Moritz also has a good point about some of the older preamp designs being of very doubtful stability. The more we look into it, the more it seems that differences between performance on the bench and on the antenna may be caused by oscillations at some frequency totally unrelated to the band in use. A common scnario is that the preamp is still usable but you have an uneasy feeling that it's not working as well as it should...

These days I'm very reluctant to touch a preamp design that hasn't been extensively modeled AND THEN had several prototypes tested on a network analyser from DC to daylight, to establish their reserves of stability against component variations and unexpected input/output mismatches. I'm even willing to sacrifice some NF for that peace of mind.

If you're interested in thoroughly engineered preamp designs, I second Zack's recommendation to subscribe to the DUBUS quarterly.

--
73 from Ian G3SEK | Editor, _The_VHF/UHF_DX_Book_
Abingdon, England |
g3sek@ifwtech.demon.co.uk | "In Practice" columnist for RadCom (RSGB)

17. Re: Homebrew? What gives? Where's the real thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 19:53:34 UTC
From: clifto@indep1.chi.il.us
Message-ID: <D1sn9A.4F@indep1.chi.il.us>
Source record: 114917

In article <3e96c0$h86@yuma.ACNS.ColoState.EDU> galen@picea.CFNR.ColoState.EDU (Galen Watts) writes:
>In article <3e8if0$skj@owl.csrv.uidaho.edu> moulman@osprey.csrv.uidaho.edu (Moulman) writes:
>>...looking for a newsgroup about "homebrew", as in BEER.. any body
>>got a road sign handy?
>
>You'd think the rec.radio.amateur prefix woulda tipped 'im off.

Oh, I dunno... I can picture someone somewhere making his own 807's
for personal use.

--
Cliff Sharp Never get into fights with ugly people.
WA9PDM They have nothing to lose.
clifto@indep1.chi.il.us --The Fourth Law of Reality

18. Re: What's this FB in a 435 MHz GaAsFET Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 20:07:05 UTC
From: zlau@arrl.org
Message-ID: <1995Jan2.200705.9847@arrl.org>
Source record: 114819

Ian G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:

: These days I'm very reluctant to touch a preamp design that hasn't
: been extensively modeled AND THEN had several prototypes tested on a
: network analyser from DC to daylight, to establish their reserves of
: stability against component variations and unexpected input/output
: mismatches. I'm even willing to sacrifice some NF for that peace of
: mind.

I have to agree that a network analyzer is very useful if you
want to be careful. While programs such as Microwave Harmonica
and Touchstone are useful, they really aren't adequate for fully
determining the stability of preamps. They don't effectively
analyze waveguide effects that are often present with real designs.

How do you model that piece of conductive foam Ranier suggested
in his design?

Needless to say, ARRL Radio Designer *cannot* effectively
determine the stability of preamps using devices with high gain
out to 10 or 20 GHz. To do that you need sophisticated models
that aren't in this simulator.

On the other hand, a variable length of shorted transmission
line can be a cost effective toool for the amateur designer.
This might be as simple as a piece of coax with a lot of pinholes
in it.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

19. DC to AC inverter circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 21:14:12 UTC
From: hduff@humnet.westonia.com
Message-ID: <7714-32314901@humnet.westonia.com>
Source record: 114818

```
IF>
IF> I am in need of a DC to AC inverter circuit. This is a project for a
IF> young man who is in my Boy Scout troop. He is most interested in
IF> electronics. Any help is most appreciated. Thanks!
IF>
IF> *---------------------------------------------------------------*
IF> * Bill Fletcher AF9B fletcher@vilas.uwex.edu *
IF> * Wisconsin Public Radio *
IF> * 821 University Ave. Voice: 608-266-6667 *
IF> * Room 7135 *
IF>
IF> * Madison, Wis 53706 *
IF> *---------------------------------------------------------------*

I'm assuming that the young fellow wants to be able to run 115 VAC
devices from a 12 VDC source !?!?

I have an article from Electronics Now, October 1992 that features a
250 watt power inverter. It says that this circuit would be suitable for
"small appliances" ie..fans, small TV, flood lamps, soldering irons
ect.. Check the archives of your nearest library for the magazine OR..
I'd gladly send you a copy of the article if you send me a
Self address envelope with stamps inside (*not affixed please*).

Please reply if you're interested...I will make the copies ahead of
time.
Hugh Duff VE3OYH
136 Baronwood Crt.
Brampton, Ontario
Canada L6V 3H8

Regards ! Hugh
hduff@humnet.westonia.com

---
```
 NFX v1.3 [000]

```
--
---------------------------------------------------------------------
HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---------------------------------------------------------------------
```

20. cut-rate freq. counters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 22:25:47 UTC
From: brucerob@blues.epas.utoronto.ca
Message-ID: <3e9uhc$aba@alpha.epas.utoronto.ca>
Source record: 114820

A local store is selling a freq. counter for $100 can., down from $250. I'm tempted even though it has all the markings of one of those Asian off-brands. The thing is good to 1.2 GHz, and in the HF band it is sensitive to <3 mV according to the manual. Question: is this sensitive enough to sniff out RF in homebrew circuits? The brand is 'Wisher' in case someone has some experience with the unit.
73, VE3UWL

--
Bruce G. Robertson Dept. of Classics, U. of T.

21. Re: Homebrew? What gives? Where's the real thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-02 23:45:06 UTC
From: mzenier@eskimo.com
Message-ID: <D1uE13.FBK@eskimo.com>
Source record: 114821

in <3e8if0$skj@owl.csrv.uidaho.edu>, Moulman wrote:

: I came here looking for a newsgroup about "homebrew", as in BEER.. any body
: got a road sign handy?

alt.beer
rec.crafts.brewing
rec.food.drink.beer

(Gawd, somebody in Moscow, Idaho needs directions on where to get a
beer. ;-) How things have changed.)

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

22. R-7100 freq/deviation meter add-on.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 01:32:36 UTC
From: andyw@cray.com
Message-ID: <1995Jan2.193236.5633@driftwood.cray.com>
Source record: 114823

While trying to set the deviation on a homemade 70cm FM transmitter, I wondered if anyone has built or bought a frequency error/deviation meter that could plug into the 10.7MHz IF output of (say) an Icom R-7100.

I seem to remember some ads showing spectrum analyser type displays as an add-on to radios with IF outputs.

If there are no existing plans or products, I wondered if I could get away with a just 10.7MHz FM discriminator, or whether I should throw a Moto IF chip at the problem. For freq error, I just want to measure the DC-bias out of the discriminator, and deviation is just the P-P output ? Calibration sounds like the usual nightmare..

---
andyw N0REN/G1XRL

andyw@sdiv.cray.com Andy Warner, Cray Research, Inc. (612) 683-5835

--
andyw N0REN/G1XRL

andyw@sdiv.cray.com Andy Warner, Cray Research, Inc. (612) 683-5835

23. Re: Amateur satellites?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 02:05:30 UTC
From: eareckso@netcom.com
Message-ID: <eareckso D1t4H7.Hzx@netcom.com>
Source record: 114824

Steve Kittelsen (sak1@delphi.com) wrote:
: Is there a special group for amateur satellite users on usenet? I would like
: to get information on the latest (oscar 20 and up) satellites, their
: frequency and operating mode.
: Has Dove (oscar 17) lower output power then usual the last few months? The
: signal is weak, and telemetry is hard to copy on a vertical omni.
: Please give any information where to go for the latest on amateur satellites.
Try: rec.radio.amateur.space

Bill Eareckson
eareckso@netcom.com

24. DC to AC inverter circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 12:59:00 UTC
From: MUENZLERK@uthscsa.EDU
Message-ID: <01HLEI6325PE00380U@uthscsa.edu>
Source record: 114825

FLETCHER@vilas.uwex.EDU (Bill Fletcher, RM:7135, #:6-6667) Writes:

>I am in need of a DC to AC inverter circuit. This is a project for a
>young man who is in my Boy Scout troop. He is most interested in
>electronics. Any help is most appreciated. Thanks!
>
>*--*
>* Bill Fletcher AF9B fletcher@vilas.uwex.edu *
>* Wisconsin Public Radio *
>* 821 University Ave. Voice: 608-266-6667 *
>* Room 7135 *

>
>* Madison, Wis 53706 *
>*--*

Bill,
Try the ARRL handbook (old ones) they almost always had an
inverter or two in the "portable operation" section.

Kevin

Legal stuff:
The above opinions are my own and not necessarily those of the staff,
faculty, administration, or lab animals (woof!) of The University of
Texas Health Science Center at San Antonio or anyone else who is not
me. Your mileage may vary. Batteries not included.
****
Kevin R. Muenzler, WB5RUE The University of Texas Health
muenzlerk@uthscsa.edu Science Center at San Antonio,
Department of Computing Resources

Liberals measure compassion by how many people they are helping.
Conservatives measure compassion by how many people no longer need
their help.
--Jack Kemp

The difference between genius and | I am Voltohm of Borg!
stupidity is that genius has its | Resistance is E/I!
limits. | Power is EI!
****

25. Call FCC for "New" call signs!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 14:39:15 UTC
From: jtesta@freenet.columbus.oh.us
Message-ID: <3ebnij$fjk@acme.freenet.columbus.oh.us>
Source record: 114826

yes it is allowed check the changed to PArt 97 effective late Dec 94.
--
Joseph S. Testa, Database Administrator, Computer People Consulting
N8XCT, Official Relay Station (ORS),
Local Govt Liaison (LGL) Pickaway County OH,
Fond reader of Part 97, studying code and hope to pass 5WPM soon.....

26. Zverev book reference....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 16:22:25 UTC
From: abergsma@doe.carleton.ca
Message-ID: <D1u85D.C7s@cunews.carleton.ca>
Source record: 114827

hi, just wondering if someone with the Zverev book could post
the ISBN or other suitable info so I can try to get a copy.
I'm an Engineer and wouldn't mind seeing it.

thanks,

aj

27. Re: Quality Homebrew Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 17:13:22 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan3.171322.7934@ke4zv.atl.ga.us>
Source record: 114831

In article <sfarmer-3012942139190001@tty18.com1.tulsa.com> sfarmer@tulsa.com (Steven Farmer) writes:
>
>Wouldn't packet be a good application for an inexpensive, easily
>built, crystal controlled transceiver? That would make the designs
>worth submitting for publication, wouldn't it? And while you are
>considering publication, remember that's exactly what you're doing
>every time you make a posting here: publishing. So, you should
>consider giving us the details here. I know that ascii pictograms
>can be exhausting for both author and audience, but if there aren't
>all that many dots in these connect-the-dots designs, maybe that
>would work. At least tell us the Motorola app note numbers.

Ok. The transmitter chip is the MC2833. The appnote order number is MC2833/D. Follow it by a transistor tripler (I used some no number switching transistor from a grab bag) and PA brick (MHVxxx, I don't remember the exact number, scrounged it at Dayton, have to tear the thing apart and find the number. It's about 2.5 W out for 5mW in). A three section halfwave filter is on the output to suppress harmonics, standard Handbook circuit. The only cut and try in this whole project is the tripler. I guess I need to build another one of those using an identified part and give the coil tap information for matching the 50 ohm brick input. I just "uglied" it on a little blank piece of pc stock.

The receiver chip is the MC13135. The appnote order number is MC13135/D. Note, make sure you include the /, a MC13135D is a SO-24 packaged chip, not a data sheet. A preamp can help this chip, but isn't strictly necessary. I used an old ARR one, sans case, that had taken a lightning hit and been repaired but not reinstalled in my satellite setup (I'm using a SSB Electronics preamp there now). Add an output audio stage, either the old faithful LM386, or one using the MC34119. This latter chip has a mute input that's compatible with the receiver chip's squelch output.

Better, call Motorola and ask for the evaluation kits for the above chips. That gets you 2 each sample chips, the appnotes, and etched and drilled pc boards. The peripheral wiring to power, mic, speaker, etc should be self-explanatory (use RG174 for RF interconnect wiring). I used a surplus PIN diode switch module I picked up at a hamfest for TR switching the antenna, but any of the standard circuits, even a spare set of contacts on the PTT switch, will likely suffice.

I wired the modules together and tweaked it on the bench and then hot glued all the little postage stamp sized boards down in a small project box that was lying around, except for the PA brick which is clamped to the metal lid for heatsinking. No special shielding seemed to be required,

but I divided the Rx modules off from the Tx modules with a piece of scrap pc board just for luck. This thing won't win any beauty contests, but the spectrum analyzer says it's clean, and the Rx gives a 12 db SINAD of 0.2 uV. Once you've got all the pieces at hand, it's an afternoon project.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

28. ARRL book: Intro to RF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 17:44:25 UTC
From: derekn@vw.ece.cmu.edu
Message-ID: <DEREKN.95Jan3124426@vw.ece.cmu.edu>
Source record: 114828
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

The January issue of QST has an ad for a new book, titled _Introduction to Radio Frequency Design_, by Wes Hayward. Before I plunk down my $30, I was wondering if anyone had taken a look at this book.

I've looked at a bunch of other books, but they all seem to fall into two categories:

1. All math and no practice - these don't provide any kind of intuitive explanation of how the circuits work, and they also don't give practical information (part numbers, etc.)

2. Cookbooks - these provide lots of real circuits, but don't really explain how they work. (The ARRL Handbook is the classic example of this category.)

I want something that balances math with practice. I understand the basics of impedance, transistors, etc., but I have no intutive feel for oscillators, mixers, and so on.

So... is this book any better than the others? Does anyone have recommendations for some other book?

Thanks.

- Derek N2JGA

--
Derek Noonburg derekn@vw.ece.cmu.edu
Electrical & Computer Engineering Dept., Carnegie Mellon University

29. Re: Call FCC for "New" call signs!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 18:17:12 UTC
From: pete@freenet.grfn.org
Message-ID: <3ec4b8$3b9@locutus.Bethany.ORG>
Source record: 114833

Slieght of Mind (ribarbe@garlic.com) wrote:

: : Does this mean that a new ham can start operating without a license in
: : hand as long as he has the C.S.C.E and knows his call?

: Of course not. You have to have a signed original in possession.

Wrongo, Sleight. FCC changed the rules on you late December. If the
FCC has issued a callsign to you, then you can operate. Check out
the new part 97.

73's!
--
-=-
Pete Hoffswell |pete@grfn.org |616-336-2304
Holland, Michigan |N9SSA |http://www.grfn.org/~pete
-=-

30. Re: Homebrew? What gives? Where's the real thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 18:22:20 UTC
From: pete@freenet.grfn.org
Message-ID: <3ec4ks$3b9@locutus.Bethany.ORG>
Source record: 114834

Moulman (moulman@osprey.csrv.uidaho.edu) wrote:

: I came here looking for a newsgroup about "homebrew", as in BEER.. any body
: got a road sign handy?

Ask at rec.food.drink.beer. They can aim you better than a bunch of
raidoheads. Good Luck.

--
-=-
Pete Hoffswell |pete@grfn.org |616-336-2304
Holland, Michigan |N9SSA |http://www.grfn.org/~pete
-=-

31. Help on radio design...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 18:50:22 UTC
From: sivick@encmail.encompass.com
Message-ID: <1995Jan3.185022.24200@glv.cen.encompass.com>
Source record: 114832

I have a buddy here at work who is about to try and design
and build.

We, or better he, is looking for some software on the net that
will aid him in Electronic Circuit Design. Any help you could
give me would be helpful.

If you could e-mail anything you have I would appreciate it since
I don't read this conference. I would but, I don't understand
shortwave stuff, and I am confused enough in daily life.

Thanks,
David Sivick

32. Re: Etching PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 19:08:43 UTC
From: slwhites@tpd.dsccc.com
Message-ID: <3ec7br$f8e@tpd.dsccc.com>
Source record: 114830

Tom Hammond (tom.hammond@woodybbs.com) wrote:
<snip>

: FWIW, and according to our local Dept of Natural Resources, Hazardous
: Waste Division, FeCl is NOT considered a hazardous waste and can be
: disposed of in a conventional manner.
^^^^^^^^^^^^^^^^^^^

What does "conventional manner" mean? Down the sink? To the landfill?
A hole the backyard? ("Hey, Ma! Come look at the corn!") :) :)

I've read that FeCl can be neutralized with good ol' baking soda. I
guess this means that you knock the acidity down and then you're left
with copper and iron oxide?

I've been wondering about this issue and just would like to do the
"right thing". Thanks for your tidbit.

--
Steven L. Whiteside [DSC Communications Corp.] 214-519-2625 __|__
slwhites@imtn.dsccc.com *My Opinion - Not DSC's* ____________|____________/
"Let's go fly a R/C glider!" O Max: 26 min

33. Any Newsgroup for O'scopes, equipt.?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 19:38:25 UTC
From: mike@shien.ist.csuohio.edu
Message-ID: <1995Jan3.193825.22686@news.csuohio.edu>
Source record: 114837

Anyone aware of a newsgroup that covers discussions and/or sale and
trade of electronic test equipment, such as oscilloscopes?

I am aware of rec.radio.amateur.swap, which occasionally shows
stuff like this for sale.

Thanks,

Mike

--
^v^v^v^v^v^v^v^v^v^v^v^v^v^v^v^v^v Catch the WAVE ^v^v^v^v^v^v^v^v^v^v^v^v^v^v^v^v^v
Michael Mayer, Senior Technical Support Engineer Amateur Radio KB8RJO
Visual Numerics, Inc. 32915 Aurora Rd. Suite 160, Solon OH 44139 USA
Email: mayer@boulder.vni.com Human: 216-248-4900 Fax: 216-248-2733
v^v^v^v^v^v^v^v^v^v^v Good * Cheap * Quick (pick any two) ^v^v^v^v^v^v^v^v^v^v^

34. 8236 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 22:34:57 UTC
From: fedpress@omnifest.uwm.edu
Message-ID: <3ecjeh$hgl@omnifest.uwm.edu>
Source record: 114835

Can anyone tell me anything about 8236 tubes? Availability, sources, prices, equivalents, etc.

TNX ES 73,

Rick WB9GYT

35. Re: Turn FM wirles mic into 2m rig?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 23:22:04 UTC
From: mzenier@eskimo.com
Message-ID: <D1w2oy.KGp@eskimo.com>
Source record: 114829

in <3e9aam$4dm@nntp.Stanford.EDU>, Steve Muther wrote:
: In article <3e96m4$ebf@fohnix.metronet.com> copeland@fohnix.metronet.com (Charles Copeland) writes:
: >I picked up this Radio Shack FM wireless mic for $4 at a flea market
: >and was thinking about what could be done with it. It has a pot to adjust
: >from 88 to 108 mhz. Perhaps it could be changed into a *cheap* 2m rig?

: The problem with the wireless mic is that it uses a free running
: modulated oscillator. I believe this kind of technique is not
: legal on 2 meters. It would not be stable enough to stay on
: any one frequency and really needs to be xtal controlled.

The problem isn't how the circuit is designed, but rather that an
FM Broadcast Band wireless mic. is designed to output a 200 kHz
wide signal. Tends to piss off all users on the channels that get
interfered with.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

36. Craig Dinsmore-where are you?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 23:22:42 UTC
From: ronedn@cnsvax.uwec.edu
Message-ID: <1995Jan3.172242.19547@cnsvax.uwec.edu>
Source record: 114836

Hi Craig!

I've been trying to reach you. Drop me a line.

Dave

37. Re: cut-rate freq. counters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 23:27:25 UTC
From: mack@ncifcrf.gov
Message-ID: <D1urtp.A55@ncifcrf.gov>
Source record: 114852

In article <3e9uhc$aba@alpha.epas.utoronto.ca> brucerob@blues.epas.utoronto.ca (Bruce Robertson) writes:
>A local store is selling a freq. counter for $100 can., down from
>$250. I'm tempted even though it has all the markings of one of those
>Asian off-brands. The thing is good to 1.2 GHz, and in the HF band it
>is sensitive to <3 mV according to the manual. Question: is this
>sensitive enough to sniff out RF in homebrew circuits?

In any transmitter, from the oscillator on, you have volts of signal in each stage. In the receiver, in the oscillators yes, elsewhere maybe.

Joe NA3T
mack@ncifcrf.gov

The brand is
>'Wisher' in case someone has some experience with the unit.
>73, VE3UWL
>
>--
>Bruce G. Robertson Dept. of Classics, U. of T.

38. Re: Homebrew? What gives? Where's the real

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-03 23:43:59 UTC
From: jkaidor@synoptics.com
Message-ID: <3ecnfv$ku1@inn.synoptics.com>
Source record: 114840

In article 4F@indep1.chi.il.us, clifto@indep1.chi.il.us (Clifton T. Sharp) writes:
>In article <3e96c0$h86@yuma.ACNS.ColoState.EDU> galen@picea.CFNR.ColoState.EDU (Galen Watts) writes:
>>In article <3e8if0$skj@owl.csrv.uidaho.edu> moulman@osprey.csrv.uidaho.edu (Moulman) writes:
>>>...looking for a newsgroup about "homebrew", as in BEER.. any body
>>>got a road sign handy?
>>
>>You'd think the rec.radio.amateur prefix woulda tipped 'im off.
>
>Oh, I dunno... I can picture someone somewhere making his own 807's
>for personal use.

**** I remember once, a _long_ time ago, seeing a news item on TV about somebody on the SF peninsula who was making his own tubes. Just for the fun of it. I don't suppose anybody else heard of this guy?

- Jerry Kaidor, KF6VB
(jkaidor@synoptics.com)

39. need chip info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 01:06:11 UTC
From: freitag@bonsai.fernuni-hagen.de
Message-ID: <3IV2l0SX$ZDK063yn@bonsai.fernuni-hagen.de>
Source record: 114838

Hi there,

for use in amateur radio equipment I
need info about the following chips.
(Pinout and Signal)

U 246 B
TDA 2840
U 343
UAA 2000

any information can be posted here.

Thanks in advance

Robert

40. Re: Ramsey Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 06:26:58 UTC
From: n1ist@netcom.com
Message-ID: <n1istD1vB8y.3D9@netcom.com>
Source record: 114839
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <3dt6bg$rt3@grape.epix.net> amsoft@epix.net (Pete deVolpi) writes:
-> Does anyone have any insight to the quality of the radio kits
->produced by Ramsey (sp?) Electronics?
-It is very nice to have any company that provides kits for the builder.
-Ever since Heathkit stopped making kits, its been a big vacumn for builders.
-Ramsey has a reputable name, a new modern factory, and the latest wave
-soldering machine.

I have built a few Ramsey kits, and I would recommend avoiding them. In my experience, the designs are poor, parts quality varies (I guess 4.7 uF non-polarized lytics were on surplus sale - yep, they can sometimes be used instead of 10 uF polarized ones), and tuning instructions are non-existant. Assembly instructions are pretty good, but if you are building a transmitter, make sure you put it on a spectrum analyzer before feeding an antenna. My 2M kit had spurs out of the band, and the TX came on before the PLL locked, so it swept. And the squelch *still* thumps...

Look into Ten-Tec's line of kits. They are very nice (but a few of them are still being designed - the 2M xcvr and the 9-band SW RX).

/mike

BTW, what does having a wave-soldering machine have to do with the quality of their kits?

--
\|/ Michael L. Ardai N1IST Teradyne ATB, Boston MA
-*- ---
/|\ ardai@maven.dnet.teradyne.com n1ist@netcom.com

41. High Voltage Caps Sources

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 09:08:11 UTC
From: talisman@crl.com
Message-ID: <3edohr$jg3@crl7.crl.com>
Source record: 114862
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

I need high voltage (500 - 2,000 VDC, higher voltage preferred) caps.
(approx. 180 pf & 360 pf, approx. =< 10% tol.) for a special project.
Does anyone have a source where I can purchase 50-100+ capacitors?

Thanks for your help.

Please respond directly to: Jim <talisman@crl.com>

42. Re: Zverev book reference....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 14:29:24 UTC
From: jeffa@ix.netcom.com
Message-ID: <3eebc4$l0h@ixnews3.ix.netcom.com>
Source record: 114841

Here's the info on Zverev's book:

Handbook of Filter Synthesis
Anatol I. Zverev
John Wiley & Sons, Inc. 1967

ISBN 0 471 98680 1

Cheers,

- Jeff, WA6AHL

43. What the @#$! is this chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 14:41:42 UTC
From: weinfurtner@ouvaxa.cats.ohiou.edu
Message-ID: <D1vy5J.Kv1@boss.cs.ohiou.edu>
Source record: 114844

After a recent trip to my local Junk Emporium, I came home with a box labeled "converter" with the first word burnt off. It had 2 "F" connectors and a "N" connector. Inside was a 8 pin metal can about the size of a TTL chip, although about 3/8th of an inch high. Markings on the outside : MCL SC-90
Is this a uhf mixer? The PCB was etched with UHF style tracks. Oh yes, the one pin is insulated with a blue color while the others are lime green.
Any guesses on this one? 73 de NS8O Greg

```
*************************************************************************
* Greg Weinfurtner AEE BSS *
* NN N SSSSSSS 8888888 OOOOOOO Electronic Design Splst *
* N N N S 8 8 O O Ohio University Athens *
* N N N SSSSSSS 8888888 O O GO BOBCATS! *
* N N N S 8 8 O O *
* N NN SSSSSSS 8888888 OOOOOOO "When in trouble, When in *
* doubt, Run in circles, *
* Amateur Radio Scream and shout." *
*************************************************************************
```

44. Zverev book reference....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 15:07:56 UTC
From: abergsma@doe.carleton.ca
Message-ID: <D1vzD8.9xA@cunews.carleton.ca>
Source record: 114842

thanks, i'll look for it.

aj

45. Re: Zverev book reference....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 15:19:11 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.789232751@melpar>
Source record: 114845

jeffa@ix.netcom.com (Jeff Anderson) writes:

>Here's the info on Zverev's book:

> Handbook of Filter Synthesis
> Anatol I. Zverev
> John Wiley & Sons, Inc. 1967

> ISBN 0 471 98680 1

You might also consider

Electronic Filter Design Handbook
(LC, Active & Digital Filters)
Williams & Taylor
McGraw-Hill, Second Edition, 1988

ISBN 0-07-070434-1

This text uses Zverev as a reference and probably is quite
a bit cheaper. Last time I checked, Zverev was running close to
$100 from a technical bookstore.

Williams & Taylor is a modern network theory text insofar as
the approach to filter design is concerned, and the inclusion of
active and digital filter sections adds to its usefulness as a design
handbook.

If you're after "quick and dirty" LC filter design try Chris
Bowick's book "RF Design" published by Howard W. Sams; it's the most
"bang for the buck" design book I've ever used.

73 DE K4MSG

* Paul H. Bock, Jr. * Principal Systems Engineer (RF)
(|_|) * E-Systems/Melpar Div. * Telephone: (703) 560-5000 x2062
| |) * 7700 Arlington Blvd. * Internet: pbock@melpar.esys.com
* Falls Church, VA 22046 * Mailstop: N203

"What? Us, Interfere? Of course we're going to interfere!
Do what you're best at, that's what I always say!" -- Dr. Who

46. Re: cut-rate freq. counters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 16:10:55 UTC
From: jholly@cup.hp.com
Message-ID: <D1w2A7.1vL@cup.hp.com>
Source record: 114843

Bruce Robertson (brucerob@blues.epas.utoronto.ca) wrote:
: The brand is
: 'Wisher' in case someone has some experience with the unit.
: 73, VE3UWL

Can't help my self Bruce, but maybe it is 'Wisher' 'cuz the
manufacturer wishes it would work! Or once you buy it you
wisher you bought a diffferent one! Gad what a name.

73, Jim, WA6SDM
jholly@cup.hp.com

47. Filter Design Program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 16:18:36 UTC
From: jcarter@orl.mmc.com
Message-ID: <3eehos$3gs@theopolis.orl.mmc.com>
Source record: 114861

I am looking for a shareware OP-AMP Filter Design Program for
a PC.

Thanks & 73's

Jim

\/\/ * \/ _._. __._ /\/\/ | James A. Carter (Jim) | jcarter@orl.mmc.com |
/|\ | Senior Software Engineer |_____________________|
/\|/\ K D 4 P O N | Martin Marietta | These views are my own |
/\/|\/\ ORLANDO | Mail Point 138 | and not that of my |
/\/\|/\/\ FLORIDA USA | 5600 Sand Lake Road | employer. |
/\/\/|\/\/_____________| Orlando, FL 32819-8907 |__________73's_Jim ____|

48. Re: Any Newsgroup for O'scopes, equipt.?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 16:58:25 UTC
From: steve@hi.com
Message-ID: <steve-0401951258250001@brainiac.hi.com>
Source record: 114846

> Anyone aware of a newsgroup that covers discussions and/or sale and
> trade of electronic test equipment, such as oscilloscopes?
>
> I am aware of rec.radio.amateur.swap, which occasionally shows
> stuff like this for sale.

sci.electronics used to have some of this, albeit not very frequently. I
gave up reading it when it got too noisy.

Sometimes the boatanchors mailing list discusses tube-type test equipment.
There was a substantial thread on old Tek tube scopes sometime back.

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

49. Re: Homebrew? What gives? Where's the real

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 17:01:25 UTC
From: steve@hi.com
Message-ID: <steve-0401951301250001@brainiac.hi.com>
Source record: 114847

> **** I remember once, a _long_ time ago, seeing a news item on TV about somebody
> on the SF peninsula who was making his own tubes. Just for the fun of it. I don't
> suppose anybody else heard of this guy?

No, but in the same vein, remember the Amateur Scientist column in Scientific American magazine that described making MOSFETs in your kitchen oven? Sometime in the 70's, I think.

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

50. Re: Quality Homebrew Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 17:25:35 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D1w5qo.8r7@hpqmoea.sqf.hp.com>
Source record: 114865

Zack Lau (KH6CP) (zlau@arrl.org) wrote:

<snip>
: Amazingly, I've seen many designs, even
: complicated commercial ones, that can't
: accomplish these three simple tasks.

: So, are these standards too high? Should
: publishers merely note projects with
: problems and leave it as an exercise for
: the reader to solve? Or, is it important
: for homebrew projects to sound good on
: the air? After all, a bad transmitter
: can affect a lot of people.

: Zack Lau KH6CP/1 2 way QRP WAS

No, Zack, your standards are not too high. Most of the off-the-shelf imported transceivers do not do all those 3 examples well enough. Ten Tec score well by having a useful frequency spotting arrangement, but the oriental manufacturers seem to totally neglect this area. Some commercially made rigs have poor keying envelopes, but much more common are radios that mutilate dash-dot ratios - often differently in MOX and QSK modes.

As far as bad netting goes, people normally blame themselves and others, rather than blaming radios that despite immense feature lists, omit a simple and important one. People seem to be surprisingly tolerant of lousy receivers, assuming conditions to be bad rather than suspecting the radio. You have to have really bad TX audio or bad clicks before anyone comments to you.

There have certainly been many bad designs published, and those constructors who can read a design well enough to assess it are capable of designing their own anyway. Constructors not yet experienced enough to be able to tell the good from the bad usually blame themselves for their lack of success, and are badly discouraged from trying again.

A good design isn't the lowest cost, the lowest component count, the simplest looking schematic; it's something harder to define - the least hassle ! It has to be designed to work allowing for device tolerances, the need for awkward adjustments or fancy test gear has to have been designed out in a deliberate and calculated way. There should be guidance on troubleshooting and adjustment. It should work with genuine safety margins by design. Conservative over-engineering doesn't prevent high performance. The parts will cost a fair bit more, but the

saving comes in test equipment needs and the proportion of projects that wind up in the bin without ever having worked.

Cheers
David

51. Re: ARRL book: Intro to RF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 17:51:31 UTC
From: twheless@Name
Message-ID: <D1w6xw.n3o@boi.hp.com>
Source record: 114864
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

I have this book and it's excellent. Wes Hayward's forgotten
more about RF than I'll ever know.

Not a whole lot of math in the book. He tries to give the reader
an intuitive grasp of the subject. I thought the chapter on
oscillators was excellent.

Tom Wheless, R & D Engineer
/
Hewlett-Packard Company twheless@hpdmd48.boi.hp.com ### /_ _ ###
Boise Printer Division Phone: 208-396-3681 ## / / / / ##
PO Box 15, M/S 134 FAX: 208-396-3457 ## / / /_/ ##
Boise, ID 83714 ### / ###

52. Re: Quality Homebrew Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 17:58:26 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <3eenk2$c6k@abyss.West.Sun.COM>
Source record: 114848

In article 7934@ke4zv.atl.ga.us, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>Ok. The transmitter chip is the MC2833. The appnote order number is
>MC2833/D. Follow it by a transistor tripler (I used some no number
>switching transistor from a grab bag) and PA brick (MHVxxx, I don't
>remember the exact number, scrounged it at Dayton, have to tear the
>thing apart and find the number. It's about 2.5 W out for 5mW in).

The tripler transistor, given the low output power requirement, could
easily be a 2N5179 to go from 50MHz to 150MHz.

I have to agree, for a simple, easy to build high-band transmitter,
the PA modules are neat. There are stories about inadequate heatsinking
causing them to fail due to thermal cycling induced stress cracks in the
solder joints, but this can be avoided by operating the part with good
heatsinking and/or at a proper duty cycle.

Actually, if you can get around to building a PLL synth, say with an
MC145170, you can directly generate the 150MHz signal using a J310 FET
in a VCO and a 2N5179 buffer, then the PA module. This is actually pretty
easy; you can generate the serial control data for the MC145170 using the
parallel port on a PC (that's what I do).

At the low power level, a PIN switch shouldn't be hard to rig, using a 1/4
wave lumped constant section (i.e., a T high pass filter with Xc=Xl=50ohms)
and a couple of PIN diodes (one to couple the PA to the antenna on transmit
and another to short the receiver end of the 1/4 wave section on transmit).

>Once you've got all the pieces at hand, it's an afternoon project.

This is true of many things; I've often scoured data books looking for
things that seem neat or might catch my interest. I'll do this a few times
until I've got a big enough wish list and enough spare cash to make the
minimum order ($50) at Hamilton/Halmark or Wyle. Despite grumblings by some
net.folks to the contrary, these companies have been happy to do business with
me on orders of less than $70. There's also Mouser and Digi-Key. The advantage
to people like Hamilton/Halmark is that they tend to stock an excellent selection
of "exoctica", i.e., stuff that I like to play with. You can also get good deals;
I bought 50 Motorola J310 FETs for $.34/ea from Hamilton/Halmark, where RF Parts
gets $1 each for them....

By stocking up myself on parts that seem of general utility and neat,
I've been able to make my limited hobby time quite rewarding. For example,
one weekend afternoon last month, I built a 6m PLL synthesizer, spent most
of the time dinking around with the VCO components to get the right tuning
range :-).

Like I've said before, the competent electronics hobbyist today has it better
than he/she ever has. Really!

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Antenna waves be burnin' up my radio" -- ZZ Top *

53. Re: What the @#$! is this chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 18:10:31 UTC
From: galen@picea.CFNR.ColoState.EDU
Message-ID: <3eeoan$ah0@yuma.ACNS.ColoState.EDU>
Source record: 114849

In article <D1vy5J.Kv1@boss.cs.ohiou.edu> weinfurtner@ouvaxa.cats.ohiou.edu writes:

>One long sentance deleted (try a <cr> or two next time), but it said:

>8 pin metal can, 3/8 inch high marked 'MCL SC-90'

>Is this a uhf mixer? one pin is insulated with a blue color while the others are lime green.

It's definatly a Mini-Circuits product, but I can find no 'SC-90' in my current catalog. The only things close are filters, marked 'SCLF-##' and splitter/combiners, marked **SC-##, where ** = ZF, ZM or Z, among others. There are mixers numbered 'SCM-#', but no '90' numbers.

try calling Mini-Circuits, 1-718-934-4500. If they can't tell you what it is, you may as well toss it.

galen, KF0YJ

54. Re: I have a dead TV, can i use it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 18:33:31 UTC
From: landisj@nad.com
Message-ID: <1995Jan4.133331.231@nad.com>
Source record: 114850

In article <3dn504$oi7@ixnews1.ix.netcom.com>, mjsilva@ix.netcom.com (michael silva) writes:
> Also, nobody else has yet mentioned all that nice magnet wire in the
> deflection coils, in case you want to join us radio troglodytes in winding
> some of your own coils. Keep everything that has a remote chance of being
> useful, since having a supply of parts around is the best incentive to doing
> some experimenting on a rainy day.
>
> Mike, KK6GM

Another good source for this is old GM/Delco starter solenoids. I think they're wound with abt 20AWG wire. When you take them apart, the winding stays intact on a nice handy bobbin for you! Watch out though, I think the later ones were wound with AL wire.
Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com | uupsi5!main03!landisj | Ax25: AA3GN@WA3TSW.#EPA.PA.USA.NOAM

55. Re: ARRL book: Intro to RF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 19:54:39 UTC
From: mblack@telegraph.com
Message-ID: <sH7eyc1w165w@telegraph.com>
Source record: 114851
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

derekn@vw.ece.cmu.edu (Derek B. Noonburg) writes:

> The January issue of QST has an ad for a new book, titled
> _Introduction to Radio Frequency Design_, by Wes Hayward. Before I
> plunk down my $30, I was wondering if anyone had taken a look at this
> book.

Hi,
I haven't seen the ad, or obviously the book, but it does look interesting.
I have enjoyed Wes Haywards righting over the years, and I think I might get this book just because of that. I know he wrote some books for Prentice Hall, and when I wrote them last year, I think they were out of print. This title sounds familiar, so I wonder if it is a reprint of it. I am assuming that this is published by the ARRL.
Have you ever seen SOlid State Design for the Radio Amateur? It came out about 1977, from the ARRL and it is still listed in their catalaog. It was written by Hayward and Doug DeMaw. It is a collection of circuits, some projects (some of which were previously published, otthers new) and text about more advanced topics. It was an advance over the average ARRL book of the time, being based on information rather than circuit tidbits or construction projects. It is still a good book for the material it covers. It is only outdated because things have advanced since then, with so many people expecting all the bells and whistles that come with modern ham equipment.
I am assuming this book is similar, though not the same. If it is a reprint, maybe it is ten years old? It probably does still have information of value, knowing the things Hayward has written about in the past. But hopefully it would be updated, if it is a reprint. If it's new, then it probably is worthwhile. I would think than that it covers advanced topics, but in a fashion that the average technical minded ham could grasp. In other words, he writes well, in terms common to all, about things that aren't being talked about.
So I can't say much about the book, but I hope this background helps. I'm going to the newsstand later to check out the ad, because I am interested in this book. Thanks for telling me about it.
Michael VE2BVW

56. Re: What the @#$! is this chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 19:55:27 UTC
From: glenne@sr.hp.com
Message-ID: <3eeuff$pp7@canyon.sr.hp.com>
Source record: 114856

weinfurtner@ouvaxa.cats.ohiou.edu wrote:
: After a recent trip to my local Junk Emporium, I came home with a box
: labeled "converter" with the first word burnt off. It had 2 "F"
: connectors and a "N" connector. Inside was a 8 pin metal can about the
: size of a TTL chip, although about 3/8th of an inch high. Markings on
: the outside : MCL SC-90

: Is this a uhf mixer? The PCB was etched with UHF style tracks. Oh
: yes, the one pin is insulated with a blue color while the others are
: lime green.

: Any guesses on this one? 73 de NS8O Greg

My guess is that it is a splitter/combiner (SC) with an upper frequency
limit of 90 MHz. By the connector types on the box I would have guessed
it was for splitting the outputs of a TVRO block converter for driving
two different receivers (two users sharing antenna/preamp on one satellite
but viewing different channels). However from the "90" it sounds more like
it is for splitting 70 MHz IF signals two ways.
There's a possibility that the 90 refers to 90 degrees and that it is
a branchline coupler centered at a higher frequency but the size of the
package would probably indicate against this.

If you can find suitable adapters you might hook it to your 2M HT on
receive only (or low power transmit if you are daring) and see if you
hear signals slightly attenuated. If it is a ~90 MHz splitter, it will
probably still work reasonable at 144 MHz. If that works, you could
probably use it to drive a pair of suitably positioned 2M antennas
either for additional gain in a single direction or to tailor your
coverage area with two main beams of the same or different polarization.

Or you could offer it for sale on rec.radio.amateur.swap as a "surprise".
Just (:>)

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| ftp://col.hp.com/hamradio/packet/n6gn/index.html |

57. Re: Call FCC for "New" ca

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-04 22:43:00 UTC
From: tom.hammond@woodybbs.com
Message-ID: <93.4286.7584.0NFB8AA4@woodybbs.com>
Source record: 114853

RI>: Does this mean that a new ham can start operating without a license in
>: hand as long as he has the C.S.C.E and knows his call?

RI>Of course not. You have to have a signed original in possession.

Actually, it DOES! As of December 20, 1994, applicants may now CALL the
FCC (1-800-322-11117), given a appropriate processing wait (maybe two
weeks or so) and if the license has been issued, the FCC will give the
applicant his/her new call and he/she may start operating IMMEDIATELY,
without having a hardcopy of the license. The theory now being that the
FCC already has what they need (the callsign of the operator, and the
record of the issuance), and that's all they need.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--- Alexi/Mail 2.02b (#83)
* Origin: Distant Winds BBS * Jefferson City, Mo * [314] 635-7868 (1:289/67)

58. Zverev book reference....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 00:17:47 UTC
From: abergsma@doe.carleton.ca
Message-ID: <D1wotn.Cp1@cunews.carleton.ca>
Source record: 114854

I agree. a really good book for getting hands on knowledge on whats going on. lots of good examples and a realistic approach as opposed to a strictly theoretical one.

thanks for the other book as well.

aj

59. What the @#$! is this chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 01:13:13 UTC
From: hduff@humnet.westonia.com
Message-ID: <7716-241545801@humnet.westonia.com>
Source record: 114855

```
Iw>
Iw>
Iw> After a recent trip to my local Junk Emporium, I came home with a box label
Iw> "converter" with the first word burnt off. It had 2 "F" connectors and a "N
Iw> connector. Inside was a 8 pin metal can about the size of a TTL chip,
Iw> although about 3/8th of an i
Iw> nch high. Markings on the outside : MCL SC-90
Iw> Is this a uhf mixer? The PCB was etched with UHF style tracks. Oh yes, the
Iw> one pin is insulated with a blue color while the others are lime green.
Iw> Any guesses on this one? 73 de NS8O Greg
Iw> ************************************************************************
Iw> * Greg Weinfurtner AEE BSS *
Iw> * NN N SSSSSSS 8888888 OOOOOOO Electronic Design Splst *
Iw> * N N N S 8 8 O O Ohio University Athens *
Iw> * N N N SSSSSSS 8888888 O O GO BOBCATS! *
Iw> * N N N S 8 8 O O *
Iw> * N NN SSSSSSS 8888888 OOOOOOO "When in trouble, When in *
Iw> * doubt, Run in circles, *
Iw> * Amateur Radio Scream and shout." *
Iw> ************************************************************************

That would probably be a Minicircuits Labs mixer.
Don't have my MCL catalog handy but the "MCL" marking and description
you gave sure sounds like a mixer.

73 Hugh Duff VE3OYH Toronto

---
```


 NFX v1.3 [000]


```
--
---------------------------------------------------------------------
HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---------------------------------------------------------------------
```

60. Reverse Engineer Circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 03:11:53 UTC
From: starin@netcom.com
Message-ID: <starinD1wwvu.lq4@netcom.com>
Source record: 114857

I need some good old fashioned advise from the gurus in this group who know a little about surface mount technology.

I have an elecronic device which is comprised of mostly surface mount components. Assuming I can figure out what each component is, can I then rebuild this device using standard components? What are the considerations? When I reverse engineer this device, can I say, substitute a 1/4 watt resistor for the surface mount 1/8 watt resistor, etc.

Any help would be greatly appreciated.

Thanks
--
Jeffrey
{New York}

61. XTAL Controlled Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 03:32:15 UTC
From: starin@netcom.com
Message-ID: <starinD1wxtr.5y4@netcom.com>
Source record: 114858

Would any knowledgable member of this group know where I can find circuit designs for a small XTAL controlled transmitter that I can build?

thanks
--
Jeffrey
{New York}

62. Schematic drawing program wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 04:29:20 UTC
From: sbertsch@magnus.acs.ohio-state.edu
Message-ID: <3efsj0$jk3@charm.magnus.acs.ohio-state.edu>
Source record: 114859
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

I'm looking for a public domain/shareware schematic drawing (CAD) program, preferably for X11, but DOS or <groan> WinDoze will do.

All leads appreciated,
Steve N8KWV

63. Re: Homebrew? What gives? Where's the real

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 05:38:06 UTC
From: steve@info.pgh.pa.us
Message-ID: <steve-0501950038060001@fuzbat.pgh.pa.us>
Source record: 114860

In article <steve-0401951301250001@brainiac.hi.com>, steve@hi.com (Steve Byan) wrote:

> > **** I remember once, a _long_ time ago, seeing a news item on TV
> about somebody
> > on the SF peninsula who was making his own tubes. Just for the fun of
> it. I don't
> > suppose anybody else heard of this guy?
>
> No, but in the same vein, remember the Amateur Scientist column in
> Scientific American magazine that described making MOSFETs in your kitchen
> oven? Sometime in the 70's, I think.

This is the kind of thing I would love to have. If anyone has *any* pointers to this article, I'd sure appreciate it. I expect this was in the excellent "amateur scientist" column. I damn near built that copper vapor laser...

Steve

P.S. I'm serious here, I want to build my own MOSFET just to prove I can do it. I've got a buddy building a turbojet for the same reason.

64. Re: What's this FB in a 435 MHz GaAsFET Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 09:03:10 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <859700453wnr@ifwtech.demon.co.uk>
Source record: 114863

Hi Zack

> I have to agree that a network analyzer is very useful if you
> want to be careful. While programs such as Microwave Harmonica
> and Touchstone are useful, they really aren't adequate for fully
> determining the stability of preamps.

True - Rainer made that mistake when trying to model a Norton
feedback amplifier as a 2nd stage for 432. He couldn't model the
parasitic Ls and Cs in the transformer; instead of being
unconditionally stable as Microwave Harmonica predicted, it was
a FB power oscillator.

> They don't effectively
> analyze waveguide effects that are often present with real designs.

DUBUS has just arrived with an interesting article by WA8NLC
on real-life effects in microwave construction. (You've probably
seen it already.)

>
> How do you model that piece of conductive foam Ranier suggested
> in his design?

You don't. In the end you can only test the real thing.

> On the other hand, a variable length of shorted transmission
> line can be a cost effective toool for the amateur designer.

You can use it with a microwave power meter on the other
port. If leaving the other port unterminated, monitor the
DC operating condx with a 4.5 digit DVM.

> This might be as simple as a piece of coax with a lot of pinholes
> in it.

Nice idea!

> Needless to say, ARRL Radio Designer *cannot* effectively
> determine the stability of preamps using devices with high gain
> out to 10 or 20 GHz. To do that you need sophisticated models
> that aren't in this simulator.

The editor of RadCom would like me to do a review of ARRL Radio
Designer. Who should I email to ask formally for a review copy?

--
73 from Ian G3SEK | Editor, _The_VHF/UHF_DX_Book_

Abingdon, England |
g3sek@ifwtech.demon.co.uk | "In Practice" columnist for RadCom (RSGB)

65. Re: ARRL book: Intro to RF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 15:04:21 UTC
From: dnewkirk@arrl.org
Message-ID: <1995Jan5.150421.22885@arrl.org>
Source record: 114866
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Mchael Black (mblack@telegraph.com) wrote:

: derekn@vw.ece.cmu.edu (Derek B. Noonburg) writes:

: > The January issue of QST has an ad for a new book, titled
: > _Introduction to Radio Frequency Design_, by Wes Hayward. Before I
: > plunk down my $30, I was wondering if anyone had taken a look at this
: > book.

: Hi,
: I haven't seen the ad, or obviously the book, but it does look
: interesting.
: I have enjoyed Wes Haywards righting over the years, and I think I might
: get this book just because of that. I know he wrote some books for Prentice
: Hall, and when I wrote them last year, I think they were out of print. This
: title sounds familiar, so I wonder if it is a reprint of it. I am assuming
: that this is published by the ARRL.

[deletions]

: I am assuming this book is similar, though not the same. If it is a
: reprint, maybe it is ten years old? It probably does still have information of
: value, knowing the things Hayward has written about in the past. But hopefully
: it would be updated, if it is a reprint. If it's new, then it probably is
: worthwhile.

Check my signature line to see if you want to consider me biased, but I can
say without reservation that this book is indeed worthwhile for those
interested in doing RF engineering, amateur or otherwise.

Wes's preface to the ARRL edition (the original Prentice-Hall printings are
now entirely out of print) notes that "this new printing has changed little
from the original...the major difference...is the inclusion of a disk
containing a collection of computer programs related to and derived from the
text." The added software aside, is it bad that the book hasn't been
"updated"? No, because, aside from fixing a glitch here or there (the sort
that inevitably creep in through the publication process), it didn't *need*
updating because it is component-nonspecific and still speaks well to its
intended audience. It ain't broke, so--somewhat like the Zverev filter book
others on the net rightfully cite as well worth tracking down because it
hasn't aged, or the Terman and Henney books many of us covet because of
their solid fundamentals--it didn't need "fixing."

73,

David Newkirk, WJ1Z
Senior Assistant Technical Editor, ARRL

66. Satelite Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 15:13:07 UTC
From: brendan@exchange.datanet.net.au
Message-ID: <3eh2a3$4o4@exchange.datanet.net.au>
Source record: 114778
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew, rec.radio.amateur.space,alt.radio.pirate,alt.radio.scanner,sci.electronics,sci.geo.meteorology,sci.image.processing

If you have an interest in receiving real-time images from satelites
read on......

Equipment to receive these real-time images are manufactured in Queensland
Australia. This project began life as a research / recreational hobby by
a team of radio enthusists. The final outcome of the project was a system
to receive real-time images from polar orbiting weather satlites.

Images are available from American (NOAA), Russian (METEOR) and Chinese
(FENG-YUN) satelites as they traverse your geographical area. The
satelites transmit both visible light and infra-red images. Resolutions
vary from 2.4Kms to 5Kms per pixel.

The system comprises a simple omni-directional antenna, a suitable radio
receiver, demodulator card (AD converter) and viewing software suitable
for the viewing and manipulating images on IBM PCs.

An overall system price is in the order of $650 (Aust) with the possible
addition of a mast head pre-amp for $30. Various antenna equipment and
cabling is required and can be purchased for around $15. Detailed
diagrams are included for the construction of the antenna.

Please respond in e-mail if you are interested in obtaining more
information. Parts of the system are also available in kit form.

--
Brendan McLearie
brendan@datanet.net.au

67. Re: XTAL Controlled Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 16:04:29 UTC
From: adams@chuck.dallas.sgi.com
Message-ID: <D1xwnI.HM6@odin.corp.sgi.com>
Source record: 114867

In article <starinD1wxtr.5y4@netcom.com>, starin@netcom.com (Jeffrey Starin) writes:
|> Would any knowledgable member of this group know where I can find circuit
|> designs for a small XTAL controlled transmitter that I can build?
|>
|> thanks
|> --
|> Jeffrey
|> {New York}

Well Jeffrey, I don't know if I qualify as "knowledgable", but
that never stopped me before. :-)

There are just a few unanswered questions in your post.

1. How complex? I assume that you want a simple transmitter.
2. What mode? I assume that you want a CW transmitter, again due to
simplicity.
3. What frequency? I assume HF.
4. How much power output? I assume QRP levels.
5. How much money do you want to spend? I assume very little or you
want the joy and pride of building your very own.

Look in any of the ARRL handbooks. There are usually more than one.
I pulled the 1992 Handbook off the shelf here at the office and low
and behold, in chapter 11, page 11-2 there is a two transistor
simple, solid-state CW transmitter controlled by one crystal.
It's for 80M and probably less than 1/2 W output.

With current techniques, it's just about as cheap and with good
stability to go ahead and go with a VFO, thus allowing one to shift
frequency a little more to get away from QRM and ongoing QSOs in
progress.

You don't list your call in your post, so I don't know what your
experience level is or you license class, but I do hope that this
helps. If you've never built before, I recommend Chapter 25 of
the new 1995 Handbook on construction techniques. :-) :-)

There are number of other ARRL books around also that will help.
Email direct if you need more and good luck.

dit dit
--
Chuck Adams K5FO CP-60 adams@sgi.com

68. Re: ARRL book: Intro to RF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 16:19:29 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D1xxCI.5vn@hpqmoea.sqf.hp.com>
Source record: 114768
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Derek B. Noonburg (derekn@vw.ece.cmu.edu) wrote:

: 2. Cookbooks - these provide lots of real circuits, but don't really
: explain how they work. (The ARRL Handbook is the classic example of
: this category.)

Comment noted, understood, and agreed with !

***** AND ACTED UPON ! *****

I too felt that the handbook was weak on explanation, and threw a lot
of circuits at the reader without any real guidance on how to choose
between them. Amateur radio was my hobby as a kid, and formed the
foundation of my career. Faced with the opportunity to write a chapter
as part of the grand re-write for the 1995 edition, I felt it was my
chance to put back some of what I'd got from the hobby. OK, that may
sound trite, but it's nice to think you've done something worthwhile.

Writing the oscillators and synthesisers chapter was fun, but took up
most of my "spare" time for most of a year. Several friends helped by
reading attempts at difficult parts and then telling me what they *really*
thought of them. I've done my best to convey understanding, to paint a
moving picture of a functioning oscillator in a readers mind, to explain
the fundamental principle common to all oscillators, to explain the
inextricable involvement of noise etc etc. I've tried to show how
reliable, robust, synthesisers are designed, and I've unravelled the
synth of a good HF rig to show how it works, what compromises its
designers took and what could be done to improve on it.

I've done my best, I hope it's good enough. The feeling of it now
being irretrievably set loose and in the hands of those who will judge
it is strange. I feel quite nervous.

A copy of the final book has only recently arrived (does mail swim
across the Atlantic?), and I've enjoyed reading the other sections. The
whole tone of the book has changed. I think it is now far better at
explaining things.

: I want something that balances math with practice. I understand the
: basics of impedance, transistors, etc., but I have no intutive feel
: for oscillators, mixers, and so on.
: So... is this book any better than the others? Does anyone have
: recommendations for some other book?

Wes Heyward has plenty of experience and can write with authority on
practical matters, his intuitive understanding and maths are equally

good. I've learned a lot from what he's written. I wholeheartedly recommend everything he's written. I'd recommend reading carefully, and more than once. Even in the older "Solid state design for radio amateurs" there are some subtle gems that are only spotted later.

My opinion of the 1995 ARRL handbook will be biassed because of my involvement, and it would be most improper for me to recommend it :-). However, it is greatly changed. Lots of people have put in lots of work.

Please take a look at a copy, and judge for yourself.

I don't think there is any one "best" book. I think you'll find reading a few will give different views and explanations that are complementary rather than competitive. Sometimes I find that something in book "B" clicks in my mind, and I suddenly understand things better in books "A" and "C".

Cheers
David GM4ZNX

69. For Sale: DRAKE R8 Communications Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 18:22:23 UTC
From: ptran@hti.net
Message-ID: <3ehdcv$mpp@hti.net>
Source record: 114769

I have a DRAKE R8, 1 year old, seldom used.
I paid $1000 for this machine.
I'd like to offer it at $700.
I have complete manual, box, original contents.

The above comments are my own, not related to my company or employer.
Paul Tran - Operations Manager .....
Portable Computer Support, Inc. PCS provides HARD DISK, PROCESSOR, math
6507 Oakburl Court co-processor, memory, battery, data
Sugar Land, Texas 77479 USA recovery to LAPTOP/NOTEBOOK computers.
(800) 484-9221 ext. code 5436 .....
(713) 565-5078 ptran@hti.net CompuServe:75674,3620 AOL:NoteB2LapT

70. Anyone make a 10-15 meter beam??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 19:49:55 UTC
From: szhall@chip.ucdavis.edu
Message-ID: <3ehih3$97@mark.ucdavis.edu>
Source record: 114770

I have been looking at making a 10/15 meter beam..What would be the cost and is the ARRL ant. book have the best plans..They seem to cost a lot to buy will I save a lot of money? Thanks for your help..Please e-mail..Jeff N6MYF

71. Re: Homebrew? What gives? Where's the real

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 20:59:09 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <789339549snz@lfheller.demon.co.uk>
Source record: 114779

In article <3ecnfv$ku1@inn.synoptics.com>
jkaidor@synoptics.com "Jerry Kaidor" writes:

> **** I remember once, a _long_ time ago, seeing a news item on TV about
> somebody
> on the SF peninsula who was making his own tubes. Just for the fun of it. I
> don't
> suppose anybody else heard of this guy?
>
> - Jerry Kaidor, KF6VB
> (jkaidor@synoptics.com)

In the 50s, I can remember hearing about people who made their own
point-contact transistors, just like Bardeen et al did.

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

72. Re: Ramsey Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 21:26:56 UTC
From: amsoft@epix.net
Message-ID: <3eho70$4ra@grape.epix.net>
Source record: 114771
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

>BTW, what does having a wave-soldering machine have to do with the
quality
>of their kits?
>
>--
>\|/ Michael L. Ardai N1IST Teradyne ATB, Boston MA
>-*-

>/|\ ardai@maven.dnet.teradyne.com n1ist@netcom.com

The wave soldering machine refers to subassemblies in newer kits to come.

Remember, you only get what you pay for in this world, and you don't pay
a lot for Ramsey Kits.

Every one of the Ramsey kits are usable, some need more technical
kowledge than end assemblers can muster up. At least Ramsey is willing
to make it work for the buyer, if the buyer can't do it himself.

73. Active SMD mixer available for 1-1000Mhz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 23:47:21 UTC
From: snorris@harp.aix.calpoly.edu
Message-ID: <1995Jan05.234721.153766@zeus.aix.calpoly.edu>
Source record: 114772

I'm working on a project that requires a mixer with ~1-1000Mhz RF, 400Mhz LO, and up to 500MHz IF. I would also like it to be able to use a low LO drive (down to around about -10dBm) and have a LNA as well. All preferably in an 8 pin SOIC with supply voltage of 5V.

Any recommendations? I've looked around quite a bit, but have not yet found one with the frequency ranges that I need. Presently I have a passive mixer in the design that has the ranges I need, but would like to explore the possibility of using and active device to possibly shrink the size and get a little better sensitivity without having to add discrete amplifiers.

Any help and/or advice here would be appreciated

thanks,

Sean

Sean Norris snorris@trumpet.aix.calpoly.edu
--KE6BTE-- Loyalty, above all else.
---

74. Re: HF Amp Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 23:51:03 UTC
From: ells22@aol.com
Message-ID: <3ei0l7$jib@newsbf02.news.aol.com>
Source record: 114773

Thanks for the info on Radiokits and other sources. I appreciate the help.

75. source for Toko Baluns?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-05 23:54:33 UTC
From: snorris@harp.aix.calpoly.edu
Message-ID: <1995Jan05.235433.154544@zeus.aix.calpoly.edu>
Source record: 114774

Anyone know where I can get small quantities of Toko baluns? I already
checked Digi-key, and they don't carry the ones I want which is
part #616DB-1007

Please E-mail me if you know where I can get these.

Thanks,

Sean

Sean Norris snorris@trumpet.aix.calpoly.edu
--KE6BTE-- Loyalty, above all else.
---

76. Re: Reverse Engineer Circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 00:13:20 UTC
From: jmccarty@spd.dsccc.com
Message-ID: <3ei1v0$pdv@sun001.spd.dsccc.com>
Source record: 114775

In article <starinD1wwvu.Iq4@netcom.com>,
Jeffrey Starin <starin@netcom.com> wrote:
)I need some good old fashioned advise from the gurus in this group who
)know a little about surface mount technology.
)
)I have an elecronic device which is comprised of mostly surface mount
)components. Assuming I can figure out what each component is, can I then
)rebuild this device using standard components? What are the
)considerations? When I reverse engineer this device, can I say,
)substitute a 1/4 watt resistor for the surface mount 1/8 watt resistor, etc.
)
)Any help would be greatly appreciated.
)
)Thanks
)--
)Jeffrey
){New York}

First a real nit-pick: either use "is composed of" or "comprises".

Now to really answer your question.

So long as (at the frequencies used) the components used are "really"
there as discrete components (as opposed to including "stray" or
"parasitic" effects of layout etc.) what you propose to do should work.
Do not try to re-do a stripline circuit, though. Even at 100 MHz layout
is often as important than component values.

Mike

```
char *p="char *p=%c%s%c;main(){printf(p,34,p,34);}";main(){printf(p,34,p,34);}
```

77. Re: Homebrew? What gives? Where's the real

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 00:19:36 UTC
From: jmccarty@spd.dsccc.com
Message-ID: <3ei2ao$pec@sun001.spd.dsccc.com>
Source record: 114776

In article <steve-0501950038060001@fuzbat.pgh.pa.us>,
Stephen D. Cohen <steve@info.pgh.pa.us> wrote:
)In article <steve-0401951301250001@brainiac.hi.com>, steve@hi.com (Steve
)Byan) wrote:
)
)> > **** I remember once, a _long_ time ago, seeing a news item on TV
)> about somebody
)> > on the SF peninsula who was making his own tubes. Just for the fun of
)> it. I don't
)> > suppose anybody else heard of this guy?
)>
)> No, but in the same vein, remember the Amateur Scientist column in
)> Scientific American magazine that described making MOSFETs in your kitchen
)> oven? Sometime in the 70's, I think.
)
) This is the kind of thing I would love to have. If anyone has *any*
)pointers to this article, I'd sure appreciate it. I expect this was in
)the excellent "amateur scientist" column. I damn near built that copper
)vapor laser...
)
)Steve
)
)P.S. I'm serious here, I want to build my own MOSFET just to prove I can
)do it. I've got a buddy building a turbojet for the same reason.

The article on FETs was not how to build a MOSFET. It also involved
(quite) poisonous substances, which should not be discarded by flushing
them down the toilet. Also the fumes generated are poisonous.

All in all, I wouldn't recommend it. But if you insist, the article was
early '80s.

Mike
---
char *p="char *p=%c%s%c;main(){printf(p,34,p,34);}";main(){printf(p,34,p,34);}

78. Re: Reverse Engineer Circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 00:22:09 UTC
From: jmccarty@spd.dsccc.com
Message-ID: <3ei2fh$pf1@sun001.spd.dsccc.com>
Source record: 114777

In article <3ei1v0$pdv@sun001.spd.dsccc.com>,
Mike McCarty <jmccarty@spd.dsccc.com> wrote:

[stuff deleted]

)So long as (at the frequencies used) the components used are "really"
)there as discrete components (as opposed to including "stray" or
)"parasitic" effects of layout etc.) what you propose to do should work.
)Do not try to re-do a stripline circuit, though. Even at 100 MHz layout
)is often as important than component values.
^^^^^^^^^^^^^^^^^

Oops! I originally worded that as "more important than", but then
thought a little bit, and decided that at 100 MHz it should be "as
important as". Unfortunately one the first part got changed.

Sorry for any confusion.

Mike
---
char *p="char *p=%c%s%c;main(){printf(p,34,p,34);}";main(){printf(p,34,p,34);}

79. Wanted address of Cry 2/2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 11:48:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.843.546@acenet.com>
Source record: 114780

>>> Continued from previous message
Oak Hills Research (800) 842-3748 / (616) 796-1460 = Orders
Dick Witzke KE8KL (616) 796-0920 = Tech info.
20879 Madison Street (616) 796-6633 = FAX
Big Rapids, MI 49307 (20 & 40M CW QRP transceivers etc.)

Oatley ELectronics No phone number given
5 Landsdowne Parade
Oatley, Sydney,
New South Wales 2223
Australia Kits, parts, etc.

Pan-Com International (No phone listed)
Box 130
Paradise, CA 95967 Send $1 for catalog of 350 kits etc.

Penntek Electronics (717) 248-2507
14 Peace Dr. Boards, kits etc. including
Lewistown, PA 17044 The Neophyte Receiver, QST Feb 1988

Pervisell Ltd, Call 0494 443033 or Fax 0494 448236.
8 Temple End,
High Wycombe,
Bucks. FAX & RTTY Decoder kit 17 Pounds, UK
HP13 5DR. England

R.J. Portugal Need phone number!
52 Susan Lane Programmable AF/RF
North Haven, CT 06473 Sinewave generator kit 0-10 MHz $65

R & R Associates (213) 474-1315
3106 Glendon Avenue
Los Angeles, CA 90034
[Richard Rathburn, KB6NQ] "I mainly sell pc boards from QST, Radio

R & R Associates (213) 474-1315
3106 Glendon Avenue
Los Angeles, CA 90034
[Richard Rathburn, KB6NQ] "I mainly sell pc boards from QST, Radio
Electronics, etc., and a few of in-house design. I also sell IC's,etc."
Send a SASE every now and then for his most recent flyer & also has boards
for some Motorola Application Notes.

Radio Devices (508) 480-0502
(Bob Levine KD1GG) Gel Cells, antennas
32 Queens View Road Hamcall CD-ROMs, Ramsey kits etc
Marlboro, MA 01752 checks/MO only, no credit cards.

Radiokit (603) 635-2235 FAX: (603) 635-2943
P.O. Box 973
169 Jeremy Hill Road RF components, variable caps, coils
Pelham, NH 03076 $1 catalog

Ramsey Electronics (716) 924-4560
793 Canning Parkway FAX: (716) 924-4555
Victor, NY 14564 (RCVR & QRP transmitter, keyer kits etc.)

Ryan Communications (412) 368-3859
BOX 111E
Camelot Road (QRP CW transmitter, ready made,)
Portersville, PA 16051 (and transmitter kits, crystals)

SCS No phone number given
P.O. Box 680
New Hartford, CT 06057 Morse keyboard kits

S & S Engineering (301) 416-0661
14102 Brown Road (301) 416-0963 = FAX
Smithsburg, MD 21783 ($270 ARK-4 CW transceiver kit etc.)

Small Wonder Labs (203) 667-3536
Dave Benson, NN1G
80 East Robbins Avenue
Newington, CT 06111 QRP transceiver kits for about $50

Sunset Electronics (No number listed)
12145 Alta Carmel Ct. Suite #250-139
San Diego, CA 92128 ("Build your own ham radio")

T.A.P.R. Inc. (817) 383-0000
8987-309 E. TANQUE VERDE Rd. # 337
Tucson, AZ 85749 TNC kits for packet radio etc.

Technologic Concepts No phone number given
1803 Mission Street #308 Internet: tlcdhconsult@delphi.com
Santa Cruz, CA 95060 Ramsey FX & Icom 22S conversion kits

Techsonic (610) 834-1978
1642 Butler Pike, Suite 127B
Conshohocken, PA 19428 QRP / QRPp transmitter kits 40,30,20m

Tejas RF Technology (713) 879-9300
P.O.Box 720331 FAX: (713) 879-9494
Houston TX 77272-0331 Tejas Backpacker-II QRP kit etc.

Ten-Tec (615) 453-7172 (800) 833-7373
1185 Dolly Parton Parkway FAX = (615) 428-4483
Sevierville, TN 37862 Great kits, accessories etc.
Internet: 74130.212@compuserve.com Eric Guinn or Gary Barber
$15.00 minimum

Tiare Publications (414) 248-4845
P.O. Box 493W

Lake Geneva, WI 53147 (Books on QRP etc.)

Townsend Electronics Inc. (219) 594-3661
Box 415 S (219) 594-5580
Pierceton, IN 46562 (Howes HF Kits from England)

W1FB
Box 250
Luther, MI 49656 QRP CW transmitter kits

Xandi Electronics (800) 336-7389
P.O. Box 25647
Tempe, AZ 85285 Kits, parts etc.

Brian Carling, AF4K
brian.carling@acenet.com
AF4K @ W3INK

I hope that helped you! - Brian

• SLMR 2.1a • Maryland does not enforce child labor laws.

80. Wanted address of Cry 1/2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 11:48:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.842.546@acenet.com>
Source record: 114781

Newsgroups: rec.radio.amateur.homebrew

JH> I am looking for a company who deal in crystal set parts and
JH>kits..Please send imformation via-email..Thank you..Happy New Year..Jeff

You could TRY some of these places:

I have NO commercial interest whatsoever in bringing you this
information. I simply hope that it will enhance your enjoyment of the
hobby. Write or call these folks for a catalog or list of their kits:

"624 Kits" (803) 579-6262 day / 583-1304 eve.
171 Springlake Drive
Spartanburg, SC 29302 (QRP kits & accessories)

A & A Engineering (714) 952-2114
2521 W. La Palma #K Stas Andrzejewski, W6UCM (Keyer,
Anaheim, CA 92801 Battery charger, SELCALL, freq synth kits etc.)

C & S sales inc (800) 292-7711
1245 Rosewood ave
Deerfield Il 60015 Test gear, kits, $35 rcvr for 2m/6m etc.

Circuit Board Specialists June 1993 Mailed returned, no forwarding address
P.O. Box 969
Pueblo, CO 81002 (Various kits & projects, P.C. boards)

Circuit Specialists Inc. (800) 528-1417
Box 3047
Scottsdale, AZ 85271 Electronic components incl. RF parts

Communication Concepts Inc. (513) 426-8600 or (513) 220-9677
508 Millstone Drive (513) 429-3811 = FAX
Xenia, OH 45385 (HF linear amp kits etc.)

CQ RADIO KITS (416) 775-9119
Box 1546
Bradford, ONTARIO
Canada L3Z 2B8 QRP xcvrs, rcvrs, keys etc.

****
Crystal set society (314) 725-1172 *
P.O. Box 3026 *
St. Louis, MO 63130 Handbook, projects, formulas *
****

Cy-ance Kit, (501) 839-8293
14786 Slate Gap Road

West Fork, AR 72774 80 different kits

Dan's Small Parts And Kits (Formerly KA7QJY Components)
1935 S. 3rd W. #1
Missoula MT 59801
1-406-543-2872 SASE for a current list of parts. RF parts,
(801) 563-5173 (Danny Stevig)

DWM Enterprises (No number listed)
1709 N. West Avenue #103
Jackson, MI 49202 (Mobile SW converter & simple QRP plans)

DX Radio Supply (610) 273-7823
Box 360 Call or write for catalog
Wagontown, PA 19376 Kit retailer. Ramsey, etc.

Electrogadgets Inc.
P.O. Box 2065
Morris Township, NJ 07962 Digital voice recorder kits $20.00

Electronic Goldmine (602) 451-7454
P.O. Box 5408
Scottsdale, AZ 85261 Kits, parts etc.

Electronic Rainbow (317) 291-7262 / -7269 = FAX
6254 LaPas Trail
Indianapolis, IN 46268 Various electronics kits

Elktronics Northeast Co. (603) 525-4001
Rt. 1 Box 789
Hancock, NH 03449 VFO kit, RF amp, filters etc.)

Hambrew Magazine 1-800-5-HAM-RIG
c/o George De Grazio, WF0K
P.O. Box 260083 Quarterly Magazine for builders $10/year
Lakewood, CO 80226 HF, QRP, VHF, XMTRS, RCVRS, QRO, ANTENNAS

Hamtronics, Inc. (716) 392-9430 / - 9420 = FAX
65 Moul Road 10m, 6m, 4m, 2m, 220
Hilton, NY 14468-9535 Receiver kits, receivers, converters

C.M. Howes Communications (44) 327-60178
Eydon, Daventry,
Northants NN11 6PT
England QRP transmitters, receivers, misc. Also
sold by Townsend Electronics in the U.S.

Idiom Press (No phone given)
Box 1025
Geyserville, CA 95441 Computer controlled keyer kit

J Comm (716) 924-0422
793 Canning Parkway FAX (716) 924-4555
Victor, NY 14564 (QRP HT rigs for 80 - 6m, $350.00)

Computer interfaces etc.

Kanga US (N8ET) (419) 423-5643
3521 Spring Lake Drive Biggest & best catalog of QRP kits!
Findlay, OH 45840 QRP kits, projects etc.

KD4YBC No phone number given
197 Chickasaw Lane
Myrtle Beach, SC 29577 HF linear amplifier kits, 14V DC

KD4YBC No phone number given
197 Chicasaw Lane
Myrtle Beach, SC 29577 H.F. amplifier kits

Lake Electronics (44) 0602-382509 (Alan G4DVW)
7 Middleton Close
Nuthall
Nottingham NG16 1BX
England QRP kits, receivers, accessories etc.

Lectrokit No telephone [FAST response!]
401 W. Bogart Rd.
Sandusky, OH 44870 (QRP Transceiver kits, P.C. boards etc.)

Mercury Systems (609) 596-3304
15 Lakeside Dr.
Marlton, NJ 08053 ARRL kits.

NOR-CAL QRP Club (916) 487-3580
c/o WA6GER @ KM6PX
3241 Eastwood Rd., QRPp magazine, NOR-CAL40, Sierra kit
Sacramento, CA 95821 Other nifty QRP kits & projects

North Country Radio (518) 854-9280
PO Box 53, Wykagyl Station,
New Rochelle, NY 10804-0053 ATV kits.

Novatech Instruments Inc. (206) 328-6902
1530 Eastlake Avenue East (206) 328-6904 = FAX
Seattle, WA 98102 Direct DIgital Synthesizer kit 2Hz-12MHz
>>> Continued to next message

 SLMR 2.1a Maryland does not enforce child labor laws.

81. Power control of Class C amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 14:32:15 UTC
From: Tony.Komljanec@banyan.dgim.doc.CA
Message-ID: <M1g8+uGK3jb@banyan.dgim.doc.ca>
Source record: 114782

In article <D25swK.L84@boi.hp.com> twheless@Name: hpbsl75 (Tom Wheless) writes:
>>
>>I'd like to build a class-C power amplifier and be able to easily
>>vary the output power (the gain). I know that some rigs allow you
>>to do this but I don't know how they implement it. Are they just
>>varying the collector supply voltage in the final stage?
>
>For some low power rigs, AM CB rigs for example, that's exactly what
>they do. For most ham rigs, the PA is running AB1 even during CW
>transmissions, so the drive power is reduced same as it would be
>for voice transmission.

Tom:

Class C amplifiers are used for FM, typically at VHF and above. I've been using mobile radio PA's for some time as cheap amplifiers for HT's, both VHF and UHF and as repeater TX. The voltage supplying a stage in the PA is controlled by a series pass regulator circuit feeding the PA, with feedback from a "power adjust" pot, a level control ciruit, temperature and reflected power sensors. In small HT transmitters, the "controlled stage" can be milliwatts and class A.

Usually the "controlled stage" is the predriver, the first transistor on the PA board, handling a few watts (5 watts typ). This has the advantage of controlling smaller currents than what you would find thru the final PA transistors. For instance, a 110W PA will consume 20+ amps in the final PA transistors.... current which you don't want to regulate.

There are a wealth of older radios, from GE, Motorola, etc that are great for amateur repeater PA's or HT amplifiers, and cheaply available (if not even free). Some suggestions are Mitrek, Micor, Pulsar (this one is the best! It is an old IMTS radio with removable PA, complete with it's own power control board, isolator and dummy load.... on UHF, -10 dBm in gets you +47 dBm out.... add a fan and you are fine for continuous duty). Look for a self contained PA that can easily be separated from the main assembly. This is assuming you want to go this route instead of building from scratch.

For situations that don't demand power regulation, just tie the controlled stage to max volts required for full output. If possible, try to extracate the control circuitry though; it makes life easier. Your mileage may vary.

Hope this helps. To all nethams... this is a good newsgroup with actual technical content, unlike the ham-equipment newsgroup (primarily concerned with out-of-band mods). Good show!

Tony, VE3PEP
ai797@freenet.toronto.on.ca

PS. Why pay for NEW when USED will do!!! Any other repeater hackers out there? Solar powered repeaters a specialty.

82. Re: ARRL book: Intro to RF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 14:47:55 UTC
From: bobw@col.hp.com
Message-ID: <3ejl6r$6h1@nonews.col.hp.com>
Source record: 114783
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Tom Wheless (twheless@Name:hpbsl75) wrote:
: I have this book and it's excellent. Wes Hayward's forgotten
: more about RF than I'll ever know.

: Not a whole lot of math in the book. He tries to give the reader
: an intuitive grasp of the subject. I thought the chapter on
: oscillators was excellent.

I have the pre-ARRL edition of the book and I think its
one of the better RF books available. I don't consider it
"cook book" but it does do a good job transcending theory
and practice.

Bob Witte / bobw@col.hp.com / Hewlett Packard / PMO / KB0CY / (719) 590-3230

83. Crystal Radio Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 16:07:48 UTC
From: mack@mails.imed.COM
Message-ID: <9500067894.AA789416454@mails.imed.com>
Source record: 114786

Someone recently posted a request for a crystal radio kit. I just found one in the Edmund Scientific catalog.

The catalog number is M37,839
Cost: $9.95

Edmund Scientific
101 E. Gloucester Pike
Barrington, NJ 08007-1380

(609)573-6250
(609)573-6925 FAX

Ray Mack
WD5IFS
mack@mails.imed.com

84. ROANOKE DF PWBs available

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 17:17:13 UTC
From: P06288@email.mot.com
Message-ID: <1995Jan6.171713.5441@schbbs.mot.com>
Source record: 114784

I apologize in advance if this is the wrong place for this posting. If it belongs elsewhere please let me know.

Several weeks ago I placed a posting looking for ROANOKE DF PWB kits. A number of people wanted me to post a source if I located one. I found an ad in 73 Mag for some and here is the following information:

AB5CK, Tom Lewis has Roanoke doppler boards available for assembly. They are a single board with the 16 LED display and are high grade PWBS with solder mask and silk screen for component locations. He says they have LOTS of bypass caps for lowered noise. They also have an improved audio amp. Cost is $49.95 including shipping etc. Check or MO will work but he holds boards until ck/MO clears. Cashiers check is preferred and gets immediate shipment. His number is (817) 428-8200. Address is 6721 Rolling Hills Dr., N. Richland Hills, TX 76180.

I am not affiliated with him in any way and cannot answer any questions or provide any help. Please contact him directly at the above.

73 N7QHK

85. Kenwood Computer/Transceiver Kit For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 18:23:58 UTC
From: cwtech@infinet.com
Message-ID: <3ek1ru$lk4@rigel.infinet.com>
Source record: 114785
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

I have a partially assembled transceiver/computer interface kit for Kenwood rigs I will sell for $25.

Explanation: I sell these kits based on my 2/93 QST article ("Everything You Always Wanted to Know About Computer Controlling Modern Radios"). They are also detailed in chapter 22 of the 1995 Handbook. Anyway, I designed a new circuit board for the Kenwood models and built an interface with it to the point that I could statically test it. It works and I incorporated the new PCB in the kits.

Having no Kenwood radios, I don't really have a use for the interface board and I wouldn't think of disassembling it for kit parts. Soooo, if anybody wants a cheap way to get a nice interface, buy this board and put it in a case, add the cables (provided) and you're ready to go. I usually sell these kits for $49, so this is a pretty good deal.

I also still sell the kits for both Icom/Ten-Tec/Yaesu $47. E-mail if you're interested. Thanks.

--

_/_/_/
_/ _/ _/ _/ CW Technology - Your Innovative Kit Source
_/ _/ _/ e-mail to cwtech@infinet.com or call
_/ _/ _/ 800-547-7479 for a free catalog!
_/ _/ _/
_/ _ _/ _/_ _/ Specializing in complete, easy-to-build kits
_/ _/ _/ _/ _/ _/ for Amateur Radio, Robotics, Motion Control,
_/_/_/ _/_/ _/_/ and Just-Plain-FUN!

86. GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 20:42:36 UTC
From: spbachhu@mtu.edu
Message-ID: <3ek9vs$aah@maxwell9.ee>
Source record: 114790

In the ARRL Handbook there are a couple of designs for 144 Mhz GaAsFET preamps. I was wondering what it would take to retune one of these for the FM broadcast band. I know it would probably only take changing a couple capacitors or inductors, but I am unfamiliar with input matching networks, and don't know what values to use.

Otherwise, we could bypass this whole discussion if someone knows of an existing preamp (either commercially available or in kit form) with a noise figure under 1 decibal.

any help appreciated.

Steve Bachhuber
spbachhu@mtu.edu

87. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 21:31:27 UTC
From: lascal@vccnorth22.its.rpi.edu
Message-ID: <3ekcrg$fb6@usenet.rpi.edu>
Source record: 114787

Stephen P. Bachhuber (spbachhu@mtu.edu) wrote:

: Otherwise, we could bypass this whole discussion if someone knows
: of an existing preamp (either commercially available or in kit form)
: with a noise figure under 1 decibal.

Steve,
Why 1 dB? Have you measured the background noise level at
your site with your antenna system? Depends where you are... but... I
dunno... after doing some research recently (based on a hunch), I
found that Noise levels due to humans and "galactic" sources are very
significant below 200 mhz.

(those curious about this, check out the noise chapter (29 in my
edition) of "Reference Data for Radio Engineers", ITT/ Sams.) I don't
trust the data given in this chapter as being "absolute", but it
supports my experiences.

In other words, I am not sure that you will gain much with a
noise figure lower than 1 dB over something with a noise figure of 3-6
dB (as a cheap alternative).

One could come up with a circuit costing less than $5 or so if
you used relatively common parts like the 2n5179 (NPN), 2n5109(NPN),
MPF-102/2n4416 (N-JFET). *OR* a bandpass filter and a MMIC.

Any comments from the Noise Figure gurus? Zack?

just my $0.02

-Lance

p.s. after a little discussion, I would be happy to try to help you
out... this is a topic of interest to me.

--
Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @ Rensselaer
http://www.rpi.edu/~lascal/
Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342

88. Re:Call FCC for New Callsign

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 23:00:45 UTC
From: Aditya Angrish <aditya@corp.sgi.com>
Message-ID: <3eki2t$1de@fido.asd.sgi.com>
Source record: 114791

Maybe we should have a FAQ on this topic. What say ???

73

Aditya, ke6prl

89. Re: source for Toko Baluns?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-06 23:50:38 UTC
From: robboma@aol.com
Message-ID: <3ekl0e$s2a@newsbf02.news.aol.com>
Source record: 114788

Try Pennstock. The only phone number I have is for their Columbia, MD office at 410-290-3746.

Good luck,

Bob

90. Re: Call FCC for "New" ca

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 00:06:12 UTC
From: pease@Eng.Sun.COM
Message-ID: <3ekltk$g92@engnews2.Eng.Sun.COM>
Source record: 114789

In article 0NFB8AA4@woodybbs.com, tom.hammond@woodybbs.com (Tom Hammond) writes:
>RI>: Does this mean that a new ham can start operating without a license in
> >: hand as long as he has the C.S.C.E and knows his call?

(snip)

>Actually, it DOES! As of December 20, 1994, applicants may now CALL the
>FCC (1-800-322-11117),

This must be one of the new 3x5 phone numbers!
Actually, the number seems to be: 1-800-1117
I just tried calling. (They were closed.) :-(

>given a appropriate processing wait (maybe two
>weeks or so) and if the license has been issued, the FCC will give the
>applicant his/her new call and he/she may start operating IMMEDIATELY,
>without having a hardcopy of the license. The theory now being that the
>FCC already has what they need (the callsign of the operator, and the
>record of the issuance), and that's all they need.
>
>73 - Tom Hammond N0SS
>* LAKOTA v1.4
>--- Alexi/Mail 2.02b (#83)
> * Origin: Distant Winds BBS * Jefferson City, Mo * [314] 635-7868 (1:289/67)

Thanks, Tom!

_Roger

- Roger M. Pease - /home on derange
"Everybody has their moment of great opportunity in life.
If you happen to miss the one you care about, then
everything else in life becomes eerily easy." - Douglas Adams

91. Re: Call FCC for "New" ca

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 03:48:22 UTC
From: tomswisher@aol.com
Message-ID: <3el2u6$19v@newsbf02.news.aol.com>
Source record: 114792

Such interim operating permits have been used in the commercial industry
for several years with great success. As soon as the coordinator picks the
freqs and sends the stuff to the FCC, as callsign is issued by the
computer and the happy new licensee can start operating immediately,
without the hard copy of the license.
****
Tom Swisher, N8GQK
National Scanning Report
"In God We Trust, All Others We Monitor"

92. Re: R-7100 freq/deviation meter add-on.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 09:03:16 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan7.090316.24108@ke4zv.atl.ga.us>
Source record: 114793

In article <1995Jan2.193236.5633@driftwood.cray.com> andyw@cray.com writes:
>While trying to set the deviation on a homemade 70cm FM transmitter, I
>wondered if anyone has built or bought a frequency error/deviation meter
>that could plug into the 10.7MHz IF output of (say) an Icom R-7100.
>
>I seem to remember some ads showing spectrum analyser type displays
>as an add-on to radios with IF outputs.

Yep, they're called panadaptors. Useful little buggers at times, but
a wideband spectrum analyser is better if you want to catch harmonics
and far out spurs.

>If there are no existing plans or products, I wondered if I could
>get away with a just 10.7MHz FM discriminator, or whether I should
>throw a Moto IF chip at the problem. For freq error, I just
>want to measure the DC-bias out of the discriminator, and deviation
>is just the P-P output ? Calibration sounds like the usual nightmare..

Yep. A DC coupled scope on the discriminator output of your receiver
will do for frequency error and deviation measurements. You just have
to calibrate it with a known signal source. Crude deviation measurements
can be done with just a VU meter plugged into the headphone jack of
a receiver. The meter will only be RMS, but that's good enough for many
uses, or you can build a peak hold circuit for it. Feed in a 1 kHz modulated
signal of known deviation, set the volume control for 0 VU and then use the
receiver to measure other signals. A minus 3 db reading would indicate half
the deviation of the known standard, a plus 3 db reading would indicate
twice the deviation of the standard. Of course you could calibrate the meter
directly for several modulating frequencies and deviations. Because of
de-emphasis in the audio chain, the response will be non-linear with
modulating frequency, so you have to use the same modulating frequency
for the standard and the unknown to get useful results.

If you build your own deviation meter using the MC13135, you can also
get a reliable indication of signal strength from the RSSI pin. It has
a guaranteed log output over a wide range of signal levels. This can
be a good little project. You can use a pair of meters, one zero center
reading, and have signal strength, deviation, and frequency error readings
available to you. Put a SBL-1 in front of it, and a crystal LO or a
calibrated signal generator as a LO, and you have a complete measuring
instrument.

Or, you can do as I am doing and modify a scanner with the appropriate
receiver IC. My Uniden BC 760xlt uses a chip with RSSI and, of course,
discriminator output. With an external metering box, I have a wide range
communications monitor of relatively useful characteristics, and it's

still a scanner for the times when I don't need a test instrument.
Bring out the LO through a buffer stage, remember it's 10.7 MHz offset
from the display, and you have a signal generator tunable in 5 kHz
steps. With suitable step attenuators, you've got a nice addition to
the test bench.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

93. Re: ARRL book: Intro to RF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 12:17:09 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <783033532wnr@ifwtech.demon.co.uk>
Source record: 114794

derekn@vw.ece.cmu.edu (Derek B. Noonburg) writes:

> The January issue of QST has an ad for a new book, titled
> _Introduction to Radio Frequency Design_, by Wes Hayward. Before I
> plunk down my $30, I was wondering if anyone had taken a look at this
> book.

Yes, it's been around for a while under the Prentice-Hall imprint.
If you enjoyed 'Solid State Design' and are looking for more
information about the fundamentals, you'll learn a lot from 'IRFD'.

It isn't intended for radio hams - it's a professional text and there
are no constructional projects. Remember, the author is W A Hayward of
Tektronix, Inc writing for professionals, not good ole W7ZOI bringing
his professional expertise down to our level. But they're both the same
person, and this book is just as well-planned and clearly written as
you'd expect.

Here's the chapter outline (total of 372 pages plus index):

1. Low frequency transistor models
2. Filter basics
3. Coupled resonator filters
4. Transmission lines
5. Two-port networks
6. Practical amplifiers and mixers
7. Oscillators and frequency synthesizers
8. The receiver: an RF system

Chapters 1-5 are the fundamentals, which are applied in chapters 6-8.
There's some math, but only where it helps to make something clearer.

As one of the key books that link theory to real-life circuit design,
'Introduction to Radio Frequency Design' is right up there with
'The Art of Electronics' by Horowitz and Hill (need we add that Prof.
Paul Horowitz is a ham too?).

For me, 'IRFD' was the book that put the capital D into 'Design'. It
taught me the value of planning any RF project and doing a few very simple
calculations to show whether it has a chance of working properly,
instead of just switching on the soldering iron and grabbing the first
components that come to hand.

The price of the Prentice-Hall hardback in Britain was far out of
reach of amateurs. Last time I saw the British Library's inter-library
loan copy, it was completely broken-backed from repeated photocopying!
Now that it's available at a reasonable price, I'm certainly ordering

my own copy from ARRL.

Strongly recommended!

--
73 from Ian G3SEK | Editor, _The_VHF/UHF_DX_Book_
Abingdon, England |
g3sek@ifwtech.demon.co.uk | "In Practice" columnist for RadCom (RSGB)

94. Re: Schematic drawing program wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 12:42:33 UTC
From: jeff@ee.ryerson.ca
Message-ID: <3em27p$qs6@hermes.acs.ryerson.ca>
Source record: 114795
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

Steve Bertsch (sbertsch@magnus.acs.ohio-state.edu) wrote:
: I'm looking for a public domain/shareware schematic drawing (CAD) program,
: preferably for X11, but DOS or <groan> WinDoze will do.

For X11, you are out of luck. Have a look at the comp.lsi.cad group faq,
there are a few pointers there for X11, but all the ones I've looked at
(wirec, SpiceCAD, Nelsis, ChipmunkCAD) are not to hot (read useful).
Check out protel for DOG/WinSnooze, even the demo is good. It's on a
SimTel site.
Jeff VE3DJF

: All leads appreciated,
: Steve N8KWV

95. Data on MC1013 chips?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 17:20:13 UTC
From: dsweeney@vt.edu
Message-ID: <dsweeney.1.001156CB@vt.edu>
Source record: 114804

I am working on a HP8698A sweeper plug in. It has a divide by 8 which incorporates a discrete 100 MHz divide by 2 followed by two MC1013 (ECL I divide by two) chips. The discrete divider has failed and I want to replace it with a 10131 ECL divide by 2.

Does anyone have data, pin outs and 0/1 levels, on the MC1013's so I can design an interface circuit?

Dennis Sweeney WA4LPR
dsweeney@vt.edu

96. Re: Call FCC for "New" ca

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 17:21:30 UTC
From: n0dh@comtch.iea.com
Message-ID: <3emiiq$7gs@krel.iea.com>
Source record: 114796

Tom Hammond (tom.hammond@woodybbs.com) wrote:
: RI>: Does this mean that a new ham can start operating without a license in
: >: hand as long as he has the C.S.C.E and knows his call?

Common guys this is the "Homebrew" area in case you hadn't noticed. Take
this "noise" over to alt.radio.amateur.misc
Dave
N0DH/7

97. Re: Call FCC for New Callsign

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 17:23:00 UTC
From: n0dh@comtch.iea.com
Message-ID: <3emilk$7gs@krel.iea.com>
Source record: 114797

Aditya Angrish (aditya@corp.sgi.com) wrote:
: Maybe we should have a FAQ on this topic. What say ???

At least you should take the discussion over to alt.radio.amateur.misc
and quit cluttering up .hombrew !
Dave
n0DH/7

98. Looking for Cardinal Sound card in Toronto

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 18:05:12 UTC
From: mike@io.org
Message-ID: <3eml4o$3f9@ionews.io.org>
Source record: 114798

If anyone here knows where I can buy a Cardinal sound card in Toronto, please post, email (or if you're in TO. phone me at 416-626-7120).

Mike

--
==========
Mike Stramba Email: mike@io.org
Toronto,Canada Internex Online - Toronto, Canada (416) 363-3783
==========

99. make an antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 19:09:30 UTC
From: jthompso@nermal.santarosa.edu
Message-ID: <3emota$jf0@floyd.santarosa.edu>
Source record: 114799

Hello,

I am wondering if anybody knows how I would go about making a good inexspensive CB radio antenna? If you know how or where I can find this info on the net please write to me or post here. Also personal experiences would be great.

Thanks,

John Thompson
jthompso@nermal.santarosa.edu

100. Anyone generating I+Q modulation with sound card ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 20:02:25 UTC
From: chrise@n0jcf.com
Message-ID: <3ems0h$gjd@n0jcf.com>
Source record: 114800
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Just curious if there is any work going on with generating quadrature modulation from a PC sound card (such as the DSP16 / AD2100 based cards) ??

Seems like you could have some fun with one of these single chip quadrature modulators such as RF Micro-Devices RF2703 and then using the stereo output of the sound card (L+R), drive the I+Q inputs of the modulator... software on the DSP then decides if you are doing SSB, FM, FSK, etc...

You'd then put your analog signal to be transmitted input one of the sound card's input channels (L or R)...

Of course, the whole thing might be reversable, so that demod could be done as well.

Inquiring minds want to know...

Chris

--
Chris Elmquist, N0JCF On Dr. McCoy's tombstone: "He's dead Jim".
chrise@n0jcf.com
n0jcf@amsat.org

101. MOD. ON IC2AT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 21:05:37 UTC
From: thomas.bowman@paonline.com
Message-ID: <9501071605.0MLX600@paonline.com>
Source record: 114801

-=> Quoting News to All <=-

Ne> Path:
Ne> paonline!nuclear.microserve.net!news5.sprintlink.net!news.sprintlink.ne
Ne> t!ho
Ne> wland.reston.ans.net!usc!news.cerf.net!ccnet.com!ccnet.com!not-for-mail
Ne> From: teixeira@ccnet.com (TEIXEIRA) Newsgroups:
Ne> rec.radio.amateur.homebrew Subject: Mod. on IC2AT
Ne> Date: 8 Dec 1994 23:14:27 -0800
Ne> Organization: CCnet Communications (510-988-7140 guest)
Ne> Lines: 5
Ne> Message-ID: <3c904j$87d@ccnet.ccnet.com>
Ne> NNTP-Posting-Host: ccnet
Ne> X-Newsreader: TIN [version 1.2 PL2]

Ne> I have an IC2AT 2 meter HT. I would like to empty an old battery pack
Ne> and connect it to a cig. adapter for the car. Question: can I run 12v
Ne> to the 2AT or do I have to reduce it to 7.2v????

Ne> Don N6FNL <teixeira@ccnet.com>

Don: Build a regulator and don't run the IC-2AT any higher then 10 VDC.
I just opened an old adaptor I made for my IC-2AT years ago. I used
a 7808 regulator and placed a couple of IN4001 diodes in series with the
center lead of the 7808 to raise the regulator above ground.
Each diode increases the 7808 regulator's output voltage by about
0.7 volts, so experiment with the number of diodes- I used three-
until you get close to 10 VDC output.
I used electrolytics from the junk box and left the LED and the input
voltage jack in place in the old battery pack.
I've carried the homebrew battery eliminator and a cigarette lighter
plug and cable in the trunk of several cars. Just now tried plugging it
into my new '95 VW and the darn plug doesn't fit. Too small. Glad
I read your message. Got to replace that plug.
BTW, the IC-2AT is a real classic, bulletproof, and never left me
down. It's one of the few pieces of gear I won't trade.
73, Tom, WA3REY thomas.bowman@paonline.com
___ Blue Wave/QWK v2.12

102. Narrow IF filter question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-07 22:58:51 UTC
From: starin@netcom.com
Message-ID: <starinD22564.3vI@netcom.com>
Source record: 114802

I have a Narrow IF filter designated as CFWS455HT, which I received from Murata electronics. I have a schematic which uses this part to help in reducing adjacent channel interference in my pro-2006 reciever. Problem is, the part which Murata sent me has different pin-outs thann the one in the schematic, although I've been assured it is the right part. Does anyone know the pin-outs on this IF filter? It has one leg on one corner, then four other legs running along the opposite side. I need to know which one is the "in", the "out", and the "common".

Any help much appreciated, or I will resort to calling Murata, which I prefer not to do, since this part was gratis.

Thanks
--
Jeffrey
{New York}

103. FREE HAM NEWSLETTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-08 00:36:12 UTC
From: amsoft@epix.net
Message-ID: <3enc1s$of7@grape.epix.net>
Source record: 114803
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

```
The Jan 95 "The World of Ham Radio" CD-ROM newsletter is now available.
This CD-ROM offers more ham programs than any of the others out there!
Over 20,000 IBM files for amateur radio are stored on this CD-ROM.
Including FCC CALLSIGN call book with US & Foreign listings current to
12/94, AMCALL the new logbook from AmSoft that will auto log from the CD
for you. Over 1,350 Radio Modifications. The latest HST, NASA & Space
images. Over 700 Megabytes of Amateur Radio Software packed into 1 CD.
This CD-ROM is published every 4 months without delay in JAN, MAY, & SEP.

If you would like to get a FREE newsletter about the January 1995 AmSoft
CD-ROM please leave me your Internet E-mail information at:
amsoft@epix.net

Note:
(Some E-mail was lost last week) If you requested this newsletter & did
not
hear from us then please resubmit your Internet Email information again.

-------------------------------------------------------
Send E-mail to: amsoft@epix.net ,(Pete deVolpi, KC3TL)
Publisher of "The World of Ham Radio" Callsign CD-ROM
-------------------------------------------------------
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104. Re: Narrow IF filter question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-08 08:03:11 UTC
From: hobart@rain.org
Message-ID: <3eo67v$g21@news.rain.org>
Source record: 114805

Try the following pinout. It's for a CFW455HT, but I'll bet it's
the same for your CFWS455HT. Can't find CFWS in any Murata catalogs.

The CFW is 11.0mm long, 7.0mm wide, and 8.5mm tall (excluding pins).
The CFW has Fo=455kHz, 6dB BW at +/-3kHz, Z=2k ohm, 6dB loss, 50VDC max.

```
|-----------------------|
| 4 3 2 1 | Bottom view of CFW's pins.
| |
| 5 | 1=input, 5=output, 2,3,4=ground.
|-----------------------|
```

Be sure your circuit matches your filter's input/output impedance.

Good luck with your modification.

Kirk Hobart
{Santa Barbara, CA}

105. Re: MOD. ON IC2AT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-08 15:43:24 UTC
From: jwc@crl.com
Message-ID: <3ep16s$33f@nntp.crl.com>
Source record: 114806

-----BEGIN PGP SIGNED MESSAGE-----

In article <9501071605.0MLX600@paonline.com>, thomas.bowman@paonline.com says:
> BTW, the IC-2AT is a real classic, bulletproof, and never left me
>down. It's one of the few pieces of gear I won't trade.
>73, Tom, WA3REY thomas.bowman@paonline.com
>___ Blue Wave/QWK v2.12

I agree completely. My 4AT and 2AT are the only two handheld that don't go through batteries like a hot knife through butter! I am having trouble with my 2AT however. When +dup is set, the freq only raises 585 kHz instead of the full 600 kHz. I have not had that much time to look at it yet. Any ideas before I open her up?

-----BEGIN PGP SIGNATURE-----
Version: 2.6.2

iQCVAwUBLw/ryfG0NsBys8aVAQFkeAQA5mGQx4OXdAMsncllrCM5nHlN3tTC/dIi
M/LwegtDmzln1Iq5wmtJ+MO2x8MWei5zxVjVhRfzJ1IAQbOoGbaq+iAqINoPpfcX
EquiA6U63K49qgrAIa/dmiH3Ts9RbuDc4VMUKJFDRvmhxXMKzpkQRcK9CLDE0LOB
bcmxgk2KsM0=
=bUyH
-----END PGP SIGNATURE-----

Jim Chandler, N0VAH
jwc@crl.com
finger crl for PGP public key
1024-bit Key fingerprint = 74 B4 7C BF 51 ED A6 00 F5 2C 6E 99 A7 0D 29 D2
2048-bit Key fingerprint = 82 30 8D 56 43 22 3A 2F 4D EA 37 DE B9 B4 21 52

106. measuring pico farads

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-08 16:41:12 UTC
From: Rick Zabrodski <zabrodsk@med.ucalgary.ca>
Message-ID: <Pine.SUN.3.91.950108093726.21085C-100000@ume>
Source record: 114807

My fluke 79 series multi does not cut it in the pf dimension.
Looking for some suggestions as to what does. Price vrs value, experince
with what works for you etc much appreciated. I want one as I am
playing with filters and building some qrp tuners and am tired of guessing!
Thanks

****
Dr. Rick Zabrodski BSc, MD, CCFP(E) * VE6GK
Email: zabrodsk@med.ucalgary.ca * NorCal 519 ARCI 7099 GQRP 8329
Phone 403-271-5123 Fax 403-225-1276 * "Power is no subsitute for skill"
****

107. Re: Etching PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-08 18:49:00 UTC
From: tom.hammond@woodybbs.com
Message-ID: <93.4329.7584.0NFB8B14@woodybbs.com>
Source record: 114811

TH>FWIW, and according to our local Dept of Natural Resources, Hazardous
>Waste Division, FeCl is NOT considered a hazardous waste and can be
>disposed of in a conventional manner.

SL>What does "conventional manner" mean? Down the sink? To the landfill?
>A hole the backyard?

SL>I've read that FeCl can be neutralized with good ol' baking soda. I
>guess this means that you knock the acidity down and then you're left
>with copper and iron oxide?

Sorry, can't comment knowledgably (sp.) on this.

SL>I've been wondering about this issue and just would like to do the
>"right thing". Thanks for your tidbit.

Glad to help out... and, from what they told me, just about ANY method
of disposal (including most of those you listed) appear to be viable.
It think I'd probably put it down the sink with a LOT of water to dilute
it. I guess my use of "conventional" was a bit too generic.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--- Alexi/Mail 2.02b (#83)
* Origin: Distant Winds BBS * Jefferson City, Mo * [314] 635-7868 (1:289/67)

108. very low freq reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-08 20:05:48 UTC
From: dougs39314@aol.com
Message-ID: <3epgis$hrp@newsbf02.news.aol.com>
Source record: 114808

I'm trying to find a schematic for a very low frequency reciever, i'm not sure exactly what frequency band it would be, but I am interested in those 'sounds' that are assumed to be due to atmospheric activity. If anyone has any information about this kind of thing, I would be grateful. Thank you.
Doug Seidel

109. Re: QRP newsgroup/mailer vote again

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-08 22:20:09 UTC
From: davflack@aol.com
Message-ID: <3epoep$j2c@newsbf02.news.aol.com>
Source record: 114809

I'd be interested in a QRP forum. I'd like to find others interested in digital QRP other than CW.

Dave/W0RNL
davef@uworld.com

110. Test gear wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-09 03:43:04 UTC
From: x90galbrait1@wmich.edu
Message-ID: <1995Jan8.234304.26112@wmichgw>
Source record: 114810

I'm looking for older (cheaper, that is-hee hee) test equipment.
-20-30 MHz scope with modules (if any) and probes (Tek545, etc..)
-50-150 MHz frequency counter (old HP, etc..)
-Signal generator (0-300MHz or so), anything that works and has an accurate frequency readout.

If you have any stuff like this, please e-mail back. I'd pay cash or swap for ham gear (see previous post).
73, Chris KA8WFC

111. Re: Anyone generating I+Q modulation with sound card ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-09 08:36:39 UTC
From: dbraun@scdtintel.com
Message-ID: <3eqsin$731@inewssc.intel.com>
Source record: 114812
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In article <3ems0h$gjd@n0jcf.com>, chrise@n0jcf.com (Chris Elmquist) writes:
|> Just curious if there is any work going on with generating quadrature
|> modulation from a PC sound card (such as the DSP16 / AD2100 based
|> cards) ??
|>
|> Seems like you could have some fun with one of these single chip
|> quadrature modulators such as RF Micro-Devices RF2703 and then
|> using the stereo output of the sound card (L+R), drive the
|> I+Q inputs of the modulator... software on the DSP then decides
|> if you are doing SSB, FM, FSK, etc...

This would be cool, but I think you need DC output levels, and the soundblaster
outputs are AC-coupled.

Of course, you could add a couple of cheap DAC chips to the board with the
modulator...

I saw in a QEX article (I think) a block diagram of a DDS chip that had
DIGITAL I+Q inputs. This would give you a 1-chip SSB exciter!
You could probably hook it up to the parallel port. and just
use the soundblaster for the ADC.

Send money to:

Doug Braun Intel Israel, Ltd. M/S: IDC-42
Tel: 011-972-4-655069 dbraun@inside.intel.com

112. Re: QRP newsgroup/mailer vote again

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-09 11:55:17 UTC
From: VNHX06A@prodigy.com
Message-ID: <3er875$43gm@usenetp1.news.prodigy.com>
Source record: 114813

Havent thought about it but it does not sound like a bad idea. When you think of QRP

113. Re: QRP newsgroup/mailer vote again

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-09 11:57:33 UTC
From: VNHX06A@prodigy.com
Message-ID: <3er8bd$5lri@usenetp1.news.prodigy.com>
Source record: 114814

Havent thought about it but it does not sound like a bad idea. When you think of QRP you think CW. I never thought about other modes and I'll bet others havent ether. Sounds like it is time for a QRP GROUP.

114. Re: very low freq reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-09 14:00:36 UTC
From: warlin@cyberspace.com
Message-ID: <3erfi4$1kc@case.cyberspace.com>
Source record: 114815

DougS39314 (dougs39314@aol.com) wrote:
: I'm trying to find a schematic for a very low frequency reciever, i'm not
: sure exactly what frequency band it would be, but I am interested in those
: 'sounds' that are assumed to be due to atmospheric activity. If anyone has
: any information about this kind of thing, I would be grateful. Thank you.
: Doug Seidel

My memory is hazy here, but I remember that Scientific American had a
book of projects and I believe one them dealt with listening to what
was referred to as the "dawn chorus" and "whistlers" caused by lightning.
The receiver was nothing more than an audio amplifier with a wire antenna
connected to it's input.
-Warner

115. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-09 15:44:46 UTC
From: spbachhu@mtu.edu
Message-ID: <3erlle$at0@maxwell3.ee>
Source record: 114816

Lance Lascari WS2B (lascal@vccnorth22.its.rpi.edu) wrote:
-stuff deleted-
:
: : Otherwise, we could bypass this whole discussion if someone knows
: : of an existing preamp (either commercially available or in kit form)
: : with a noise figure under 1 decibal.
:
:
: Steve,
: Why 1 dB? Have you measured the background noise level at
: your site with your antenna system?
-more stuff deleted-
: In other words, I am not sure that you will gain much with a
: noise figure lower than 1 dB over something with a noise figure of 3-6
: dB (as a cheap alternative).
:

I know for a fact that tuners with noise figures under 1 dB offer
superior performance in the FM band, not based on any kind of
background noise measurement, but from experience. Just as an example,
why would Pioneer offer car stereos with .7 microVolt sensitivity?
And, I believe the noise figs. for the ARRL preamps were something
around .5 dB.

: One could come up with a circuit costing less than $5 or so if
: you used relatively common parts like the 2n5179 (NPN), 2n5109(NPN),
: MPF-102/2n4416 (N-JFET). *OR* a bandpass filter and a MMIC.

Many GaAsFETs only cost $10-15.

:
:
: Any comments from the Noise Figure gurus? Zack?
:
: just my $0.02
:
: -Lance
:
: p.s. after a little discussion, I would be happy to try to help you
: out... this is a topic of interest to me.
:
:
: --
: Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @ Rensselaer
: http://www.rpi.edu/~lascal/

: Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342
:
:
Steve Bachhuber
spbachhu@mtu.edu

116. Usenet help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-09 16:03:58 UTC
From: mack@mails.imed.COM
Message-ID: <9500097896.AA789675354@mails.imed.com>
Source record: 114817

I was looking for rec.model.railroad at UCSD which is where I get the digest of this forum, but it isn't there. Can someone point me to a list server for model railroad and model airplane Usenet groups?

I apologize for taking bandwidth here but WWWW wasn't much help (at least with my limited abilities)!

Thanks.

Ray Mack
WD5IFS
mack@mails.imed.com

117. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-09 17:17:14 UTC
From: reichert@rtsg.mot.com
Message-ID: <3err2q$4ks@delphinium.cig.mot.com>
Source record: 114668

Try the 3sk124, 3sk205 Dual Gate GaAsFETs. They are under
$2 each
in small quantities from the local rep up here near
Chicago.

I get 24dB Gain, .55dB Noise figure on two with a simple
circuit (very stable)
and the 3sk205 models out to be around .5dB, 26dB gain and a
few dB higher on
3rd OIP.

If anyone is interested I'll dig up the name of the local
rep & phone number.

\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==
| KD9JQ ex KA7IXS,WA8NBD 708-632-6669 Work |
| Charles H. Reichert 708-358-3827 HOME |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==

118. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-09 19:24:03 UTC
From: lascal@jec3210-09.its.rpi.edu
Message-ID: <3es2gj$qqd@usenet.rpi.edu>
Source record: 114669

Stephen P. Bachhuber (spbachhu@mtu.edu) wrote:
:
: I know for a fact that tuners with noise figures under 1 dB offer
: superior performance in the FM band, not based on any kind of
: background noise measurement, but from experience. Just as an example,
: why would Pioneer offer car stereos with .7 microVolt sensitivity?

Superior to what though? 3 dB, 6 dB.... by what measure?

Well, it does depend on where you are and what you're doing.
however As we all know, technical specifications are often used as a
marketing ploy, rather than a practical advantage over a competing
product. I am not saying that you're wrong....

Here is an example similar to one that I'm using in the writeup of a
6m transverter I designed. (note that I'm using a higher frequency
band than broadcast...and this should by all indications be a more
conservative example).

#here we go:

hypothetical situation: 144 mhz receiver, 500 Hz bandwidth (like cw or somthing) and a
arbitrary Noise Figure (NF)

the MDS can be calculated as follows (power)
(this is in a 50 ohm resistor... i.e. kTB = noise power in dummy load)

P_MDS(dBw)= 10 x log (k * T * B) + Noise Figure

** k= boltzman's constant (1.38 x 10 ^ -23 joules/deg-Kelvin)
**
** T= the reference temperature (here we use 290 degrees Kelvin)
**
** B=bandwidth

= -177 dBw + NF

Or, converting to dBm, the result is

P_MDS(dBm)= -147 + NF

Now let's assume that the noise figure is 3 dB, then, theoretically,
we should be able to barely detect a signal at -144 dBm.

Not that this is a general rule, or "fact", but some studies done in
the fifties showed noise levels in urban, suburban, and rural settings.

In rural settings, the galactic background noise dominated, whereas
man-made noise dominated in the other two settings.

The data were shown in chapter 29 of "Reference data for radio engineers" (ITT/Sams). The graph provided showed background power levels referenced to kT (so no-matter the bandwidth, you could compare this level to you're receiver's noise temp/figure).

Anyway... at 144 MHz, from my estimation, the background noise power was

-143 dBm due to galactic (yes, would be a good idea to have a low noise figure).

-126 dBm due to suburban man-made noise (mega preamp not as critical, since the signal is nearly 20 dB of noise (hence the preamp contributes little)).

-112 dBm due to urban man-made noise. (pretty hefty amount of excess noise)

Hence, I propose that in many cases, "sensitivity" on the bench does not equal the "sensitivity" on the air.

Now, presumably, I would expect the noise levels would rise a few dB by lowering the frequency.

All I'm saying is that this *could* be the case. If you can get the cheapie mos/gaas fets, then go for it. My only point is that these findings were somewhat surprising to me, but they help to explain why many commercial equipment manufacturers don't worry about the last dB of noise figure improvement. (lots of two-way stuff has NF's above 6 dB).

: Many GaAsFETs only cost $10-15.

Hey, that's a lot of beer for this college student. I like to find reasons for using cheap devices, more than just because I can afford them. :)

Anyway... didn't mean to start a whole controversy... just want to hear what other people have to say. Presumably Steve either

73 all,

de WS2B

--
Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @ Rensselaer
http://www.rpi.edu/~lascal/
Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342

119. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-09 19:30:00 UTC
From: lascal@jec3210-09.its.rpi.edu
Message-ID: <3es2ro$qqd@usenet.rpi.edu>
Source record: 114670

D'oh, I left an incomplete thought

Lance Lascari WS2B (lascal@jec3210-09.its.rpi.edu) wrote:

: want to hear what other people have to say. Presumably Steve either

Presumably Steve either was comparing the original receiver to one
that was much better (i.e. the first one was pretty poor), or he has a
very very quite location/antenna temperature.

: 73 all,
:
: de WS2B

^^^^^^^^^^^^^^^^ what he says.

--
Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @ Rensselaer
http://www.rpi.edu/~lascal/
Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342

120. Re: Anyone generating I+Q modulation with sound card ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-09 21:55:59 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <789688559snz@lfheller.demon.co.uk>
Source record: 114671
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In article <3ems0h$gjd@n0jcf.com> chrise@n0jcf.com "Chris Elmquist" writes:

> Just curious if there is any work going on with generating quadrature
> modulation from a PC sound card (such as the DSP16 / AD2100 based
> cards) ??
>
> Seems like you could have some fun with one of these single chip
> quadrature modulators such as RF Micro-Devices RF2703 and then
> using the stereo output of the sound card (L+R), drive the
> I+Q inputs of the modulator... software on the DSP then decides
> if you are doing SSB, FM, FSK, etc...
>
> You'd then put your analog signal to be transmitted input one of
> the sound card's input channels (L or R)...
>
> Of course, the whole thing might be reversable, so that demod could
> be done as well.

Johan, KC7WW, who has written some articles for QEX on the Cardinal DSP16 sound card, which uses the ADSP-2115, told me that someone has done something like this for an Rx with the Cardinal card. He used a DDS oscillator and mixer, converting down to baseband I + Q, and doing lots of processing on the DSP.

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

121. SCANNET NEWS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-10 00:06:00 UTC
From: YPSE19A@prodigy.com
Message-ID: <3esj18$uui@usenetw1.news.prodigy.com>
Source record: 114672

Please E-mail me all scanner related stories. Your best experiances with the hobby. New Frequencies, Disasters heard , local law incidents, good weekly broadcasts, Amateur Radio Nets in your area, Worst Fires, Accidents, your favorate frequency , I will reconize your writtings in a Newsletter called SCANNET NEWS. I will also post the Newsletter on a BBS, that has a gateway all over the USA. Anyone sending me stories can have a copy of the Newsletter and will have the BBS access attached .
There are many SCANNET NEWS articles to read.

Anyone interested please e-mail me your ID and must have your stories attached.
Send Hard copy Articles to the address below.
For a hard copy of the next issue and Subscribtion information please send SASE to the address below.
For prices on Advertising----(Amatuer Radio ,Short Wave Radio, Scanning Related only) write to the adress below.

Scannet News
C/O
Nicholas Messina
80 Livingston Ave
White Plains, NY 10605
-
-
NICK in NY YPSE19A@prodigy.com

122. Looking for Heath Kit RF Generator Manual IG5280

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-10 01:16:36 UTC
From: marwynn@phoenix.net
Message-ID: <3esntj$34u@griffin.phoenix.net>
Source record: 114673

I am looking for the maunual for the Heath Kit RF Osc. Model IG 5280. I am interested in the schematic and
pc board parts lay out. If you could assist me I would appreciate it. Please email me and I will cover the expense of
reproduction etc. Thanks

123. GRUNDIG SATELLIT 700: Fix for synchroneous detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-10 02:37:20 UTC
From: reykowsk@eemips.tamu.edu
Message-ID: <3esrt0$la7@news.tamu.edu>
Source record: 114674
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

Hi,
I have a Grundig Satellit 700 shortwave receiver.
Although a very nice radio, I am not thrilled about the performance
of the synchroneous detector (rumble noise).
I saw a *.mod file for the (older) Satellit 500 model on ftp.cs.buffalo.edu
describing a fix for this problem.
Has anybody undertaken, or does anybody know about a fix for the problem
on the 700 model?
I don't have the circuit diagrams for the radio so I can not check
whether the 500 fix applies to the 700 also.
Which leads to another question:
Does anybody have the diagrams or know where to get them?

Thanks,
Arne

124. Re: GRUNDIG SATELLIT 700: Fix for synchroneous detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-10 03:30:42 UTC
From: gamma7@ix.netcom.com
Message-ID: <3esv12$rem@ixnews1.ix.netcom.com>
Source record: 114675
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

In <3esrt0$la7@news.tamu.edu> reykowsk@eemips.tamu.edu (Arne Reykowski) writes:

>
>
>Hi,
>I have a Grundig Satellit 700 shortwave receiver.
>Although a very nice radio, I am not thrilled about the performance
>of the synchroneous detector (rumble noise).
>I saw a *.mod file for the (older) Satellit 500 model on
ftp.cs.buffalo.edu
>describing a fix for this problem.
>Has anybody undertaken, or does anybody know about a fix for the
problem
>on the 700 model?
>I don't have the circuit diagrams for the radio so I can not check
>whether the 500 fix applies to the 700 also.
>Which leads to another question:
>Does anybody have the diagrams or know where to get them?
>
>Thanks,
>Arne
>

I have a Sat 700 and love it. As for the Sync Detector, simply turning the Bass all the way down eliminated the rumble completely. No mods required. I had the same feeling as you until someone else passed along this simple solution.

Regards,

Duffy - WB8NUT

125. ten tec kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-10 07:27:34 UTC
From: orkin <orkin@delphi.com>
Message-ID: <xc4YpqO.orkin@delphi.com>
Source record: 114676

Can anyone give me a telephone number for ten tec so i can get there catalog.
or where cani find one of ther adds?
and does anyone know the names and telephone numbers,addresses to any other
companies that sell kits?

126. Re: Anyone generating I+Q modulation with sound card ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-10 09:18:12 UTC
From: phr@netcom.com
Message-ID: <phrD26n6C.IGG@netcom.com>
Source record: 114677
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In article <3ems0h$gjd@n0jcf.com>, Chris Elmquist <chrise@n0jcf.com> wrote:
>Just curious if there is any work going on with generating quadrature
>modulation from a PC sound card (such as the DSP16 / AD2100 based
>cards) ??
>
>Seems like you could have some fun with one of these single chip
>quadrature modulators such as RF Micro-Devices RF2703 and then
>using the stereo output of the sound card (L+R), drive the
>I+Q inputs of the modulator... software on the DSP then decides
>if you are doing SSB, FM, FSK, etc...

I have been interested in doing this completely in software
for baseband modulation. I haven't gotten serious about
it yet (I will probably start with simple fsk) but I don't
see any real obstacles, just a lot of grunt programming.

127. Transverter System Design Help Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-10 15:13:53 UTC
From: mclendon@brtph833.bnr.ca
Message-ID: <3eu87h$6rs@brtph500.bnr.ca>
Source record: 114678

I am putting together a transverter (28mHz to 146Mhz) system. I
am using Hamtronics separate receiving converter and transmitting converter
kits (which seem to work ok so far). I would like to use this
transverter at the antenna output of 'any' HF transceiver. I do not
want to use direct IF access + low RF drive to operate the txvrtr.

This means that ideally I would like to detect the presence of
the 28mHz rf out from the transciever and drive a t/r relay.
I have designed such a circuit and it works fine; but now
is the problem: when going from rcv to txmt, high level rf
is present at the receiving converter's output for abt 50
milliseconds until the rf detector can operate the t/r relay!
This will likely smoke the receive converter's output (and more!).

Any suggestions on how to protect the receiving converter's
28mHz output from the transceiver's rf during this condition?

I looked at some commercial 2M brick linears with receive amps
that do rf detected t/r switching. They use back to back diodes
from the receive amps output TO ground. Is this a good approach
for my application? If so, may I have a suggestion on what kind
of diodes / circuit would be suitable to sustain 10-20 watts from the
transceiver prior the switchover?

Thanks 73 - Mike - KE4END
--

*** I speak for myself and not for BNR ***

128. Re: How do I easily vary the output power ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-10 19:46:11 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan10.194611.12204@ke4zv.atl.ga.us>
Source record: 114679

In article <D25swK.L84@boi.hp.com> twheless@Name: hpbsl75 (Tom Wheless) writes:
>
>I'd like to build a class-C power amplifier and be able to easily
>vary the output power (the gain). I know that some rigs allow you
>to do this but I don't know how they implement it. Are they just
>varying the collector supply voltage in the final stage?

For some low power rigs, AM CB rigs for example, that's exactly what
they do. For most ham rigs, the PA is running AB1 even during CW
transmissions, so the drive power is reduced same as it would be
for voice transmission.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

129. Re: 468MHz tx on FT530 Possible?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-10 21:01:27 UTC
From: ignacy@misz.animal.uiuc.edu
Message-ID: <3eusj7$7dl@vixen.cso.uiuc.edu>
Source record: 114680
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <3euo7f$e93@nntp.interaccess.com>, vuckovic@flowbee.interaccess.com (George Vuckovic) writes:
>Howdy...
>
>I've acquired a Yaesu FT530, which came with the extended tx/rx mods
>already performed. It says that it should be able to tx up to 470MHz,
>but it fails at 467. What happens is that I push the ptt, the TX light
>comes on, (no signal present on other radio), and then the TX goes off,
>with me still pressing the ptt. Anyone else have such a problem?
>

I have bought a 2WD car, and it gets stuck in the mud. Also, over 120 mph it is unstable and noisy. Anyone else have such a problem?

Ignacy Misztal Ham radio: NO9E, SP8FWB
E-mail: ignacy@uiuc.edu
University Of Illinois 1207 W. Gregory Dr., Urbana, IL 61801, USA
tel. (217) 244-3164 Fax: (217) 333-8286

130. Re: ten tec kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-11 07:33:01 UTC
From: rusty@btg.com
Message-ID: <3f01jd$bog@pop.btg.com>
Source record: 114681

In article <xc4YpqO.orkin@delphi.com>, orkin <orkin@delphi.com> wrote:
>Can anyone give me a telephone number for ten tec so i can get there
>catalog. or where cani find one of ther adds?
>and does anyone know the names and telephone numbers,addresses to any
>other companies that sell kits?

TEN-TEC, Inc.
1185 Dolly Parton Parkway
Sevierville, TN 37862-3710

Information: 1-615-453-7172
Fax: 1-615-428-4483
Orders: 1-800-833-7373 (credit card orders only)

I visited these folks whilest driving home from Dallas last week. Nice
folks there. Absolutely gorgeous view of mountains when you exit the
building!!!

Please note: TT has two catalogs -- one for their regular HF equipment and
another, smaller one, that features their kits.

As for other companies.... I'd say "Ramsey" but I'd also say "don't waste
your time nor money with them."

-Rusty-
--
_____ Rusty Haddock ## KD4WLZ -- Weird Looking Zucchini
|\/ o \ o DOMAIN: rusty@btg.com UUCP: uunet!btg!rusty
| (-< O o I planted my antenna farm and aluminum and copper poles
|/__V__/ came up. The strange thing is that I used steel seeds.

131. Re: 468MHz tx on FT530 Possible?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-11 16:23:48 UTC
From: jcw@kd4dts.radio.org
Message-ID: <1995Jan11.162348.28592@kd4dts.radio.org>
Source record: 114682
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

kenman@iastate.edu (Kenneth D Anderson) writes:

>In article <3eusj7$7dl@vixen.cso.uiuc.edu>,

>>>Howdy...
>>>
>>>I've acquired a Yaesu FT530, which came with the extended tx/rx mods
>>>already performed. It says that it should be able to tx up to 470MHz,
>>>but it fails at 467. What happens is that I push the ptt, the TX light
>>>comes on, (no signal present on other radio), and then the TX goes off,
>>>with me still pressing the ptt. Anyone else have such a problem?
>>>
>>
>>I have bought a 2WD car, and it gets stuck in the mud. Also, over 120
>>mph it is unstable and noisy. Anyone else have such a problem?

>And you can still use your HT to order a pizza, provided that you're not
>airborne.

Why? Clearly Dominoes has a flying buffalo, and I'd assume as long as you're
not trying to deliver to a Lear at max cruise, it should work. I just want to
know how that buffalo get clearance into a class A airspace...

>--
>**
>Ken Anderson N0ZEM PH: 515.294.8996 Kenman@iastate.edu
>126 Soil Tilth Bldg. N0ZEM@KI0Q.#CIA.IA.USA.NA
>Iowa State University, Ames, Iowa 50011

132. Re: GRUNDIG SATELLIT 700: Fix for synchroneous detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-11 18:25:56 UTC
From: ylo@anubis.kbfi.ee
Message-ID: <3f17rk$2ru@horos.kbfi.ee>
Source record: 114683
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

Arne Reykowski (reykowsk@eemips.tamu.edu) wrote:

> Hi,
> I have a Grundig Satellit 700 shortwave receiver.
> Although a very nice radio, I am not thrilled about the performance
> of the synchroneous detector (rumble noise).
> I saw a *.mod file for the (older) Satellit 500 model on ftp.cs.buffalo.edu
> describing a fix for this problem.
> Has anybody undertaken, or does anybody know about a fix for the problem
> on the 700 model?

The fix on Sat500 did not fix the rumble problem, which seems to come from the phase noise of the PLL ocsillator. The 100 Hz component in the rumble could be reduced by placing few thousand microfarads across the AM +3.5 V voltage. The residual rumble is quite different on different frequencies, both in strength and sound. In some cases it can be cured by detuning by 100-300 Hz. I have not touched any Sat 700, but the analog part of it looks similar on paper, not so in reality. 700 is completely surface mount.

Ylo Mets.

Institute of Chemical Physics & Biophysics,
Tallinn,
Estonia.

133. TEN TEC KITS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-11 19:21:47 UTC
From: steve.bratcher@his.com
Message-ID: <19950101.29b@his.com>
Source record: 114684

In a message dated 01-10-95 ORKIN wrote to ALL :

73, STEVE

-> TIMM (1.0 Final 1) The Ideal Macintosh Mail reader

134. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-11 22:14:41 UTC
From: tomb@lsid.hp.com
Message-ID: <D29Hsl.7oo@hpcvsnz.cv.hp.com>
Source record: 114685

Lance Lascari WS2B (lascal@vccnorth22.its.rpi.edu) wrote:
: Stephen P. Bachhuber (spbachhu@mtu.edu) wrote:

: : Otherwise, we could bypass this whole discussion if someone knows
: : of an existing preamp (either commercially available or in kit form)
: : with a noise figure under 1 decibal.

: Steve,
: Why 1 dB? Have you measured the background noise level at
: your site with your antenna system? Depends where you are... but... I
: dunno... after doing some research recently (based on a hunch), I
: found that Noise levels due to humans and "galactic" sources are very
: significant below 200 mhz.

With an inefficient antenna (car antenna, for example), or with a lossy transmission line from the antenna, it wouldn't be hard to get down to signals where 1dB amplifier noise figure would be worthwhile. With available cheap parts, why not go for it? At 100MHz, seems like you could even do it with silicon parts.

73,
Tom -- K7ITM

135. Series Resistance?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 03:13:23 UTC
From: klineda@univscvm.csd.scarolina.edu
Message-ID: <1732313883S85.KLINEDA@UNIVSCVM.CSD.SCAROLINA.EDU>
Source record: 114686

Hello!

I am writing a program that will calculate the Q's of various coils at
different frequencies. However, when I calculate the AC resistance of the
coil (by hand and by computer) I get a value that is less than the DC
resistance that is based just on the wire length. The formula I'm using is:

83.2*(sqrt(f))/d where d=wire-diameter and f=frequency (This is as given
in Terman's)

I notice in other books, and Terman's also, that the formula for Q is:

(2*pi*f*L)/R_series.

Apparently R_series is not the DC resistance of the coil.
My AC resistance is coming out less than the DC resistance.
Can anyone tell me what's going on here?
Just what is R_series?

Thanks!

Dan Kline <klineda@univscvm.csd.scarolina.edu>

136. Kenwood TM-631 mods/parts placement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 13:43:30 UTC
From: kb2ear@kb2ear.overleaf.com
Message-ID: <3f3bm2$s0k@kb2ear.overleaf.com>
Source record: 114687
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I have the mod sheet for the Kenwood TM-631, however I am in need for the parts placement diagram from the service manual. Is anyone out there able to scan/fax a copy of this to me? I can take a uuencoded gif or a fax (email me and I'll send the number.). I need the one for the front panel control board.

73,
--
Scott R. Weis KB2EAR, EMT-A
Kendall Park First Aid & Rescue Squad
Internet: kb2ear@kb2ear.overleaf.com
Packet: KB2EAR @ KB2EAR.NJ.USA.NA
Snail Mail: 10 Palmer Rd., Kendall Park, NJ, 08824-1228
Phone: +1 908 297 0469

137. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 14:05:16 UTC
From: zlau@arrl.org
Message-ID: <1995Jan12.140516.659@arrl.org>
Source record: 114688

Stephen P. Bachhuber (spbachhu@mtu.edu) wrote:
:
: I know for a fact that tuners with noise figures under 1 dB offer
: superior performance in the FM band, not based on any kind of
: background noise measurement, but from experience. Just as an example,
: why would Pioneer offer car stereos with .7 microVolt sensitivity?
: And, I believe the noise figs. for the ARRL preamps were something
: around .5 dB.

Yes, these low noise figures are quite important for hearing signals bouncing off the moon. Surprisingly, I've never heard of someone actually putting up a huge array to hear FM signals off the moon, though amateurs have put up dozens of yagis to make two way contacts off the moon. The cost of even a $200 preamplifier is often a small fraction of the cost of putting up a huge antenna installation.

To get the ultimate in noise figure you might look at power GaAs FETs. The Mitsubishi 1801 and 2116 are known to work at 2 meters. Unfortunately, I don't know the 1/f corner, below which noise performance degrades significantly. You generally want a wide gate to reduce diffusion noise--you find this with power devices. Such FETs generally cost $50 to hundreds of $$. You might be able to acheive a 0.2 to 0.3 dB NF. A difficulty is that manufacturers don't have the equipment to measure such noise figures accurately. Hewlett Packard's expensive setup has a worst case accuracy around +/- 0.3 dB.

Oh yeah, getting a stable design can be really difficult, but a smart designer with lots of equipment and tools can often find a solution.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

138. ten tec kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 14:18:13 UTC
From: clinton.peebles@salmon.islandnet.com
Message-ID: <950112140521567@salmon.islandnet.com>
Source record: 114689

O>Can anyone give me a telephone number for ten tec so i can get there c
O>or where cani find one of ther adds?
O>and does anyone know the names and telephone numbers,addresses to any
O>companies that sell kits?

You'll probable get lots of replies, but just in case..

Info: 615-453-7172
Fax: 615-428-4483
Orders: 1-800-833-7373

□□□

139. CAVE RADIO

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 14:21:29 UTC
From: uid@ornl.gov
Message-ID: <uid.16.2F153AE9@ornl.gov>
Source record: 114690

I AM A CAVER WHO IS CONSIDERATING A NEW PROJECT. I AM CONSIDERING BUILDING A THROUGH THE GROUND SSB RADIO ON SOME FREQUENCY BETWEEN 32 KHZ UP TO 100 KHZ USING A MAGNETIC LOOP ANTENNA.

PART OF MY CONSIDERATIONS IS USING THIS UNIT FOR COMMUNICATIONS AS WELL AS RADIO LOCATION WORK (IF POSSIBLE). ONE OF THE THINGS I WOULD LIKE TO ACHIEVE IS USING A LOWER FREQ (~ 32KHZ - BEST FOR PENETRATION) AND BUILD AS A VERY LIGHT WEIGHT PORTABLE UNIT (MAYBE BELT MOUNTED). I WOULD LIKE TO WIND MY MAGNETIC ANT ON ITS CASE TO BE USED AS A SELF CONTAIN UNIT FOR SHALLOW PENETRATION. (LARGER EXTERNAL LOOP ANT FOR LOCATION WORK AND GREATER PENETRATION).

IN THE FEW PUBLICATIONS THAT ADDRESS THIS TYPE OF COMMUNICATIONS (SPELOELCTRONICS), THERE IS DISCUSSION ON BUILDING FERRITE LOOP STICK ANTENNAS. THE FERRITE ROD MAKES THE COIL APPEAR AS A LARGER LOOP. IN THE FORMULAS, PART OF THE CONSIDERATION IS LENGTH TO DIAMETER.

WHAT I AM CONSIDERING IS WHETHER I COULD BUILD THE CASE (NON METALLIC) AND COVER THE OUTSIDE WITH A FERRITE SHEET MATERIAL (IF AVAILABLE) AND INCREASE THE EFFECTIVE PERFORMANCE OF ITS SELF CONTAINED ANTENNA. I HAVE NOT BEEN ABLE TO MAKE THIS DETERMINATION (NOT INTELLEGENT ENOUGH AT THIS TIME TO EXTRACT THIS INFORMATION OUT OF ENGINEERING MANUALS).

AND SUGGESTIONS, FORMULAS, DATA MATERIAL, AND AVAILABLE OF FERRITE SHEET MATERIAL, WOULD BE APPRECIATED.

DANNY BRITTON
KB4TEP
QB7@ORNL.GOV

140. y

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 15:00:07 UTC
From: lukes@iaccess.za
Message-ID: <3f3g5n$1dq@cstatd.cstat.co.za>
Source record: 114691

[No readable article body recovered]

141. Re: MOD. ON IC2AT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 18:16:36 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-1201951316360001@k4dii.ksc.nasa.gov>
Source record: 114692

In article <3ep16s$33f@nntp.crl.com>, jwc@crl.com (James W Chandler III) wrote:

> I am having trouble with my 2AT however.
> When +dup is set, the freq only raises 585 kHz instead of the full 600 kHz. I have
> not had that much time to look at it yet. Any ideas before I open her up?

Jim-

A few months ago, I went through my ATs and adjusted the oscillators. It seems there are separate crystals and coils for simplex transmit, -600 and +600 offsets and receive. Fifteen KHz is a little far to drift, so it may be a symptom of a problem. However, it should be within adjustment range, so give it a try.

It is possible the problem was caused by the coil slug shifting due to vibration or being dropped. If so, use of some paraffin or bee's wax, would help keep it from moving in the future.

I suggest you get out the paperwork that came with the radio, and figure out which coil adjusts which function, before you open it up. As I recall, some of the circuit views may have been from the opposite side of the PCB, but it was possible to correlate the parts.

There are differences in parts layout between the IC-2AT and IC-4AT, but the procedure is the same.

73, Fred, K4DII

142. Q: FM tuner stages.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 18:48:18 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <3f3tgp$9k1@cat.cis.Brown.EDU>
Source record: 114693

Hi,

my interest in FM receivers took a significant leap when I found
an Fisher all-tube FM tuner from the early sixties. I will
now start to study RF front ends, IF strips etc. I can easily
find intro text on this topic. I understand ARRL has a new book
out at the more advanced level but I wonder if there are any texts
out there that would fall into a category I'd call "all-out designs" ?

For starters:
I'd like to study the RF stage and see if the 6CW4 tubes now
there can be bettered especially in the noise compartment.

I need to learn the nitty-gritty of mixer stages.

I need to study discreete FM IF strips and how to tune them.
I'd like try a good quality solid state FM IF strip to increase
the selectivity of the IF stage.

And I need to know more about stereo generation circuits.
as the MPX sub-board is lousy and probably hard to adjust.

I am aware that this topic is tangential to the charter of this
list but it hard to know in advance where the gung-ho tuner
enthusiasts hang out.

Thanks,

john 015

143. Re: Series Resistance?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 19:23:02 UTC
From: nx7u@primenet.com
Message-ID: <nx7u.39.007E4EF2@primenet.com>
Source record: 114694

In article <1732313883S85.KLINEDA@UNIVSCVM.CSD.SCAROLINA.EDU>
klineda@univscvm.csd.scarolina.edu writes:
>From: klineda@univscvm.csd.scarolina.edu
>Subject: Series Resistance?
>Date: Wed, 11 Jan 95 22:13:23 EST

>Hello!
>
>I am writing a program that will calculate the Q's of various coils at
>different frequencies. However, when I calculate the AC resistance of the
>coil (by hand and by computer) I get a value that is less than the DC
>resistance that is based just on the wire length. The formula I'm using is:
>
>83.2*(sqrt(f))/d where d=wire-diameter and f=frequency (This is as given
>in Terman's)
>
>I notice in other books, and Terman's also, that the formula for Q is:
>
>(2*pi*f*L)/R_series.
>
>Apparently R_series is not the DC resistance of the coil.
>My AC resistance is coming out less than the DC resistance.
>Can anyone tell me what's going on here?
>Just what is R_series?
>

If your Terman is like mine, the number he has you calculate for AC resistance
is a multiplicative factor (I can't remember exactly which one you multiply by
what). So I'd re-read the section and make sure you're applying the equation
correctly. It *doesn't* directly calculate the AC resistance by my
recollection.
nx7u@primenet.com

144. Re: Help With Heath GD-1B ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 19:35:19 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-1201951435190001@k4dii.ksc.nasa.gov>
Source record: 114695

In article <D27zK3.7CK@zeno.fit.edu>, blombard@bb.iu.net (Bob Lombardi) wrote:
> I don't think there are too many people interested in
> 30 year old grid dip meters...

Bob-

As I recall, the GD-1B has a 3-pin coil socket. The center pin may be ground, for a differential circuit, but I'm not sure. However, only the outer two pins are used for the higher frequency coils.

It seems like the coil pins were approximately 1/8" in diameter, spaced about 3/4". A typical HF coil might be about 10 turns of 18AWG or 20AWG enamel wire, close-wound on a 3/4" diameter, 2" long form. The coil was located near the end of the form away from the pins. The VHF coil was a half turn ("hairpin") of a wire the same diameter as the other coil's pins. The lower frequency coils were full of fine wire ("Litz"?). It should be easy to pick up a signal from the coil, using a short whip antenna on a counter.

If the meter reads up-scale, it is working. The meter reading is a measure of grid current, which is an indication of the amplitude of the oscillation. At lower frequencies, the amplitude is greater, and the sensitivity control must be turned down for an on-scale reading. In addition to dipping when near a resonant circuit, the grid current varies as you tune across its range. When the tube gets weak, oscillation may not be maintained across the entire VHF range.

I think the power supply used a selenium rectifier. Considering its age, I would expect the rectifier and filter capacitors may be bad. I think a silicon rectifier would be an acceptable replacement for the selenium. If the selenium rectifier is not shorted, you can use its terminals for the silicon diode.

There's still a few of us old geezers around. Maybe someone else will be inspired to fill-in the missing details.

73, Fred, K4DII

145. TS140 TX unlock

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 21:54:13 UTC
From: "Colin Schmutter"
Message-ID: <3f48e5$sn2@chopin.bcit.bc.ca>
Source record: 114696

Hi,

I am using a Kenwood TS-140S that has the modification to unlock transmit on all frequencies. (D29 and D31 disconnected)

However the transmitter will still lock below 1600 Khz.

I was hoping to use the rig as an accurate signal generator as well as an HF rig to align another receiver.

Does anyone know how to unlock the transmitter below 1600 Khz so that I can generate a 455 Khz signal and also the Broadcast signals 550 khz to 1600 Khz?

Thanks

Colin (VE7CQH)

cschmutter@bcit.bc.ca

146. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 22:04:19 UTC
From: JDL@alaska.net
Message-ID: <JDL.77.001612B9@alaska.net>
Source record: 114701

Various comments about urban vrs. rural manmade noise and galatic noise are, no doubt, true in a statistical sense. However, actual results will vary in particular cases. Even galactic noise changes depending on what the antenna is looking at.

Earth noise is more constant.

In any event, lower noise pre-amps will allow you to hear more. It just might not be much more.

147. Globe Champ 300 - audio driver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 22:33:02 UTC
From: Grant Youngman <gyoungma@gtetel.com>
Message-ID: <3f4amu$fjd@ceylon.gte.com>
Source record: 114697

Does anyone know if the audio driver transformer in a
Globe Champion 300/300A/350 will handle 45ma without going up
in smoke??

The 6AQ5 modulator driver stage is biased (stock) for about 35ma.

Grant Youngman/NQ5T

148. Re: What's this FB in a 435 MHz GaAsFET Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-12 23:06:48 UTC
From: jmillar@mailgw.sanders.lockheed.com
Message-ID: <3f4cph$aqh@rapnet.sanders.lockheed.com>
Source record: 114698

In article <1995Jan9.124825.6937@knight.vf.ge.com>, hbrown@nadir.resd says...
>
>The comment on using ferrite beads puzzles me. They seem to be accepted in both the amateur community and even in the military electronics community. Can

<stuff NEVER RECEIVED due to lack of returns>

The bead on the output reduces any possible tendancy to oscillate at microwave frequencies. In addition, the untuned output reduces the gain of the stage and prevents any instability on frequency. The vast majority of ham receivers have a fairly low noise figure and adequate system gain to start with...so full GaAsFET gain would simply reduce dynamic range and increase any tendancy to overload.

>
>73, Harry, W3IIT
>hbrown@resd.vf.ge.com
>

jeff wa1hco

149. Re: QRP newsgroup/mailer vote again

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 00:29:08 UTC
From: desaid@muvms6.wvnet.edu
Message-ID: <1995Jan12.202908.3703@muvms6>
Source record: 114699

In article <3epoep$j2c@newsbf02.news.aol.com>, davflack@aol.com (DAVFLACK) writes:
> I'd be interested in a QRP forum. I'd like to find others interested in
> digital QRP other than CW.
>
> Dave/W0RNL
> davef@uworld.com
I am really interested in the new newsgroup. HOpe it gets started soon.

I do like digital modes other than packet so it will be of great help.

73
Dinakar kb8vhc
desaid@marshall.edu

150. Re: I have a dead TV, can i use it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 01:05:42 UTC
From: jeffrey@kahuna.tmc.edu
Message-ID: <D2BKDI.IrL@news.hawaii.edu>
Source record: 114700

In article <3dn504$oi7@ixnews1.ix.netcom.com>, mjsilva@ix.netcom.com (michael silva) writes:
> Also, nobody else has yet mentioned all that nice magnet wire in the
> deflection coils, in case you want to join us radio troglodytes in winding
> some of your own coils. Keep everything that has a remote chance of being
> useful, since having a supply of parts around is the best incentive to doing
> some experimenting on a rainy day.
>
> Mike, KK6GM

Yeow! I could write a book about building transmitters from discarded TV sets. For the past couple of years I've grabbed every curb-side discarded TV set I saw; if I was on my bike I would just do the surgery right there and strap the chassis on my book rack.

All my coils are handwound using the above mentioned deflection coil wire. You can use the inductors on the circuit board for your coil forms (or paper towel cardboard cores make good coil forms).

Don't forget that beautiful variable capacitor with built-in reduction gear in the UHF tuner; my latest 40M rig utilizes one. And my future 20M xmtr will also use one.

Jeff NH6IL

151. diplexers vs quadrature hybrids

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 06:58:15 UTC
From: jks@hal.next.com
Message-ID: <3f58a7$pgl@cronkite.Central.Sun.COM>
Source record: 114702

In a recent article(1), Colin Horrabin, G3SBI, draws attention to the use of quadrature hybrids in series with conventional diplexers for controlling the impedance seen by mixers or post-mixer amplifiers from a downstream crystal filter. This is offered as a low-loss alternative to using the -6 dB pad present in the mixer/amp/filter designs by Jacob Makhinson, N6NWP(2).

My question is this: when using a quadrature hybrid why do you need the diplexer at all? My simulations with ARRL Radio Designer show the hybrid to be completely effective in providing a nearly constant impedance at its' input when used alone. This fact is also pointed out by comments from William Sabin, W0IYH(3).

Can anyone shed some light on this?
Thanks,

john.seamons@sun.com
KF6VO

(1) "Technical Topics", Radio Communications (UK), Sep & Oct 93, Jan 94 reprinted in "Tech Notes", Communications Quarterly (US), Fall 94, pg. 81

(2) "A High-Dynamic-Range MF/HF Receiver Front End", QST, Feb 93, pg. 23

(3) Chapter 17: "Receivers, Transmitters, Transceivers and Projects", ARRL Handbook 95, pg. 17.7, "In a 90 degree hybrid splitter, if the two modules [downstream of the hybrid] are identical but their identical input impedance values may not be equal to R [system input impedance, 50 ohms], the hybrid input impedance is nevertheless R ohms, a fact that is sometimes very useful in system design. The power that is "reflected" from the mismatched module input impedance is absorbed in RX, the "dump" resistor [connected to a port of the hybrid], thus creating a virtual input impedance equal to R."

152. FREE HAM NEWSLETTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 07:32:17 UTC
From: AMSOFT@EPIX.NET
Message-ID: <NEWTNews.9919.789986050.amsoft@amsoft.epix.net>
Source record: 114703
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

The Jan 95 "The World of Ham Radio" CD-ROM newsletter is now available. This CD-ROM offers more ham programs than any of the others out there! Over 20,000 IBM files for amateur radio are stored on this CD-ROM. Included are the FCC CALLSIGN call book with US & Foreign listings current to 12/94, and AMCALL the new logbook from AmSoft that will auto log from the CD for you. Over 1,350 Radio Modifications. The latest HST, NASA & Space images. Over 700 Megabytes of Amateur Radio Software packed into 1 CD. This CD-ROM is published every 4 months without delay in JAN, MAY, & SEP.

If you would like to get a FREE newsletter about the JAN 1995 AmSoft CD-ROM please send your Internet E-mail address to: amsoft@epix.net

153. Re: ten tec kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 12:52:53 UTC
From: peter@Thoth.st.3Com.com
Message-ID: <3427@bridge2.NSD.3Com.COM>
Source record: 114704

In article bog@pop.btg.com, rusty@btg.com (Rusty Haddock) writes:
>TEN-TEC, Inc.
>1185 Dolly Parton Parkway
>Sevierville, TN 37862-3710
>
>Information: 1-615-453-7172
>Fax: 1-615-428-4483
>Orders: 1-800-833-7373 (credit card orders only)

Having just built their 4 band regenerative HF receiver kit with
my 9 year old daughter and 12 year old son (actually, they did
most of the work), I'm impressed with the quality and design.

It worked as soon as we powered it up and is very sensitive.
G-10 epoxy board, no components missing, cost about $15 and
an optional case (some drilling and filing required) for $5
additional. The components aren't mil-spec...
the switches and pots are a bit cheap, but they work well,
and I feel I got more for my money than I would have at
Radio Shack...specifically, the actual design semms to have
had a lot of thought put into it.

Our ham club bought 11, one guy hasn't finished his, but *all*
the other 10 came up working perfectly!.

Just a satisfied customer...
Peter

Peter Simpson, KA1AXY Linux! Peter_Simpson@3mail.3com.com
3Com Corporation The free Unix (508) 836-1719 voice
Northborough, MA 01532 for the 386 (508) 393-6934 fax

I speak only for myself...not 3Com...nor Canter & Siegel.

154. searching FT407F

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 13:30:19 UTC
From: Dietmar Schantin <didis@win.tue.nl>
Message-ID: <3f5v9b$mol@svin09.win.tue.nl>
Source record: 114705

Hlo dear reader!

I'm looking for a transistor FT407F. It is a part of a computer
power-supply. Perhaps you know a company in Europe, were I can get
this type

with kind regards, 73

Dietmar, PI/OE6MCD

155. Re: Series Resistance?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 13:52:14 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan13.135214.23484@ke4zv.atl.ga.us>
Source record: 114706

In article <1732313883S85.KLINEDA@UNIVSCVM.CSD.SCAROLINA.EDU>
klineda@univscvm.csd.scarolina.edu writes:
>Hello!
>
>I am writing a program that will calculate the Q's of various coils at
>different frequencies. However, when I calculate the AC resistance of the
>coil (by hand and by computer) I get a value that is less than the DC
>resistance that is based just on the wire length. The formula I'm using is:
>
>83.2*(sqrt(f))/d where d=wire-diameter and f=frequency (This is as given
>in Terman's)
>
>I notice in other books, and Terman's also, that the formula for Q is:
>
>(2*pi*f*L)/R_series.
>
>Apparently R_series is not the DC resistance of the coil.
>My AC resistance is coming out less than the DC resistance.
>Can anyone tell me what's going on here?
>Just what is R_series?

R_series is just the loss resistance of the coil at the design
frequency. The second formula above is just XL/R, or the reactance
at the design frequency divided by the loss resistance at the
design frequency. That's the classic definition of Q. The coil's
loss resistance is more than just the resistance of the wire.
It can include losses due to the core or support structure, radiation
from the coil, etc.

The first formula you quote is only an approximation, or engineering
rule of thumb. The value it predicts may or may not be accurate for
a particular coil. Make sure you are expressing all the values in
consistent units when using it. Otherwise you may be led far astray.
It's certainly unexpected that you are getting resistance values
less than what the wire tables would give for DC resistance.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

156. Re: CAVE RADIO

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 14:12:22 UTC
From: 00tlzivney@bsuvc.bsu.edu
Message-ID: <1995Jan13.091222.39188@leo.bsuvc.bsu.edu>
Source record: 114707

In article <uid.16.2F153AE9@ornl.gov>, uid@ornl.gov writes:
> I AM A CAVER WHO IS CONSIDERATING A NEW PROJECT. I AM CONSIDERING BUILDING A
> THROUGH THE GROUND SSB RADIO ON SOME FREQUENCY BETWEEN 32 KHZ UP TO 100 KHZ
> USING A MAGNETIC LOOP ANTENNA.
>
> PART OF MY CONSIDERATIONS IS USING THIS UNIT FOR COMMUNICATIONS AS WELL AS
> RADIO LOCATION WORK (IF POSSIBLE). ONE OF THE THINGS I WOULD LIKE TO ACHIEVE
> IS USING A LOWER FREQ (~ 32KHZ - BEST FOR PENETRATION) AND BUILD AS A
> VERY LIGHT WEIGHT PORTABLE UNIT (MAYBE BELT MOUNTED). I WOULD LIKE TO WIND MY
> MAGNETIC ANT ON ITS CASE TO BE USED AS A SELF CONTAIN UNIT FOR SHALLOW
> PENETRATION. (LARGER EXTERNAL LOOP ANT FOR LOCATION WORK AND GREATER
> PENETRATION).
>
> IN THE FEW PUBLICATIONS THAT ADDRESS THIS TYPE OF COMMUNICATIONS
> (SPELOELCTRONICS), THERE IS DISCUSSION ON BUILDING FERRITE LOOP STICK
> ANTENNAS. THE FERRITE ROD MAKES THE COIL APPEAR AS A LARGER LOOP. IN THE
> FORMULAS, PART OF THE CONSIDERATION IS LENGTH TO DIAMETER.
>
> WHAT I AM CONSIDERING IS WHETHER I COULD BUILD THE CASE (NON METALLIC) AND
> COVER THE OUTSIDE WITH A FERRITE SHEET MATERIAL (IF AVAILABLE) AND INCREASE
> THE EFFECTIVE PERFORMANCE OF ITS SELF CONTAINED ANTENNA. I HAVE NOT BEEN ABLE
> TO MAKE THIS DETERMINATION (NOT INTELLEGENT ENOUGH AT THIS TIME TO EXTRACT
> THIS INFORMATION OUT OF ENGINEERING MANUALS).
>
> AND SUGGESTIONS, FORMULAS, DATA MATERIAL, AND AVAILABLE OF FERRITE SHEET
> MATERIAL, WOULD BE APPRECIATED.
>
> DANNY BRITTON
> KB4TEP
> QB7@ORNL.GOV
>

The January 1995 issue of Radio Communications, published by the RSGB in
the UK, has a very good article on cave radio, complete with block diagrams
and some schematics. Also,it has a VERY good discussion on the cave antenna.

Good luck.

Terry Zivney, N4TZ
00tlzivney@bsuvc.bsu.edu

157. re: Ham-Homebrew Digest V95 #14

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 14:50:00 UTC
From: GFriedla@griprod2.GRi.ORG
Message-ID: <B88B162F01252C79@-SMF->
Source record: 114708

All of this talk about coils has prompted me to jump in. I enjoy building crystal radio sets. I wind my own coils on various forms such as pill containers, vitamin containers, cardboard, etc. I have even created a crude lotus 1-2-3 worksheet for all the calculations (it takes into account the diameter of the coil form and the gauge of the wire. However, I am interested in fooling around with ferrite rods for coil winding but have no idea as to how to modify my calculations to take into account the affect the ferrite rod has on the inductance of the coil. Can anyone point me in the right direction? Is there a book that would give me the correct calculations for winding coils on ferrite rods? Thank you.

73, WD9HDM (proud member of the Crystal Set Society)
Gary Friedlander (gfriedla@gri.org)

Original Text
From ham-homebrew-relay@UCSD.EDU, on 1/13/95 4:30 AM:
To: Ham-Homebrew@UCSD.EDU

Ham-Homebrew Digest Fri, 13 Jan 95 Volume 95 : Issue 14

Today's Topics:
CAVE RADIO
Collins 30L-1
Fantastic Book Store
Kenwood TM-631 mods/parts placement
Power control of Class C amplifier
QRP newsgroup/mailer vote again
Series Resistance?
TEN TEC KITS (3 msgs)
What's this FB in a 435 MHz GaAsFET Amp?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Thu, 12 Jan 1995 14:21:29 GMT
From: uid@ornl.gov
Subject: CAVE RADIO

I AM A CAVER WHO IS CONSIDERATING A NEW PROJECT. I AM CONSIDERING BUILDING A THROUGH THE GROUND SSB RADIO ON SOME FREQUENCY BETWEEN 32 KHZ UP TO 100 KHZ USING A MAGNETIC LOOP ANTENNA.

PART OF MY CONSIDERATIONS IS USING THIS UNIT FOR COMMUNICATIONS AS WELL AS RADIO LOCATION WORK (IF POSSIBLE). ONE OF THE THINGS I WOULD LIKE TO ACHIEVE IS USING A LOWER FREQ (~ 32KHZ - BEST FOR PENETRATION) AND BUILD AS A VERY LIGHT WEIGHT PORTABLE UNIT (MAYBE BELT MOUNTED). I WOULD LIKE TO WIND MY
MAGNETIC ANT ON ITS CASE TO BE USED AS A SELF CONTAIN UNIT FOR SHALLOW PENETRATION. (LARGER EXTERNAL LOOP ANT FOR LOCATION WORK AND GREATER PENETRATION).

IN THE FEW PUBLICATIONS THAT ADDRESS THIS TYPE OF COMMUNICATIONS (SPELOELCTRONICS), THERE IS DISCUSSION ON BUILDING FERRITE LOOP STICK ANTENNAS. THE FERRITE ROD MAKES THE COIL APPEAR AS A LARGER LOOP. IN THE FORMULAS, PART OF THE CONSIDERATION IS LENGTH TO DIAMETER.

WHAT I AM CONSIDERING IS WHETHER I COULD BUILD THE CASE (NON METALLIC) AND COVER THE OUTSIDE WITH A FERRITE SHEET MATERIAL (IF AVAILABLE) AND INCREASE THE EFFECTIVE PERFORMANCE OF ITS SELF CONTAINED ANTENNA. I HAVE NOT BEEN ABLE
TO MAKE THIS DETERMINATION (NOT INTELLEGENT ENOUGH AT THIS TIME TO EXTRACT THIS INFORMATION OUT OF ENGINEERING MANUALS).

AND SUGGESTIONS, FORMULAS, DATA MATERIAL, AND AVAILABLE OF FERRITE SHEET MATERIAL, WOULD BE APPRECIATED.

DANNY BRITTON
KB4TEP
QB7@ORNL.GOV

Date: Wed, 11 Jan 1995 18:15:51 GMT
From: murphy@crash.cts.com (Mike Murphy)
Subject: Collins 30L-1

Newsgroups: rec.radio.amateur.equipment
Subject: Collins 30L-1 for sale
Summary:
Expires: 25/02/95
Sender:
Followup-To:
Distribution: world
Organization: CTS Network Services (CTSNET), San Diego, CA
Keywords:
Cc:

Collins 30L-1, winged emb. clean, operating cond. $350 plus UPS

call: Mike 619 444 7717

Date: Wed, 11 Jan 1995 17:27:15 GMT
From: mrbaker@hodcs.ho.att.com (-M.BAKER)
Subject: Fantastic Book Store

In article <1994Dec16.115224.224@nad.com>,
Joe Landis - Systems & Network Mgr <landisj@nad.com> wrote:
>In article <9411127872.AA787251256@mails.imed.com>, mack@mails.imed.COM
writes:
>> We just had a store called Micro Center open here in Houston, TX. It has
the
>> BEST technical bookstore I have ever seen. You will not believe the
quality and
>> quantity they have available. Lest you think this is only of benefit to
those
>> in SE Texas, they have 11 other stores scattered through the US.
>>
>
>Yes, Micro Center also has a store outside of Philly in St. Davids, PA.
>They have a fantastic technical book section. You would expect a lot on
>PC/unix/networks etc, but the textbooks on RF design, mobile comm. systems
>engineering, semiconductors... really surprised me.
>

I discovered the Micro Center store just outside of Cleveland, OH at 1349 SOM Center Road in Mayfield Heights, OH (216-449-7000) just off of I-271.

They did indeed have a very good book/magazine department, not to mention a fine selection of hardware & software items. I think that they will give CompUSA a real run for their money.

I found a great book on LINUX there which I had not seen anywhere else. They must have some on-the-ball buyers in the book department.

WA3ZXO

Date: 12 Jan 1995 08:43:30 -0500
From: kb2ear@kb2ear.overleaf.com (Scott R. Weis KB2EAR)
Subject: Kenwood TM-631 mods/parts placement

I have the mod sheet for the Kenwood TM-631, however I am in need for the parts placement diagram from the service manual. Is anyone out there able to scan/fax a copy of this to me? I can take a uuencoded gif or a fax (email me and I'll send the number.). I need the one for the front panel control board.

73,
--
Scott R. Weis KB2EAR, EMT-A
Kendall Park First Aid & Rescue Squad
Internet: kb2ear@kb2ear.overleaf.com
Packet: KB2EAR @ KB2EAR.NJ.USA.NA
Snail Mail: 10 Palmer Rd., Kendall Park, NJ, 08824-1228

Phone: +1 908 297 0469

Date: 6 Jan 95 14:32:15 GMT
From: Tony.Komljanec@banyan.dgim.doc.CA
Subject: Power control of Class C amplifier

In article <D25swK.L84@boi.hp.com> twheless@Name: hpbsl75 (Tom Wheless) writes:
>>
>>I'd like to build a class-C power amplifier and be able to easily
>>vary the output power (the gain). I know that some rigs allow you
>>to do this but I don't know how they implement it. Are they just
>>varying the collector supply voltage in the final stage?
>
>For some low power rigs, AM CB rigs for example, that's exactly what
>they do. For most ham rigs, the PA is running AB1 even during CW
>transmissions, so the drive power is reduced same as it would be
>for voice transmission.

Tom:

Class C amplifiers are used for FM, typically at VHF and above. I've been using mobile radio PA's for some time as cheap amplifiers for HT's, both VHF and UHF and as repeater TX. The voltage supplying a stage in the PA is controlled by a series pass regulator circuit feeding the PA, with feedback from a "power adjust" pot, a level control ciruit, temperature and reflected power sensors. In small HT transmitters, the "controlled stage" can be milliwatts and class A.

Usually the "controlled stage" is the predriver, the first transistor on the PA board, handling a few watts (5 watts typ). This has the advantage of controlling smaller currents than what you would find thru the final PA transistors. For instance, a 110W PA will consume 20+ amps in the final PA transistors.... current which you don't want to regulate.

There are a wealth of older radios, from GE, Motorola, etc that are great for
amateur repeater PA's or HT amplifiers, and cheaply available (if not even free). Some suggestions are Mitrek, Micor, Pulsar (this one is the best! It is an old IMTS radio with removable PA, complete with it's own power control board, isolator and dummy load.... on UHF, -10 dBm in gets you +47 dBm out.... add a fan and you are fine for continuous duty). Look for a self contained PA that can easily be separated from the main assembly. This is assuming you want to go this route instead of building from scratch.

For situations that don't demand power regulation, just tie the controlled stage to max volts required for full output. If possible, try to extracate the control circuitry though; it makes life easier. Your mileage may vary.

Hope this helps. To all nethams... this is a good newsgroup with actual technical content, unlike the ham-equipment newsgroup (primarily concerned

with out-of-band mods). Good show!

Tony, VE3PEP
ai797@freenet.toronto.on.ca

PS. Why pay for NEW when USED will do!!! Any other repeater hackers out
there? Solar powered repeaters a specialty.

Date: 12 Jan 95 20:29:08 EDT
From: desaid@muvms6.wvnet.edu (Dinakar)
Subject: QRP newsgroup/mailer vote again

In article <3epoep$j2c@newsbf02.news.aol.com>, davflack@aol.com (DAVFLACK)
writes:
> I'd be interested in a QRP forum. I'd like to find others interested in
> digital QRP other than CW.
>
> Dave/W0RNL
> davef@uworld.com
I am really interested in the new newsgroup. HOpe it gets started soon.

I do like digital modes other than packet so it will be of great help.

73
Dinakar kb8vhc
desaid@marshall.edu

Date: Wed, 11 Jan 95 22:13:23 EST
From: klineda@univscvm.csd.scarolina.edu
Subject: Series Resistance?

Hello!

I am writing a program that will calculate the Q's of various coils at
different frequencies. However, when I calculate the AC resistance of the
coil (by hand and by computer) I get a value that is less than the DC
resistance that is based just on the wire length. The formula I'm using is:

83.2*(sqrt(f))/d where d=wire-diameter and f=frequency (This is as given
in Terman's)

I notice in other books, and Terman's also, that the formula for Q is:

(2*pi*f*L)/R_series.

Apparently R_series is not the DC resistance of the coil.
My AC resistance is coming out less than the DC resistance.
Can anyone tell me what's going on here?
Just what is R_series?

Thanks!

Dan Kline <klineda@univscvm.csd.scarolina.edu>

Date: 11 Jan 1995 02:33:01 -0500
From: rusty@btg.com (Rusty Haddock)
Subject: ten tec kits

In article <xc4YpqO.orkin@delphi.com>, orkin <orkin@delphi.com> wrote:
>Can anyone give me a telephone number for ten tec so i can get there
>catalog. or where cani find one of ther adds?
>and does anyone know the names and telephone numbers,addresses to any
>other companies that sell kits?

TEN-TEC, Inc.
1185 Dolly Parton Parkway
Sevierville, TN 37862-3710

Information: 1-615-453-7172
Fax: 1-615-428-4483
Orders: 1-800-833-7373 (credit card orders only)

I visited these folks whilest driving home from Dallas last week. Nice
folks there. Absolutely gorgeous view of mountains when you exit the
building!!!

Please note: TT has two catalogs -- one for their regular HF equipment and
another, smaller one, that features their kits.

As for other companies.... I'd say "Ramsey" but I'd also say "don't waste
your time nor money with them."

-Rusty-
--
_____ Rusty Haddock ## KD4WLZ -- Weird Looking Zucchini
|\/ o \ o DOMAIN: rusty@btg.com UUCP: uunet!btg!rusty
| (-< O o I planted my antenna farm and aluminum and copper poles
|/__V__/ came up. The strange thing is that I used steel seeds.

Date: Wed, 11 Jan 95 14:21:47 EST
From: steve.bratcher@his.com
Subject: TEN TEC KITS

In a message dated 01-10-95 ORKIN wrote to ALL :

73, STEVE

-> TIMM (1.0 Final 1) The Ideal Macintosh Mail reader

Date: Wed, 11 Jan 95 14:21:47 EST
From: steve.bratcher@his.com
Subject: TEN TEC KITS

In a message dated 01-10-95 ORKIN wrote to ALL :

> From: orkin <orkin@delphi.com>
> Subject: ten tec kits
> Date: Tue, 10 Jan 95 02:27:34 -0500
> Message-ID: <xc4YpqO.orkin@delphi.com>
>
> Can anyone give me a telephone number for ten tec so i can get there c
> or where cani find one of ther adds?
> and does anyone know the names and telephone numbers,addresses to any
> companies that sell kits?

Info: 615-453-7172
Fax: 615-428-4483
Orders: 800-833-7373 (creditr card orders only)

73, STEVE

-> TIMM (1.0 Final 1) The Ideal Macintosh Mail reader

Date: Wed, 11 Jan 1995 13:51:42 +0000
From: G3SEK@ifwtech.demon.co.uk (Ian G3SEK)
Subject: What's this FB in a 435 MHz GaAsFET Amp?

In article: <1995Jan9.124825.6937@knight.vf.ge.com> hbrown@nadir.resd
(Harry H. Brown) writes:
>
> The comment on using ferrite beads puzzles me. They seem to be accepted in
both
> the amateur community and even in the military electronics community. Can
someone
> give a little more background on the pro's and con's of ferrite beads? I
don't
> read everything that comes along or I wouldn't have time to do anything
"real"
> but I've missed the anti-bead technical discussions.

A ferrite bead on the drain lead seems to be used to roll-off the gain at higher frequencies due to the increasing loss in the ferrite. Sometimes this prevents oscillation... and sometimes it doesn't.

Often we've no idea what kind of ferrite was used in the prototype, and very little idea what the lumped-circuit equivalent of a ferrite bead would be.

There's also a glaring inconsistency in the way we think about ferrite beads.
On the one hand: "Slip a ferrite bead over the drain lead of a GaAsFET to provide stability while hardly affecting gain at signal frequency".
On the other hand: "Slip a ferrite bead over the DC supply lead to act as an RF choke at all VHF/UHF frequencies".

Can anyone reconcile those two viewpoints as they apply to a GaAsFET preamp?

If not, it all begins to sound like "voodoo electronics"... you go through
the rituals because the spell sometimes works, but you don't understand why.
For "ferrite bead" read "dead chicken" ?

--
73 from Ian G3SEK | Editor, _The_VHF/UHF_DX_Book_
Abingdon, England |
g3sek@ifwtech.demon.co.uk | "In Practice" columnist for RadCom (RSGB)

Date: Thu, 12 Jan 1995 14:05:16 GMT
From: zlau@arrl.org (Zack Lau (KH6CP))

References<3ek9vs$aah@maxwell9.ee> <3ekcrg$fb6@usenet.rpi.edu>,
<3erlle$at0@maxwell3.ee>
Subject: Re: GaAsFET preamp retuning

Stephen P. Bachhuber (spbachhu@mtu.edu) wrote:
:
: I know for a fact that tuners with noise figures under 1 dB offer
: superior performance in the FM band, not based on any kind of
: background noise measurement, but from experience. Just as an example,
: why would Pioneer offer car stereos with .7 microVolt sensitivity?
: And, I believe the noise figs. for the ARRL preamps were something
: around .5 dB.

Yes, these low noise figures are quite important for hearing signals
bouncing off the moon. Surprisingly, I've never heard of someone
actually putting up a huge array to hear FM signals off the moon,
though amateurs have put up dozens of yagis to make two way contacts
off the moon. The cost of even a $200 preamplifier is often a small
fraction of the cost of putting up a huge antenna installation.

To get the ultimate in noise figure you might look at power GaAs
FETs. The Mitsubishi 1801 and 2116 are known to work at 2 meters.
Unfortunately, I don't know the 1/f corner, below which noise
performance degrades significantly. You generally want a wide
gate to reduce diffusion noise--you find this with power devices.
Such FETs generally cost $50 to hundreds of $$. You might be able
to acheive a 0.2 to 0.3 dB NF. A difficulty is that manufacturers
don't have the equipment to measure such noise figures accurately.
Hewlett Packard's expensive setup has a worst case accuracy around
+/- 0.3 dB.

Oh yeah, getting a stable design can be really difficult, but a
smart designer with lots of equipment and tools can often find
a solution.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

Date: Fri, 13 Jan 1995 01:05:42 GMT
From: jeffrey@kahuna.tmc.edu (Jeffrey Herman)

References<3d6u64$g5c@mrnews.mro.dec.com> <3dn504$oi7@ixnews1.ix.netcom.com>,
<1995Jan4.133331.231@nad.com>
Reply-To: jeffrey@math.hawaii.edu
Subject: Re: I have a dead TV, can i use it?

In article <3dn504$oi7@ixnews1.ix.netcom.com>, mjsilva@ix.netcom.com
(michael silva) writes:
> Also, nobody else has yet mentioned all that nice magnet wire in the
> deflection coils, in case you want to join us radio troglodytes in winding
> some of your own coils. Keep everything that has a remote chance of being
> useful, since having a supply of parts around is the best incentive to
doing
> some experimenting on a rainy day.
>
> Mike, KK6GM

Yeow! I could write a book about building transmitters from discarded
TV sets. For the past couple of years I've grabbed every curb-side
discarded TV set I saw; if I was on my bike I would just do the surgery
right there and strap the chassis on my book rack.

All my coils are handwound using the above mentioned deflection coil wire.
You can use the inductors on the circuit board for your coil forms (or
paper towel cardboard cores make good coil forms).

Don't forget that beautiful variable capacitor with built-in reduction
gear in the UHF tuner; my latest 40M rig utilizes one. And my future
20M xmtr will also use one.

Jeff NH6IL

End of Ham-Homebrew Digest V95 #14
****

158. Re: Q: FM tuner stages.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 14:56:52 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan13.145652.23769@ke4zv.atl.ga.us>
Source record: 114709

In article <3f3tgp$9k1@cat.cis.Brown.EDU> CC015012@brownvm.brown.edu () writes:
>Hi,
>
>my interest in FM receivers took a significant leap when I found
>an Fisher all-tube FM tuner from the early sixties. I will
>now start to study RF front ends, IF strips etc. I can easily
>find intro text on this topic. I understand ARRL has a new book
>out at the more advanced level but I wonder if there are any texts
>out there that would fall into a category I'd call "all-out designs" ?

Heyward's book, _Introduction to Radio Frequency Design_ is a good
book, as is Chris Bowick's _RF Circuit Design_, I recomend them both,
but if your primary interest is receivers, then Rohde's _Communications
Receivers: Principles and Design_ should be on your purchase list as
well.

>For starters:
>I'd like to study the RF stage and see if the 6CW4 tubes now
>there can be bettered especially in the noise compartment.

No problem, most solid state designs will blow the old 6CW4 out
of the water, even tube designs using tubes like the 416B will
do better.

>I need to learn the nitty-gritty of mixer stages.

Ah, that's where a lot of magic lives. Diode ring mixers have
dominated for a while now, but active Gilbert cell mixers are
coming on strong. And don't neglect to pay attention to the
local oscillator. A clean LO can make a world of difference.

>I need to study discreete FM IF strips and how to tune them.
>I'd like try a good quality solid state FM IF strip to increase
>the selectivity of the IF stage.

There's plenty you can do to improve the Fisher's IF strip, but
this is a less critical area, and tube circuits still do a good
job here. Of course they can be replaced with a single subsystem
chip with a ceramic filter, and give a performance gain. The
stagger tuning employed in the old tube IFs is a pretty coarse
compromise. A monolithic filter will likely do better. Eliminating
the tube shot noise will be a win in and of itself.

>And I need to know more about stereo generation circuits.
>as the MPX sub-board is lousy and probably hard to adjust.

There's less good general literature on this (at least of which
I'm aware). I'd recomend looking to the professional publications
for the broadcast industry, and to IC manufacturer's application
notes for information on this subject.

There's another area where you can likely make great improvements
in the receiver. That's in the detector and post-detector amplifier.
There are several detector designs which will give better linearity
than the Fisher offers, (a pulse counting detector could be a good
choice), and the post-amp could really stand cleaning up, and flattening,
and broadening response for best sound.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

159. Re: diplexers vs quadrature hybrids

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 15:07:12 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan13.150712.23866@ke4zv.atl.ga.us>
Source record: 114710

In article <3f58a7$pgl@cronkite.Central.Sun.COM> jks@hal.next.com (John Seamons) writes:
>In a recent article(1), Colin Horrabin, G3SBI, draws attention to the use
>of quadrature hybrids in series with conventional diplexers for
>controlling the impedance seen by mixers or post-mixer amplifiers from a
>downstream crystal filter. This is offered as a low-loss alternative to
>using the -6 dB pad present in the mixer/amp/filter designs by Jacob
>Makhinson, N6NWP(2).
>
>My question is this: when using a quadrature hybrid why do you need the
>diplexer at all? My simulations with ARRL Radio Designer show the hybrid
>to be completely effective in providing a nearly constant impedance at
>its' input when used alone. This fact is also pointed out by comments
>from William Sabin, W0IYH(3).
>
>Can anyone shed some light on this?

The diplexer serves two purposes, it acts as a broadband termination
for the mixer, and it serves as a dissipative pre-filter for the
downstream filter. As you've noted, the hybrid can serve for the
broadband termination, but hitting the downstream crystal filter
with strong out of band signals is not a particularly good idea.
The hybrid doesn't address this at all. Of course if you are using
adequate pre-selection before the mixer, this may not be an issue.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

160. Re: What's this FB in a 435 MHz GaAsFET Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 15:45:37 UTC
From: M.Willis@ee.surrey.ac.uk
Message-ID: <1995Jan13.154537.17335@ee.surrey.ac.uk>
Source record: 114711

In article <561350995wnr@ifwtech.demon.co.uk>, G3SEK@ifwtech.demon.co.uk (Ian G3SEK) writes:
|>
|> There's also a glaring inconsistency in the way we think about ferrite beads.
|> On the one hand: "Slip a ferrite bead over the drain lead of a GaAsFET to
|> provide stability while hardly affecting gain at signal frequency".
|> On the other hand: "Slip a ferrite bead over the DC supply lead to act as
|> an RF choke at all VHF/UHF frequencies".
|>
|> Can anyone reconcile those two viewpoints as they apply to a GaAsFET preamp?

Ferrite beads are not much use at UHF, they are effective at VHF and below. I think their function is to prevent low frequency (VHF/UHF) paracitics in the pre-amplifier. The bead will reduce the gain, even at the signal frequency. That does not mean it will significantly increase the noise but it will certainly have an effect on stability. Better to design a stable amplifier in the first place, by ensuring the gain is not some ridiculous 20dB figure but more like 13 db or lower with two stages for high gain if required.

Mike

161. PCBs from Laser Print/Photocopier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 16:29:07 UTC
From: kirkland@bgtys22.bnr.ca
Message-ID: <3f69oj$e27@bmerha64.bnr.ca>
Source record: 114712

I have just finished my first try with the "Toner Transfer System"
by DynaArt Designs (available from All Electronics Corp. 818 904-0524)
and experience great success. This system uses a special paper with a
water soluble coating which makes the paper backing easy to remove after
the transfer is done. - Works like a charm. I did two PCBs yesterday and
they both turned out great on the first try. The only problems that I found
are that there are problems with the toner sticking around the board edges
and that on large areas, e.g. ground planes, there is some bleed through however
all of the traces were solid - the smallest trace was 0.02".

The boards were done using a PADSDEMO package and printer out on an HP 600 dpi
laser printer using this paper. The key to using this is to have a laser printer
(or photocopier) that prints as black and as solid as possible and to use the
proper iron temperature to iron on the artwork. What I did was to first print
the artwork onto an overhead transparency and to try and iron this onto the
PCB board. This didn't work out too well but it did give me a good feel for
what a good temperature and iron time should be. I also recommend following
the suggestions that come with the instructions.

I am very impressed with this product and I have found it to be far superior than
the tech film. An advantage with this system is its ability to make color face
plates. Print the image onto the special paper, coat the image with a few coats
of laquer and then imerse the paper in water and you now have a decal for the face
plate.

A note on using the PADSDEMO package:
while the package limits you in the number of components you can use it is
suitable for doing small PC Boards and will not let you print multiple boards
on a single 8x10 sheet if the sum of the board components is greater than the
limit. A way around this so that you can fill an 8x10 sheet up with boards so
as to maximize your use of the transfer paper is to print the artwork out in
a postscript format, one postscript file per board. What you then do is to
edit each file (except one which will be the initial file) and strip off the
initial postscript commands, that the lines from

```
%!PS-Adobe-2.0^M
....
%%EndProlog^M
```

and you should be left with the following lines

```
gsave
Init
8000 10500 Clipto
0 0 translate
0 rotate
```

....
grestore
showpage

strip off the showpage command from each of the files except for the last file (showpage prints out the document as near as I can figure)
then append all of the files together starting with the first one with has the initial postscript prolog commands and ending with the file that ends with the showpage command - make sure you stripped off the showpage command from the 1 st file. You can place your boards anywhere on the 8 x 10.5 " page by editing the 0 0 translate command for each board. The origin is at the bottom left hand corner. Not there is an implied 1/4" border around the page as setup in the prolog commands in the postscript file. For DOS machines fetching the GS (ghost-script package & GSVIEW packages) helps as it allows you to view the PS file before printing it.

Bill Kirkland
VE3JHU

162. TS-140 transmit unlock

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 17:16:27 UTC
From: "Colin Schmutter"
Message-ID: <3f6chb$38q@chopin.bcit.bc.ca>
Source record: 114713

Hi,

I am using a Kenwood TS-140S that has the modification to unlock transmit on all frequencies. (D29 and D31 disconnected)

However the transmitter will still lock below 1600 Khz.

I was hoping to use the rig as an accurate signal generator as well as an HF rig to align another receiver.

Does anyone know how to unlock the transmitter below 1600 Khz so that I can generate a 455 Khz signal and also the Broadcast signals 550 khz to 1600 Khz?

Thanks

Colin (VE7CQH)

cschmutter@bcit.bc.ca

163. What is a quadrature hybrid?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 17:57:57 UTC
From: kirkland@bgtys22.bnr.ca
Message-ID: <3f6ev5$fos@bmerha64.bnr.ca>
Source record: 114714

In regards to quadrature hybrid being placed after a mixer - what is a quadrature hybrid?

Bill Kirkland
VE3JHU

164. Re: Series Resistance?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 18:11:47 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3f6fp3$10as@info4.rus.uni-stuttgart.de>
Source record: 114715

>Just what is R_series?

It's what you measure when you connect an Ohmmeter across the
coil. At high frequencies it may be larger due to skin effects.

73, Moritz DL5UH

165. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 19:07:02 UTC
From: Bill Schaff <schaff@iiiv.tn.cornell.edu>
Message-ID: <3f6j0m$980@newsstand.cit.cornell.edu>
Source record: 114716

Re: GaAsFET preamp retuning

In article <1995Jan12.140516.659@arrl.org> Zack Lau, zlau@arrl.org writes:
>To get the ultimate in noise figure you might look at power GaAs
>FETs. The Mitsubishi 1801 and 2116 are known to work at 2 meters.
>Unfortunately, I don't know the 1/f corner, below which noise
>performance degrades significantly. You generally want a wide
>gate to reduce diffusion noise--you find this with power devices.

I disagree. A power MESFET (wide gate) is not a good choice for low
noise operation compared to a low noise FET (much narrower gate).

Noise Figure F (the Fukui equation):

F=1+2*pi*K*f*Cgs*[(Rg+Rs)/gm]1/2 x 1E-3

K=constant
f=frequency
Cgs = gate source cap
Rg=gate resistance
Rs=source resistance

Rg ~ 17*z*z/(WhLg)

z = unit gate width in mm
W=gate width in mm
h=gate metallization height in microns
Lg is average gate metallization length in microns

All other things being equal, a wider gate (characersitic of a power
MESFET) will increase Cgs and Rg, thus increase the noise figure.

Best noise figure occurs near the knee voltage. For a power FET, the
current will be much higher at the Knee that for a low noise MESFET with
a smaller gate width. The power FET will run warm even at this voltage,
thus the transistor will heat up further adding to poor noise performance.

166. New RF CAD program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-13 20:26:03 UTC
From: lukes@iaccess.za
Message-ID: <3f6nkr$19j@cstatd.cstat.co.za>
Source record: 114717

I am new to the net and first posted this as "ARRL Radio Designer". Something went wrong when I posted it, reducing the message to a single "y".

So, once more....

I saw an advert for a program called "ARRL Radio Designer" in the December 1994 issue of "RF design". According to the advert, it is a derivitave of Super-Compact (well known to RF engineers and used for frequency-domain circuit analysis).

Does anybody know the program, or better still, has used it? I first posted this at sci.electronics.cad and some helpful people directed me to this newsgroup. There seems to be general interest in the program, so please post responses in this newsgroup.

I have some questions:
1. Does it support Smith chart outputs?
2. Is a model for coupled transmission lines included?
3. Can new circuit models be created by the user (like SPICE) or are the models encrypted?
4. Do you like it?

Thanks (and thanks for the witty comments to my blunder :-))
Lucas Gertenbach
lukes@iaccess.za

167. SPECIAL EVENT STATION !!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-14 01:15:26 UTC
From: cmlong@mtu.edu
Message-ID: <3f78je$p03@techsrv1.tech>
Source record: 114718

I am sorry if this shouldn't be posted here, but I want to make sure that every one knows about us.

First let me introduce myself. My name is Mike and I am the Public Relations manager for the Husky Amateur Radio Club here at Michigan Technological University. Now for the info. on the special events station.

In a few weeks we here at the univ. are having an event called Winter Carnival. This event is even bigger than our homecoming. We (HARC) will have a special events station set up for 24 hours starting Febuary 2, 1995 at 6AM in the morning and running until 6AM Febuary 3, 1995. Whoever contacts us will receive a high-quality certificate from us special made for Winter Carnival and our special events station. It would look great framed on the wall!

Right now we are unsure on the freq we will be running on so stay tuned for more information as to what freq we will be on or email me at cmlong@mtu.edu

Thanks for your time and we hope to here from you!

The PR Guy,
Mike

168. Re: QRP mailing list

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-14 02:05:18 UTC
From: Sandy@staedt.demon.co.uk
Message-ID: <496561110wnr@staedt.demon.co.uk>
Source record: 114719

Would some-one please email me the address to send to to get onto the
QRP mailing list?

TIA

Regards, Sandy

```
-----------------------------------------------------------------
|J M Saunders sandy@staedt.demon.co.uk|
|+44 121 604 9454 G0VJU@GB7PZT.#24.GBR.EU|
| |
|If the job entails work of any description, I don't want to know|
-----------------------------------------------------------------
```

169. Re: make an antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-14 03:18:50 UTC
From: gsharp@primenet.com
Message-ID: <gsharp.2.006C18F9@primenet.com>
Source record: 114720

In article <3emota$jf0@floyd.santarosa.edu> jthompso@nermal.santarosa.edu (John Thompson) writes:

>Hello,

>I am wondering if anybody knows how I would go about making a good
>inexspensive CB radio antenna? If you know how or where I can find this
>info on the net please write to me or post here. Also personal experiences
>would be great.

>Thanks,

>John Thompson
>jthompso@nermal.santarosa.edu

Hello, John! Your post may cause some consternation among the ham community, but I will take the time to answer you!

Yes, a CB antenna would be easy to build - but what exactly do you want? A mobile antenna? A base-station antenna? A directional antenna? If you e-mail me a rough description of what you want, I will try to help you!

Greg Sharp
gsharp@primenet.com

170. 1296 Mhz hybrid power combiner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-14 03:24:57 UTC
From: gsharp@primenet.com
Message-ID: <gsharp.3.0071AF62@primenet.com>
Source record: 114721

Where can one find technical literature on buiding hybrid power combiners (particularly for 1296)? I have many microwave design handbooks, but nothing on **practical** designs for this frequency.

Greg Sharp

171. Re: What is a quadrature hybrid?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-14 16:46:50 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3f8v5q$m6g@tierra.santafe.edu>
Source record: 114722

kirkland@bgtys22.bnr.ca (Bill Kirkland) wrote:

> In regards to quadrature hybrid being placed after a mixer - what
> is a quadrature hybrid?

A quadrature hybrid is basically two couple transmission lines, one quarter wavelength long. It can be use to split rf siganls into two components, each with half the total power (less losses) and 90 degrees apart in phase. It can also be used in reverse to combine two signals that are 90 degrees apart in phase. There are four ports, the sum shows up in one port, the difference at the other. They are quite commonly used to combine two rf amplifiers. One splits the signal to drive two amplifiers, another combines the outputs to deliver the sum to the output. You need to think carefully about the 90 degree phase shift so you know which port gets the output. It is essential to connect a 50 ohm load to the unused port.

172. Re: BROADBAND RF DETECTOR FOR UHF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-14 16:53:52 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3f8vj0$m6g@tierra.santafe.edu>
Source record: 114723

> Does anyone know whats so special about the professional detectors (ie. HP423) that makes
> them so flat and broadband without apparent impedance matching?

A broadband load resistor is essential. Also the diode packaging can have an effect on performance. For homemade try chip resistors. Two 100 ohm in parallel is a good way to go. Still, flat output from 500-1000 MHz is a pretty tall order.

Used 423A's can be had for around $100 from Tucker in Garland, TX and they are definitely not the cheapest source around. Beware of new, inexpensive ($50) from some suppliers, they are usually not very flat at UHF.

173. FBTO update

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-16 02:37:23 UTC
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org
Message-ID: <1995Jan15.213723.7034@wb3ffv.ampr.org>
Source record: 114724

There was a bit of discussion recently about FBTO (From Beverage To Oscar), which is a computerized data base of ham radio articles. Please forgive me for cross-posting this to both r.r.a.homebrew and r.r.a.misc; I don't remember where the original discussion was. (Also posted to qrp-l@netcom.com; many of the people on that list do not have access to USENET but might find this of interest.) I talked with the author today (Rich Rosen, K2RR), and got an update on its status (the data base hasn't been updated for a few years).

For the uninitiated, FBTO is an incredibly useful bibliography program--it allows you to search for articles on a particular subject in the major ham magazines. As a homebrewer I find it quite useful, especially since I have QST back to 1960 and every issue of Ham Radio ever published, as well as access to QST back to the 20's and every issue of CQ and 73.

Being a computerized data base, FBTO is inherently superior to any annual index ever published in any magazine, and even superior to the 5 year cumulative indexes that Ham Radio published. You can do a single, quick search on any particular phrase you want (using the list of words and abbreviations that are used in the data base); it searches out all articles with that phrase in the description field, regardless of magazine, and regardless of year. (Just try finding every article ever printed in CQ, QST, Ham Radio, 73 and RadComm on some topic, such as crystal oscillators, by sitting down with a three foot high stack of December issues and digging thru all those annual indexes!)

One thing which makes it exceptionally useful is the extensive cross-indexing. Many times I've searched for info on things such as attenuators, crystal oscillators, VFOs, etc, and when I went to look at the references FBTO gave me I would find that they were sometimes articles which happened to contain those things but did not mention them in the title. For instance, an article with a title about 2M "fox hunting" might contain a circuit for an attenuator--if you were just looking at annual indexes, you'd never think of looking at an article about hidden transmitter hunting!

The version of the program that I have access to at a local ham store is 2.0, and Rich said the current version is 2.01. (The store has a ham radio library, open to all, with a massive collection of back issues of the major magazines and a number of related books, and has a computer with FBTO on it.) As I recall from a previous conversation with Rich, the differences between 2.0 and 2.01 were minor and it did not contain an updated data base. The latest

program covers articles through December 1990. He indicated that the update he is currently working on will push the cutoff date up to December 1994, and the additional entries will cover only the major ham magazines--QST, CQ, 73 and RadCom (journal of the RSGB in the UK). He wasn't sure if he would add Communications Quarterly (the successor to Ham Radio), but I told him that would be a very good idea.

He will also be changing the basic search program somewhat. He has had feedback from users (including me) about some minor improvements that could be made. As for sales, it continues to move along--he indicated that somewhat over 1700 copies have been sold, although he believes there are considerably more copies in use. He is considering some sort of anti-copy protection for the future, to protect his interests; after all, this IS a major effort and consumes a tremendous amount of his free time. We discussed the use of hardware protection keys ("dongles"), something that I see at work all the time on the expensive engineering programs we use. He may go that route if the added cost is minimal. (An advantage of that method is that you can easily make backup copies of a program for safety but only the person having the hardware key can run it.)

Rich also said he might make yearly updates to FBTO available at low cost to registered owners.

I've had access to FBTO for several years now. It's been a love-hate relationship due to some of the quirks (which are admittedly minor), but for the most part it's "love", and I've found it to be incredibly useful and well worth the money. (Actually, it wasn't my money at all since I use the program at the ham store on their computer, but when the updated version comes out I'm going to finally break down and get a copy for home--and it WILL be worth the money!)

Disclaimer--I have absolutely no connection with K2RR or FBTO except for being a satisfied customer and occasional pain in the neck about suggested improvements.

73 DE WA8MCQ

174. Re Hayward book: repeating my posting

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-16 03:00:44 UTC
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org
Message-ID: <1995Jan15.220044.7884@wb3ffv.ampr.org>
Source record: 114725

I was browsing through the ads in the back of the Jan 95 QST on Christmas Eve and got my best Christmas present of all: the announcement of a "new" book from ARRL. Not just any book, but a reprinting of a classic which is very high on my list of "books that are worth stealing from a friends library even if it costs me a friend". :-)

The ad is on page 170, with a red background, and says "Design your own HF, VHF and UHF equipment!" The name of the book is Introduction to Radio Frequency Design by Wes Hayward, W7ZOI. The fine print tells it all--they call it a "timeless reprint". It was written in 1981, and I've had access to copies over the years. At work, some of the RF engineers have it on their bookshelves. Until now it was only available as a college level textbook (as far as I know) and we all know what that does to the price! I don't know if it's still available from Prentice-Hall, but if it is, it has to cost considerably more than the $30 ARRL wants for it. I presume this is a paperback, the size is 400 pages, and the ARRL version even comes with a 3 1/2" disk for IBM-compatibles with some design programs to accompany the text.

Those of you who are already familiar with the book will probably understand why I drove to work as soon as I saw the announcement (even though it's Christmas eve!), unlocked the building and FAXed my order off right away. For those who don't know it, in a very general way it's along the lines of the ARRLs Solid State Design for the Radio Amateur (by Hayward and DeMaw) but without all the projects, but that's really not a good comparison. It is much larger and much more in depth. On the bookshelf of the technically inclined ham it would sit alongside that book and RF Circuit Design by Chris Bowick, WD4C (1982, ninth printing 1992, currently available from Howard W. Sams). As to the level of difficulty, it's more along the lines of the Bowick book than SSD; this is definitely not for the beginner, although the beginner could still pick up a lot from it. The technically oriented ham will probably love the book. (I do.)

The chapter titles, at least in the original version, are Low Frequency Transistor Models; Filter Basics; Coupled Resonator Filters; Transmission Lines; Two-Port Networks; Practical Amplifiers and Mixers; Oscillators and Frequency Synthesizers; The Receiver: An RF System.

I was overjoyed to see ARRL publish this book at a price aimed at the hobbyist rather than the engineering textbook market. It deserves to have a much wider audience in the ham world, and this should help,

due to the price and availability from a widely known ham publisher.

And if anyone from ARRL reads this and is wondering what else we techies might be interested in seeing, how about a reprint of Zverevs monster on filters? I understand it's out of print now, and anecdotal evidence suggests it's a frequently stolen book from libraries! (The boss has one in his private technical library but we all know better than to steal that one!) Then there's the DeMaw book on ferromagnetic cores...

Standard disclaimers apply--I have no interest in any of the items mentioned except as an enthusiastic consumer, and do not work for any of the entities involved. (This is being posted to both r.r.a.homebrew and the QRP mailing list.) 73 DE WA8MCQ

175. Re: TUNER/I.F.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-16 14:46:25 UTC
From: dmiller@crl.com
Message-ID: <3fe0s1$ir1@crl11.crl.com>
Source record: 114726

Brian Carling (brian.carling@acenet.com) wrote:

: Hello everyone. Can you help me identify this little box, OR the parts
: inside it?

: The case is about 2.5" X 1.5" X 0.5"

: "AUDIO, VIDEO, +12V and GROUND"

This is likely a TV modulator. You put in audio and video, and get out a
channel 3 or 4 modulated TV carrier. Sometimes these units will have a
small switch that will let you select between chan 3 and 4.

Later,

--

Don Miller My opinions are my own!
dmiller@crl.com
---

176. Re: Series Resistance?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-16 18:16:11 UTC
From: royle@tekgp4.cse.tek.com
Message-ID: <3fed5b$c3d@tekadm1.cse.tek.com>
Source record: 114727

klineda@univscvm.csd.scarolina.edu:

:I am writing a program that will calculate the Q's of various coils at
:different frequencies. However, when I calculate the AC resistance of the
:coil (by hand and by computer) I get a value that is less than the DC
:resistance that is based just on the wire length. The formula I'm using is:

:83.2*(sqrt(f))/d where d=wire-diameter and f=frequency (This is as given
:in Terman's)

:I notice in other books, and Terman's also, that the formula for Q is:

:(2*pi*f*L)/R_series.

:Apparently R_series is not the DC resistance of the coil.
:My AC resistance is coming out less than the DC resistance.
:Can anyone tell me what's going on here?
:Just what is R_series?

If L is the inductance per unit length, R_series is the ac resistance per
unit length, which is

83.2 * 10^-6 * sqrt(fmhz) / dia for copper wire

where the unit length and diameter are in the same units. For example,
#12 wire (80.8 mils diameter) at 1 MHz has an RF resistance of 1.03
microohms per mil, or 12.4 milliohms per foot vs. 1.59 milliohms per
foot at dc.

Roy Lewallen, W7EL
roy.lewallen@tek.com

177. RE: TS140 TX unlock

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-16 19:17:09 UTC
From: oddjob@cix.compulink.co.uk
Message-ID: <D2IIwL.5uI@cix.compulink.co.uk>
Source record: 114728

Lower than top band, it WILL NOT do it, I am reliably informed.

oddjob@cix.compulink.co.uk

178. Make a mobile antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-16 20:23:46 UTC
From: jthompso@nermal.santarosa.edu
Message-ID: <3fekki$hil@floyd.santarosa.edu>
Source record: 114729
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Allright I sucessfully made a base dipole antenna thanks to input from this group and others. Now I want to make a mobile antenna for my radio for my car. I have not seen an discussion on this so I am wondering if it is possible. If you know how please let me know! E-mail me or post here.

Thanks,

John Thompson
```
**********************************************
** John Thompson ** O O **
** jthompso@nermal.santarosa.edu ** / \ **
** \/\/\/\/\/\/\/\/\/\/\/\/\/\ ** \-----/ **
**********************************************
```

179. Brew Pub Research Report

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 02:00:42 UTC
From: Srfanz71@indirect.com
Message-ID: <Srfanz71.18.0013038D@indirect.com>
Source record: 114730

If anyone is interested in a research report on the developing brew pub market and industry then e mail me your address and phone number and I will send it to you.

It is very good.

Franz Amussen

180. Re: Rig Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 06:25:33 UTC
From: n0dh@comtch.iea.com
Message-ID: <3ffnst$hqk@krel.iea.com>
Source record: 114731

Brian C Crommett (crommett@badlands.NoDak.edu) wrote:
: Are there any internet sites that supply mods for varioius types of
: rigs? Also PLL mods for a couple of CB radios to get them to 10m.

: Thanks.

Brian

Try oak.oakland.edu. They have a "mods" section buried a couple of layers
deep in their "pub" section I think.

Dave
N0DH/7
n0dh@comtch.iea.com

181. IBM 3270 PC - 5272 Color Display

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 11:21:02 UTC
From: ar390@FreeNet.Carleton.CA
Message-ID: <D2JrJ2.EDI@freenet.carleton.ca>
Source record: 114732

I have a 5272 Color Display monitor from an IBM 3270 PC. Has anybody been able to make these things work with the 'standard' video boards for AT class and above PCs ? It's in great working order and I'd hate to cannibalize it. Please reply EMail and will post summary if I get any replies. Thanks and 73. Tony VE3FDU

182. ten tec kits 2/2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 12:20:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.153.546@acenet.com>
Source record: 114733

>>> Continued from previous message
Novatech Instruments Inc. (206) 328-6902
1530 Eastlake Avenue East (206) 328-6904 = FAX
Seattle, WA 98102 Direct DIgital Synthesizer kit 2Hz-12MHz

Oak Hills Research (800) 842-3748 / (616) 796-1460 = Orders
Dick Witzke KE8KL (616) 796-0920 = Tech info.
20879 Madison Street (616) 796-6633 = FAX
Big Rapids, MI 49307 (20 & 40M CW QRP transceivers etc.)

Oatley ELectronics No phone number given
5 Landsdowne Parade
Oatley, Sydney,
New South Wales 2223
Australia Kits, parts, etc.

Pan-Com International (No phone listed)
Box 130
Paradise, CA 95967 Send $1 for catalog of 350 kits etc.

Penntek Electronics (717) 248-2507
14 Peace Dr. Boards, kits etc. including
Lewistown, PA 17044 The Neophyte Receiver, QST Feb 1988

Pervisell Ltd, Call 0494 443033 or Fax 0494 448236.
8 Temple End,
High Wycombe,
Bucks. FAX & RTTY Decoder kit 17 Pounds, UK
HP13 5DR. England

R.J. Portugal Need phone number!
52 Susan Lane Programmable AF/RF
North Haven, CT 06473 Sinewave generator kit 0-10 MHz $65

R & R Associates (213) 474-1315
3106 Glendon Avenue
Los Angeles, CA 90034
[Richard Rathburn, KB6NQ] "I mainly sell pc boards from QST, Radio

R & R Associates (213) 474-1315
3106 Glendon Avenue
Los Angeles, CA 90034
[Richard Rathburn, KB6NQ] "I mainly sell pc boards from QST, Radio
Electronics, etc., and a few of in-house design. I also sell IC's,etc."
Send a SASE every now and then for his most recent flyer & also has boards
for some Motorola Application Notes.

Radio Devices (508) 480-0502
(Bob Levine KD1GG) Gel Cells, antennas
32 Queens View Road Hamcall CD-ROMs, Ramsey kits etc
Marlboro, MA 01752 checks/MO only, no credit cards.

Radiokit (603) 635-2235 FAX: (603) 635-2943
P.O. Box 973
169 Jeremy Hill Road RF components, variable caps, coils
Pelham, NH 03076 $1 catalog

Ramsey Electronics (716) 924-4560
793 Canning Parkway FAX: (716) 924-4555
Victor, NY 14564 (RCVR & QRP transmitter, keyer kits etc.)

Ryan Communications (412) 368-3859
BOX 111E
Camelot Road (QRP CW transmitter, ready made,)
Portersville, PA 16051 (and transmitter kits, crystals)

SCS No phone number given
P.O. Box 680
New Hartford, CT 06057 Morse keyboard kits

S & S Engineering (301) 416-0661
14102 Brown Road (301) 416-0963 = FAX
Smithsburg, MD 21783 ($270 ARK-4 CW transceiver kit etc.)

Small Wonder Labs (203) 667-3536
Dave Benson, NN1G
80 East Robbins Avenue
Newington, CT 06111 QRP transceiver kits for about $50

Sunset Electronics (No number listed)
12145 Alta Carmel Ct. Suite #250-139
San Diego, CA 92128 ("Build your own ham radio")

T.A.P.R. Inc. (817) 383-0000
8987-309 E. TANQUE VERDE Rd. # 337
Tucson, AZ 85749 TNC kits for packet radio etc.

Technologic Concepts No phone number given
1803 Mission Street #308 Internet: tlcdhconsult@delphi.com
Santa Cruz, CA 95060 Ramsey FX & Icom 22S conversion kits

Techsonic (610) 834-1978
1642 Butler Pike, Suite 127B
Conshohocken, PA 19428 QRP / QRPp transmitter kits 40,30,20m

Tejas RF Technology (713) 879-9300
P.O.Box 720331 FAX: (713) 879-9494
Houston TX 77272-0331 Tejas Backpacker-II QRP kit etc.

Ten-Tec (615) 453-7172 (800) 833-7373
1185 Dolly Parton Parkway FAX = (615) 428-4483
Sevierville, TN 37862 Great kits, accessories etc.

Internet: 74130.212@compuserve.com Eric Guinn or Gary Barber
$15.00 minimum

Tiare Publications (414) 248-4845
P.O. Box 493W
Lake Geneva, WI 53147 (Books on QRP etc.)

Townsend Electronics Inc. (219) 594-3661
Box 415 S (219) 594-5580
Pierceton, IN 46562 (Howes HF Kits from England)

W1FB
Box 250
Luther, MI 49656 QRP CW transmitter kits

Xandi Electronics (800) 336-7389
P.O. Box 25647
Tempe, AZ 85285 Kits, parts etc.

This list is non copyrighted. Please distribute as a file with
no changes.

Brian Carling, AF4K
brian.carling@acenet.com
AF4K @ W3INK

• SLMR 2.1a • All that is not eternal is eternally out of date. CSLewis

183. Re: QRP newsgroup/mailer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 12:20:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.151.546@acenet.com>
Source record: 114734

Newsgroups: rec.radio.amateur.homebrew

DA>I'd be interested in a QRP forum. I'd like to find others interested in
DA>digital QRP other than CW.

DA>Dave/W0RNL
DA>davef@uworld.com

1) WHY do you have TWO adresses?????

I see davflack@aol.com in your header, but then you signed it:
davef@uworld.com

Which one is someone to reply to??

2) You can subscribe to QRP-L@NETCOM.COM, but I don't think you'll find
very many on there who operate beyond SSB & CW.

brian.carling@acenet.com

• SLMR 2.1a • All that is not eternal is eternally out of date. CSLewis

184. ten tec kits 1/2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 12:20:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.152.546@acenet.com>
Source record: 114735

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

OR>Can anyone give me a telephone number for ten tec so i can get there catalog
OR>or where cani find one of ther adds?
OR>and does anyone know the names and telephone numbers,addresses to any other
OR>companies that sell kits?

There are companies offering all kinds of kits and plans
to help you build up a working HF, VHF, UHF, PACKET, ATV
rig of all kinds: CW, SSB, AM, FM, QRP, QRO, Amplifiers,
accessories, etc.

I have NO commercial interest whatsoever in bringing you this
information. I simply hope that it will enhance your enjoyment of the
hobby. Write or call these folks for a catalog or list of their kits:

"624 Kits" (803) 579-6262 day / 583-1304 eve.
171 Springlake Drive
Spartanburg, SC 29302 (QRP kits & accessories)

A & A Engineering (714) 952-2114
2521 W. La Palma #K Stas Andrzejewski, W6UCM (Keyer,
Anaheim, CA 92801 Battery charger, SELCALL, freq synth kits etc.)

C & S sales inc (800) 292-7711
1245 Rosewood ave
Deerfield Il 60015 Test gear, kits, $35 rcvr for 2m/6m etc.

Circuit Board Specialists June 1993 Mailed returned, no forwarding address
P.O. Box 969
Pueblo, CO 81002 (Various kits & projects, P.C. boards)

Circuit Specialists Inc. (800) 528-1417
Box 3047
Scottsdale, AZ 85271 Electronic components incl. RF parts

Communication Concepts Inc. (513) 426-8600 or (513) 220-9677
508 Millstone Drive (513) 429-3811 = FAX
Xenia, OH 45385 (HF linear amp kits etc.)

CQ RADIO KITS (416) 775-9119
Box 1546
Bradford, ONTARIO
Canada L3Z 2B8 QRP xcvrs, rcvrs, keys etc.

Crystal set society (314) 725-1172
P.O. Box 3026

St. Louis, MO 63130 Handbook, projects, formulas

Cy-ance Kit, (501) 839-8293
14786 Slate Gap Road
West Fork, AR 72774 80 different kits

Dan's Small Parts And Kits (Formerly KA7QJY Components)
1935 S. 3rd W. #1
Missoula MT 59801
1-406-543-2872 SASE for a current list of parts. RF parts,
(801) 563-5173 (Danny Stevig)

DWM Enterprises (No number listed)
1709 N. West Avenue #103
Jackson, MI 49202 (Mobile SW converter & simple QRP plans)

DX Radio Supply (610) 273-7823
Box 360 Call or write for catalog
Wagontown, PA 19376 Kit retailer. Ramsey, etc.

Electrogadgets Inc.
P.O. Box 2065
Morris Township, NJ 07962 Digital voice recorder kits $20.00

Electronic Goldmine (602) 451-7454
P.O. Box 5408
Scottsdale, AZ 85261 Kits, parts etc.

Electronic Rainbow (317) 291-7262 / -7269 = FAX
6254 LaPas Trail
Indianapolis, IN 46268 Various electronics kits

Elktronics Northeast Co. (603) 525-4001
Rt. 1 Box 789
Hancock, NH 03449 VFO kit, RF amp, filters etc.)

Hambrew Magazine 1-800-5-HAM-RIG
c/o George De Grazio, WF0K
P.O. Box 260083 Quarterly Magazine for builders $10/year
Lakewood, CO 80226 HF, QRP, VHF, XMTRS, RCVRS, QRO, ANTENNAS

Hamtronics, Inc. (716) 392-9430 / - 9420 = FAX
65 Moul Road 10m, 6m, 4m, 2m, 220
Hilton, NY 14468-9535 Receiver kits, receivers, converters

C.M. Howes Communications (44) 327-60178
Eydon, Daventry,
Northants NN11 6PT
England QRP transmitters, receivers, misc. Also
sold by Townsend Electronics in the U.S.

Idiom Press (No phone given)
Box 1025
Geyserville, CA 95441 Computer controlled keyer kit

J Comm (716) 924-0422
793 Canning Parkway FAX (716) 924-4555
Victor, NY 14564 (QRP HT rigs for 80 - 6m, $350.00)
Computer interfaces etc.

Kanga US (N8ET) (419) 423-5643
3521 Spring Lake Drive Biggest & best catalog of QRP kits!
Findlay, OH 45840 QRP kits, projects etc.

KD4YBC No phone number given
197 Chickasaw Lane
Myrtle Beach, SC 29577 HF linear amplifier kits, 14V DC

KD4YBC No phone number given
197 Chicasaw Lane
Myrtle Beach, SC 29577 H.F. amplifier kits

Lake Electronics (44) 0602-382509 (Alan G4DVW)
7 Middleton Close
Nuthall
Nottingham NG16 1BX
England QRP kits, receivers, accessories etc.

Lectrokit No telephone [FAST response!]
401 W. Bogart Rd.
Sandusky, OH 44870 (QRP Transceiver kits, P.C. boards etc.)

Mercury Systems (609) 596-3304
15 Lakeside Dr.
Marlton, NJ 08053 ARRL kits.

NOR-CAL QRP Club (916) 487-3580
c/o WA6GER @ KM6PX
3241 Eastwood Rd., QRPp magazine, NOR-CAL40, Sierra kit
Sacramento, CA 95821 Other nifty QRP kits & projects

North Country Radio (518) 854-9280
PO Box 53, Wykagyl Station,
New Rochelle, NY 10804-0053 ATV kits.
>>> Continued to next message
---

185. Re: 1296 Mhz hybrid power combiner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 13:18:57 UTC
From: zlau@arrl.org
Message-ID: <1995Jan17.131857.26754@arrl.org>
Source record: 114736

Greg Sharp (gsharp@primenet.com) wrote:
: Where can one find technical literature on buiding hybrid power combiners
: (particularly for 1296)? I have many microwave design handbooks, but nothing
: on **practical** designs for this frequency.

The April 1991 issue of QST has a combiner that has been tested at the 800
watt level.

A Simple and Inexpensive 23/24-Centimeter Signal Combiner p. 28 to...
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

186. Re: CAVE RADIO

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 13:31:31 UTC
From: Alan Cutter <AlanCutter@hp8005.hp.com>
Message-ID: <3fggrj$rf4@hpwin055.uksr.hp.com>
Source record: 114737

uid@ornl.gov wrote:
>
> I AM A CAVER WHO IS CONSIDERATING A NEW PROJECT. I AM CONSIDERING BUILDING A
> THROUGH THE GROUND SSB RADIO ON SOME FREQUENCY BETWEEN 32 KHZ UP TO 100 KHZ
> USING A MAGNETIC LOOP ANTENNA.
>
> PART OF MY CONSIDERATIONS IS USING THIS UNIT FOR COMMUNICATIONS AS WELL AS
> RADIO LOCATION WORK (IF POSSIBLE). ONE OF THE THINGS I WOULD LIKE TO ACHIEVE
> IS USING A LOWER FREQ (~ 32KHZ - BEST FOR PENETRATION) AND BUILD AS A
> VERY LIGHT WEIGHT PORTABLE UNIT (MAYBE BELT MOUNTED). I WOULD LIKE TO WIND MY
> MAGNETIC ANT ON ITS CASE TO BE USED AS A SELF CONTAIN UNIT FOR SHALLOW
> PENETRATION. (LARGER EXTERNAL LOOP ANT FOR LOCATION WORK AND GREATER
> PENETRATION).
>
> IN THE FEW PUBLICATIONS THAT ADDRESS THIS TYPE OF COMMUNICATIONS
> (SPELOELCTRONICS), THERE IS DISCUSSION ON BUILDING FERRITE LOOP STICK
> ANTENNAS. THE FERRITE ROD MAKES THE COIL APPEAR AS A LARGER LOOP. IN THE
> FORMULAS, PART OF THE CONSIDERATION IS LENGTH TO DIAMETER.
>
> WHAT I AM CONSIDERING IS WHETHER I COULD BUILD THE CASE (NON METALLIC) AND
> COVER THE OUTSIDE WITH A FERRITE SHEET MATERIAL (IF AVAILABLE) AND INCREASE
> THE EFFECTIVE PERFORMANCE OF ITS SELF CONTAINED ANTENNA. I HAVE NOT BEEN ABLE
> TO MAKE THIS DETERMINATION (NOT INTELLEGENT ENOUGH AT THIS TIME TO EXTRACT
> THIS INFORMATION OUT OF ENGINEERING MANUALS).
>
> AND SUGGESTIONS, FORMULAS, DATA MATERIAL, AND AVAILABLE OF FERRITE SHEET
> MATERIAL, WOULD BE APPRECIATED.
>
> DANNY BRITTON
> KB4TEP
> QB7@ORNL.GOV
>

187. GaAsFET Update

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 16:00:09 UTC
From: reichert@rtsg.mot.com
Message-ID: <3fgpi9$kaq@delphinium.cig.mot.com>
Source record: 114738

This is the lastest from CEL on the 3sk124 and 3sk205
Dual Gate GaAsFET devices per Steve Pavlich.

The 3sk124 and 3sk205 are now offered in Surface Mount
only. The respective part numbers are NE25139 and
NE25339. The leaded version has been discontinued!

Although there is a $50 dollar min. order Steve "may"
sample some. I make no promises for CEL but it can't
hurt to ask. Normal pricing (qty 100) is 80 cents each
for the 3sk124 and about double that for the 3sk205.

The low cost single unit pricing is no longer in effect.

Oh well, there's another good deal down the drain!

CEL Rep: Steve Pavlich @708-241-3040
6823 Hopson Valley Rd.
Woodridge, IL. 60517

Disclaimer: I have no connection with CEL other than
a user of their devices in my own Ham Radio circuits.
--

\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==
| KD9JQ ex KA7IXS,WA8NBD 708-632-6669 Work |
| Charles H. Reichert 708-358-3827 HOME |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==

188. Re: Make a mobile antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 16:38:27 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan17.163827.13648@ke4zv.atl.ga.us>
Source record: 114739
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <3fekki$hil@floyd.santarosa.edu> jthompso@nermal.santarosa.edu (John Thompson) writes:
>Allright I sucessfully made a base dipole antenna thanks to input from this
>group and others. Now I want to make a mobile antenna for my radio for my
>car. I have not seen an discussion on this so I am wondering if it is
>possible. If you know how please let me know! E-mail me or post here.

Lets see, as I recall you're interested in a CB antenna. The major problems with mobile antennas are structural, and especially so for CB, and HF antennas in general. A quarterwave CB whip is 108 inches tall. That requires a strong connection to the auto body, and a strong and flexible whip to survive windloading at speed, and to survive hitting low hanging limbs and parking decks. While it's possible to fabricate your own base mount, they're so cheap that it's better just to buy a bumper or body mount ready made. The whip should be stainless steel for the required strength and flexibility. Efficiency will be improved if the whip is copper plated. Again, it's easier just to buy a ready made whip.

Magnet mounts aren't suitable at CB frequencies since they don't offer a low enough capacitive reactance at those frequencies to couple to the current mirror in the body. Shortened coil loaded antennas give up some efficiency compared to a full size whip, but will do tolerably well if mounted high on the vehicle with a good through hole mounting that gives good current mirror coupling. Shortened antennas have a low radiation resistance so it's vital that all other losses be minimized for best efficiency. Good connections and good cables are essential.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

189. Bandpass/reject Duplexer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 18:44:09 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <3fh35p$c59@bcrkh13.bnr.ca>
Source record: 114740

Are there any homebrew plans out there to build bandpass/reject duplexers
for 2 meters (600 khz splits) ? Any info would be great ..

--
==========

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 991-4769 email: cnc23a@bnr.ca Ham: N4ZBB Packet: n4zbb@n1gmv.nc
DX PacketCluster (tm) Node : W4DW

All opinions are my own and do not necessarily reflect the views of
my employer or co-workers, family, friends, congress, or president.

190. video transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 18:58:45 UTC
From: Jfern@Microserve.com
Message-ID: <95011768325@microserve.com>
Source record: 114745

anyone with plans for a short range wireless video transmitter (no sound required) If so please respond by e-mail

--jfern

"Imagination is more important than Knowledge" --A.Einstein

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191. Re: Bandpass/reject Duplexer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 21:10:31 UTC
From: galen@picea.CFNR.ColoState.EDU
Message-ID: <3fhbo7$180n@yuma.ACNS.ColoState.EDU>
Source record: 114741

In <3fh35p$c59@bcrkh13.bnr.ca> cnc23a@b4pph13e.bnr.ca (Ken Edwards) writes:
>Are there any homebrew plans out there to build bandpass/reject duplexers
>for 2 meters (600 khz splits) ? Any info would be great ..

ARRL Antenna Book, 16th or 17th ed. Drawings, measurments, tuning info...
I'm not sure as to precise page numbers, but it's in the Repeater Systems
chapter.
Galen, KF0YJ

192. Re: Series Resistance?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 22:33:35 UTC
From: tomb@lsid.hp.com
Message-ID: <D2KMnz.2LI@hpcvsnz.cv.hp.com>
Source record: 114742

Scott Townley (nx7u@primenet.com) wrote:
: In article <1732313883S85.KLINEDA@UNIVSCVM.CSD.SCAROLINA.EDU>
klineda@univscvm.csd.scarolina.edu writes:
: >From: klineda@univscvm.csd.scarolina.edu
: >Subject: Series Resistance?
: >Date: Wed, 11 Jan 95 22:13:23 EST

: >Hello!
: >
: >I am writing a program that will calculate the Q's of various coils at
: >different frequencies. However, when I calculate the AC resistance of the
: >coil (by hand and by computer) I get a value that is less than the DC
: >resistance that is based just on the wire length. The formula I'm using is:
: >
: >83.2*(sqrt(f))/d where d=wire-diameter and f=frequency (This is as given
: >in Terman's)
: >
: >I notice in other books, and Terman's also, that the formula for Q is:
: >
: >(2*pi*f*L)/R_series.
: >
: >Apparently R_series is not the DC resistance of the coil.
: >My AC resistance is coming out less than the DC resistance.
: >Can anyone tell me what's going on here?
: >Just what is R_series?
: >

: If your Terman is like mine, the number he has you calculate for AC resistance
: is a multiplicative factor (I can't remember exactly which one you multiply by
: what). So I'd re-read the section and make sure you're applying the equation
: correctly. It *doesn't* directly calculate the AC resistance by my
: recollection.

The original posting didn't make it through to here yet, but I gather this
quotes all of it anyway...

The first equation will be quite accurate so long as the wire diameter is
more than a few times the skin depth. But clearly, the resistance does not
go to zero as the frequency goes to zero, as this formula would suggest!
That's independent of whether it's complete or a multiplicative factor.
Also, you should put units on the formula: is d in inches, feet, mils,
microns, ...? What units does the 83.2 carry? The one I'm used to is
0.996*10^-6 ohm-inches/foot-sqrt(Hz) * sqrt(f)/D where D is wire diameter
and f is frequency -- in inches and Hz to make the units come out right.
That's all for copper wire; adjust by sqrt(specific resistance) for other

materials.

The second equation is correct, where R_series is the _effective_ series resistance. This won't be what you get from the first equation, which is for a straight, isolated wire. As someone else pointed out, the Q can be affected by things other than the copper resistance, though this would be a decent starting point. But the first formula won't even do a good job predicting this...

An example: 18 gauge wire, diameter = .040". Frequency 10MHz. Resistance about .079 ohms/foot. Assume a coil radius 1" length 2" 30 turns. Approximate inductance about 31 microhenries. Wire length about 189 inches or 15.7 feet. Resistance about 1.24 ohms, according to first formula. Expect Q to be _about_ 1950/1.24 = 1572 from this. This is far from what the real Q will be! See "Reference Data for Engineers" (Howard Sams) in the "Fundamentals of Networks" chapter; there is a reasonable estimation of coil Q for practical single-layer solenoid coils as used at high frequencies. It would predict Q about 600 for this (isolated) coil. Even that seems a bit high. (If anyone is interested, I reduced the graph in the book to a formula you can use in a program or spreadsheet...)

73, K7ITM

193. Re: QRP mailing list

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-17 23:34:07 UTC
From: jgrubs@voxbox.norden1.com
Message-ID: <kBJ4yc2w165w@voxbox.norden1.com>
Source record: 114743

```
-----BEGIN PGP SIGNED MESSAGE-----

In article: <3f7k9d$57i@crl.crl.com> hbs@crl.com (Henry B. Smith)
> writes:
> >
> > J M Saunders (Sandy@staedt.demon.co.uk) wrote:
> > : Would some-one please email me the address to send to to get onto the
> > : QRP mailing list?

While we're on the subjeect, what's the address for the ham-l list?

-----BEGIN PGP SIGNATURE-----
Version: 2.6.2

iQCVAwUBLxxUUd74r4kaz3mVAQEahAP8Dr9hAAzHpfydxJlGyG+NvGK4hIwvVHOw
ggdw1YqgTcl9bl4QlFqnI2cZ/c0nWPTCQ9pJ16VcYCmUQsBkMjIKqLM88Re8biby
0cU5IKvZONyLZxfN+Q7N5YmRSQbggsrzxoTrDffek17v9XuE1KR1XliVQk18rFcW
hBj0WAlmp2M=
=1mJV
-----END PGP SIGNATURE-----
```

194. Solid State replacements for tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 02:11:44 UTC
From: johnsorj@aol.com
Message-ID: <3fhtd0$nq0@newsbf02.news.aol.com>
Source record: 114744

Hi
Does anyone have experience in replacing tubes in older test equipment
with solid state replacements? I have a number of older HP boxes (140
series scopes) and I would like to build up solid state replacements
for the harder-to-find tubes
Ray KC0BL/3

195. WVARA presents amateur radio home page

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 05:32:47 UTC
From: "Travis A. Wise" <twise@sparta.sjsu.edu>
Message-ID: <Pine.SUN.3.90.950117212940.23245B-100000@jobe.shell.portal.com>
Source record: 114746
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.ham-radio,rec.ham-radio.swap

PRESS RELEASE

JANUARY 17, 1995

WVARA ANNOUNCES WEB PAGE

The West Valley Amateur Radio Association (WVARA) is announcing the development of it's own home page. WVARA joins the ranks of many other amateur radio clubs in having a home page with links to other points of interest to other hams. This includes links to other clubs, the FCC gopher server, all of the amateur radio related UseNet groups and other Web points of interest to hams.

The WVARA home page is run in conjunction with a law-oriented home page, providing links to most legal-related web points of interest.

The WVARA home page can be visited at:
http://www.portal.com/~twise/

For more information, e-mail twise@sparta.sjsu.edu

Travis A. Wise
President, WVARA

196. Kit manufacturers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 12:20:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.152.546@ve6mgs.ampr.ab.ca>
Source record: 114747
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.info

There are companies offering all kinds of kits and plans
to help you build up a working HF, VHF, UHF, PACKET, ATV
rig of all kinds: CW, SSB, AM, FM, QRP, QRO, Amplifiers,
accessories, etc.

I have NO commercial interest whatsoever in bringing you this
information. I simply hope that it will enhance your enjoyment of the
hobby. Write or call these folks for a catalog or list of their kits:

"624 Kits" (803) 579-6262 day / 583-1304 eve.
171 Springlake Drive
Spartanburg, SC 29302 (QRP kits & accessories)

A & A Engineering (714) 952-2114
2521 W. La Palma #K Stas Andrzejewski, W6UCM (Keyer,
Anaheim, CA 92801 Battery charger, SELCALL, freq synth kits etc.)

C & S sales inc (800) 292-7711
1245 Rosewood ave
Deerfield Il 60015 Test gear, kits, $35 rcvr for 2m/6m etc.

Circuit Board Specialists June 1993 Mailed returned, no forwarding address
P.O. Box 969
Pueblo, CO 81002 (Various kits & projects, P.C. boards)

Circuit Specialists Inc. (800) 528-1417
Box 3047
Scottsdale, AZ 85271 Electronic components incl. RF parts

Communication Concepts Inc. (513) 426-8600 or (513) 220-9677
508 Millstone Drive (513) 429-3811 = FAX
Xenia, OH 45385 (HF linear amp kits etc.)

CQ RADIO KITS (416) 775-9119
Box 1546
Bradford, ONTARIO
Canada L3Z 2B8 QRP xcvrs, rcvrs, keys etc.

Crystal set society (314) 725-1172
P.O. Box 3026
St. Louis, MO 63130 Handbook, projects, formulas

Cy-ance Kit, (501) 839-8293
14786 Slate Gap Road
West Fork, AR 72774 80 different kits

Dan's Small Parts And Kits (Formerly KA7QJY Components)
1935 S. 3rd W. #1
Missoula MT 59801
1-406-543-2872 SASE for a current list of parts. RF parts,
(801) 563-5173 (Danny Stevig)

DWM Enterprises (No number listed)
1709 N. West Avenue #103
Jackson, MI 49202 (Mobile SW converter & simple QRP plans)

DX Radio Supply (610) 273-7823
Box 360 Call or write for catalog
Wagontown, PA 19376 Kit retailer. Ramsey, etc.

Electrogadgets Inc.
P.O. Box 2065
Morris Township, NJ 07962 Digital voice recorder kits $20.00

Electronic Goldmine (602) 451-7454
P.O. Box 5408
Scottsdale, AZ 85261 Kits, parts etc.

Electronic Rainbow (317) 291-7262 / -7269 = FAX
6254 LaPas Trail
Indianapolis, IN 46268 Various electronics kits

Elktronics Northeast Co. (603) 525-4001
Rt. 1 Box 789
Hancock, NH 03449 VFO kit, RF amp, filters etc.)

Hambrew Magazine 1-800-5-HAM-RIG
c/o George De Grazio, WF0K
P.O. Box 260083 Quarterly Magazine for builders $10/year
Lakewood, CO 80226 HF, QRP, VHF, XMTRS, RCVRS, QRO, ANTENNAS

Hamtronics, Inc. (716) 392-9430 / - 9420 = FAX
65 Moul Road 10m, 6m, 4m, 2m, 220
Hilton, NY 14468-9535 Receiver kits, receivers, converters

C.M. Howes Communications (44) 327-60178
Eydon, Daventry,
Northants NN11 6PT
England QRP transmitters, receivers, misc. Also
sold by Townsend Electronics in the U.S.

Idiom Press (No phone given)
Box 1025
Geyserville, CA 95441 Computer controlled keyer kit

J Comm (716) 924-0422
793 Canning Parkway FAX (716) 924-4555
Victor, NY 14564 (QRP HT rigs for 80 - 6m, $350.00)
Computer interfaces etc.

Kanga US (N8ET) (419) 423-5643
3521 Spring Lake Drive Biggest & best catalog of QRP kits!
Findlay, OH 45840 QRP kits, projects etc.

KD4YBC No phone number given
197 Chickasaw Lane
Myrtle Beach, SC 29577 HF linear amplifier kits, 14V DC

KD4YBC No phone number given
197 Chicasaw Lane
Myrtle Beach, SC 29577 H.F. amplifier kits

Lake Electronics (44) 0602-382509 (Alan G4DVW)
7 Middleton Close
Nuthall
Nottingham NG16 1BX
England QRP kits, receivers, accessories etc.

Lectrokit No telephone [FAST response!]
401 W. Bogart Rd.
Sandusky, OH 44870 (QRP Transceiver kits, P.C. boards etc.)

Mercury Systems (609) 596-3304
15 Lakeside Dr.
Marlton, NJ 08053 ARRL kits.

NOR-CAL QRP Club (916) 487-3580
c/o WA6GER @ KM6PX
3241 Eastwood Rd., QRPp magazine, NOR-CAL40, Sierra kit
Sacramento, CA 95821 Other nifty QRP kits & projects

North Country Radio (518) 854-9280
PO Box 53, Wykagyl Station,
New Rochelle, NY 10804-0053 ATV kits.

Novatech Instruments Inc. (206) 328-6902
1530 Eastlake Avenue East (206) 328-6904 = FAX
Seattle, WA 98102 Direct DIgital Synthesizer kit 2Hz-12MHz

Oak Hills Research (800) 842-3748 / (616) 796-1460 = Orders
Dick Witzke KE8KL (616) 796-0920 = Tech info.
20879 Madison Street (616) 796-6633 = FAX
Big Rapids, MI 49307 (20 & 40M CW QRP transceivers etc.)

Oatley ELectronics No phone number given
5 Landsdowne Parade
Oatley, Sydney,
New South Wales 2223
Australia Kits, parts, etc.

Pan-Com International (No phone listed)
Box 130
Paradise, CA 95967 Send $1 for catalog of 350 kits etc.

Penntek Electronics (717) 248-2507
14 Peace Dr. Boards, kits etc. including
Lewistown, PA 17044 The Neophyte Receiver, QST Feb 1988

Pervisell Ltd, Call 0494 443033 or Fax 0494 448236.
8 Temple End,
High Wycombe,
Bucks. FAX & RTTY Decoder kit 17 Pounds, UK
HP13 5DR. England

R.J. Portugal Need phone number!
52 Susan Lane Programmable AF/RF
North Haven, CT 06473 Sinewave generator kit 0-10 MHz $65

R & R Associates (213) 474-1315
3106 Glendon Avenue
Los Angeles, CA 90034
[Richard Rathburn, KB6NQ] "I mainly sell pc boards from QST, Radio

R & R Associates (213) 474-1315
3106 Glendon Avenue
Los Angeles, CA 90034
[Richard Rathburn, KB6NQ] "I mainly sell pc boards from QST, Radio Electronics, etc., and a few of in-house design. I also sell IC's,etc." Send a SASE every now and then for his most recent flyer & also has boards for some Motorola Application Notes.

Radio Devices (508) 480-0502
(Bob Levine KD1GG) Gel Cells, antennas
32 Queens View Road Hamcall CD-ROMs, Ramsey kits etc
Marlboro, MA 01752 checks/MO only, no credit cards.

Radiokit (603) 635-2235 FAX: (603) 635-2943
P.O. Box 973
169 Jeremy Hill Road RF components, variable caps, coils
Pelham, NH 03076 $1 catalog

Ramsey Electronics (716) 924-4560
793 Canning Parkway FAX: (716) 924-4555
Victor, NY 14564 (RCVR & QRP transmitter, keyer kits etc.)

Ryan Communications (412) 368-3859
BOX 111E
Camelot Road (QRP CW transmitter, ready made,)
Portersville, PA 16051 (and transmitter kits, crystals)

SCS No phone number given
P.O. Box 680
New Hartford, CT 06057 Morse keyboard kits

S & S Engineering (301) 416-0661
14102 Brown Road (301) 416-0963 = FAX
Smithsburg, MD 21783 ($270 ARK-4 CW transceiver kit etc.)

Small Wonder Labs (203) 667-3536
Dave Benson, NN1G
80 East Robbins Avenue
Newington, CT 06111 QRP transceiver kits for about $50

Sunset Electronics (No number listed)
12145 Alta Carmel Ct. Suite #250-139
San Diego, CA 92128 ("Build your own ham radio")

T.A.P.R. Inc. (817) 383-0000
8987-309 E. TANQUE VERDE Rd. # 337
Tucson, AZ 85749 TNC kits for packet radio etc.

Technologic Concepts No phone number given
1803 Mission Street #308 Internet: tlcdhconsult@delphi.com
Santa Cruz, CA 95060 Ramsey FX & Icom 22S conversion kits

Techsonic (610) 834-1978
1642 Butler Pike, Suite 127B
Conshohocken, PA 19428 QRP / QRPp transmitter kits 40,30,20m

Tejas RF Technology (713) 879-9300
P.O.Box 720331 FAX: (713) 879-9494
Houston TX 77272-0331 Tejas Backpacker-II QRP kit etc.

Ten-Tec (615) 453-7172 (800) 833-7373
1185 Dolly Parton Parkway FAX = (615) 428-4483
Sevierville, TN 37862 Great kits, accessories etc.
Internet: 74130.212@compuserve.com Eric Guinn or Gary Barber
$15.00 minimum

Tiare Publications (414) 248-4845
P.O. Box 493W
Lake Geneva, WI 53147 (Books on QRP etc.)

Townsend Electronics Inc. (219) 594-3661
Box 415 S (219) 594-5580
Pierceton, IN 46562 (Howes HF Kits from England)

W1FB
Box 250
Luther, MI 49656 QRP CW transmitter kits

Xandi Electronics (800) 336-7389
P.O. Box 25647
Tempe, AZ 85285 Kits, parts etc.

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no changes.

Brian Carling, AF4K
brian.carling@acenet.com
AF4K @ W3INK

197. Crystal Radio Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 14:12:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.183.546@acenet.com>
Source record: 114748

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

JT> I see that Crystal Radio Kits are getting some play here. I bought one
JT>last fall from American Scientific & Surplus, Skokie, IL for $10.00 and
JT>it works well. Kind of a nostalgic thing as I used to make them from
JT>scraps out of my Dad's TV & Radio Repair Shop.
JT> Joe
JT> N4NAS Glasgow, KY

Hello Joe! Do you have the address or phone number for that company?
BTW - I THINK I used to work you on 2m FM a few times about 10-12 years
ago if I'm not mistaken. I lived in Nashville, TN, and travelled up into
central/Western KY a lot. Do you know Owen Frisbee from over by Land
Between the Lakes? Iforget his call, and lost touch with him and a bunch
of the guys over there between Paducah and your area.

73 de AF4K ex-G3XLQ now living in Gaithersburg, MD
brian.carling@acenet.com
---

198. pros and cons of coil squeezing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 14:25:06 UTC
From: ptaber@xis.xerox.COM
Message-ID: <9501181025.A16697@xis.xerox.com>
Source record: 114749

Hi --

I built a Ten-Tec 6M transverter, and love it, but have a question. At the end of the manual, after aligning the TX section it says you can play around with squeezing or pulling the coils to get some extra output over the rated 8 watts. I did and got a screaming 12 watts out, but wonder what I'm paying in return? Is the price just higher current consumption, or could might there be unwanted output products? (spurs, harmonics and the like.) Naturally, I would expect products that were there at eight watts to scale up with 12 watts, but would/could there be new Bad Things? Could the ones that were there before be enhanced more than scaled? This was my first project that actually put RF on the air, so I've never looked into this before.

What say you?

>>>==>PStJTT

199. QEX--any good

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 15:28:25 UTC
From: jangus@skyld.grendel.com
Message-ID: <790442905snx@skyld.grendel.com>
Source record: 114750

In article <3fhk6e$blt@apakabar.cc.columbia.edu> jbaltz@watsun.cc.columbia.edu writes:

> Is there anyone out there willing to share his or her opinion with me over
> whether or not QEX is worth the $12/year to subscribe to?

If you're too cheap to spring for the $12 per year, you're certainly not
going to want to buy any of the parts required to build any of the projects.

--
"1935 will go down in history. For the first time, a civilized nation has
full gun registration. Our streets will be safer, our police more efficient,
and the world will follow our lead into the future." - Adolf Hitler

Amateur: WA6FWI@WA6FWI.#SOCA.CA.USA.NOAM Internet: jangus@skyld.grendel.com
US Mail: PO Box 4425 Carson, CA 90749 Phone: 1 (310) 324-6080

200. Re: FM broadcast receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 16:11:06 UTC
From: mack@mails.imed.COM
Message-ID: <9500187904.AA790453664@mails.imed.com>
Source record: 114751

I have copied John's post below (I'm too lazy to put in the '>' in front of every line)

Stagger tuning refers to the method of tuning the entire IF chain to get a fairly flat response about 150 KHz wide. The Q of the IF transformers at 10.7 MHz was fairly large so that they could get steep skirts, but they needed to offset the center frequency of each tuned circuit to be able to also get the bandwidth desired. TV sets had an even tougher time getting a flat response of 5 MHz wide at 45 MHz IF. Now they just use ceramic filters in FM sets.

As to the use of 6AU6 tubes, these tubes were common in FM sets because of the narrow gain characteristics. They did not have much in the way of AGC capability. Most FM receivers used a 6CB6 somewhere as the limiter.

I am not aware of ANY tube being used as quadrature detector (and I worked with a lot of old tube type FM receivers). A quadrature detector requires a lot of active devices and a balanced mixer. This was VERY difficult to do with tubes. I suspect that what the 6BN6 drives was instead a ratio detector which was considerably more tolerant of AM on the signal than a Foster-Sealy discriminator. However, the 6BN6 is listed as a "gated beam pentode". This may indicate that it might have been used in some type of a pulse conversion type of detector.

A quadrature detector is used primarily because it requires only one tuned circuit to work and requires basically NO tuning to work properly. A ratio detector or discriminator is very sensitive to circuit Q and to the tuning of the two tuned circuits.

You should be able to order a crystal from International Crystal (ICL) for this radio. Once you get the service information for it, it should have the necessary information to order the crystal. Don't worry about drift. There is probably a variable capacitor used to set the crystal on frequency. These radios were so tolerant of frequency drift that a crystal should not have any problem staying on frequency even though it will drift slightly with frequency.

You probably want to order a crystal 10.7 MHZ ABOVE the frequency you want to receive. ALL FM radios that I am aware of are designed to have the local oscillator above the frequency being received. Of course, this is mostly so that the span (as a percentage of the lowest frequency) is smaller. i.e. 77.3 MHz to 97.3MHz is a 26% change in frequency where 98.7 MHz to 118.7 MHZ is only a 20% change and easier to make work properly (at least back then). The other concern is where to put the image frequency. Back then you were more likely to get interference from a TV station than from a mobile radio.

****

John (From: CC015012@brownvm.brown.edu (john 015)) wrote:

Hi,

I posted a few days ago, seeking advice regarding an FM tuner and what written material I should consult to learn more about this fascinating topic. I'm still waiting for a schematic for the Fisher tube tuner but in my eagerness I have looked at the circuit and consulted all the books available to me locally.

The broadcast wide FM-IF stip consists of four 6AU6/EF96 tubes I think. "Think" because according to the book I read no limiter(s) is needed when you use the 6BN6 tube for detection. But "think" also because muting, squelch and such things might be one of these tubes.

Apparently the 6BN6 tube is a quadrature FM detector and the frequency modulated signal need not be of constant amplitude ("limited") for this type of detection to work - it's quite (totally ?) insensitive to amplitude variations in the frequency modulated signal coming down the IF strip.

Last time I posted I was told that the detection in old tube tuners could stand some improvement. Knowing what I know now, is the quadrature detector a sigificant step in the right direction or am I still far behind say "pulse counting detection schemes" ?

My second question relates to what was called a "staggered tuned" IF strip. I have not come accross the term staggered tuning before so I wonder if a kind sould would explain the basic concept and why it was chosen in the tube amplified IF strip of the early sixties ?

Lastly, say I want to concentrate on receiving only one station. (The tuner in question is the Fisher FM-1000 and it has a compartment for a xtall tuned RF stage. I understand broadcast engineers would want this to monitor their own stations).
I want to receive 102.5 so I looked for crystalls in 10.7 MHz down from that, 91.8 MHz, but no such luck. What would be the best way to generate locally a fixed frequency and maybe still have it adjustable to compensate for drift ?

Thanks again,
john

201. Re: Is QEX any good

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 16:12:55 UTC
From: mack@mails.imed.COM
Message-ID: <9500187904.AA790453670@mails.imed.com>
Source record: 114752

In my opinion you should call them immediately. If you are TECHNICALLY oriented
you cannot live without this publication!

Ray Mack
WD5IFS
mack@mails.imed.com

202. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 16:26:42 UTC
From: mack@mails.imed.COM
Message-ID: <9500187904.AA790454557@mails.imed.com>
Source record: 114753

klineda@univscvm.csd.scarolina.edu wrote:

:I am writing a program that will calculate the Q's of various coils at
:different frequencies. However, when I calculate the AC resistance of the
:coil (by hand and by computer) I get a value that is less than the DC
:resistance that is based just on the wire length. The formula I'm using is:

:83.2*(sqrt(f))/d where d=wire-diameter and f=frequency (This is as given
:in Terman's)

:I notice in other books, and Terman's also, that the formula for Q is:

:(2*pi*f*L)/R_series.

:Apparently R_series is not the DC resistance of the coil.
:My AC resistance is coming out less than the DC resistance.
:Can anyone tell me what's going on here?
:Just what is R_series?

R_series MUST be at least as large as the DC resistance of the coil. A common error in applying formulas is getting the units wrong. Using cm instead of mm or cm instead of inches etc. will cause the answers to be wrong. (I wrote a program for Cohn filters that consistently gave negative capacitance values until I realized that F was in MHz not Hz). The problem with the formula above, as noted by another person, is that it only accounts for AC effects on resistance. You probably should add the DC resistance to the AC resistance calculated from the formula above. If you read the text again carefully, you will probably find that this is what is being described.

One of the problems you will have in accurately calculating the Q of coils at higher frequencies involves the effects of mutual capacitance. As the frequency increases a coil can in fact change from having inductance to looking more like a lossy capacitor. This REALLY messes up the calculations.

Ray Mack
WD5IFS
mack@mails.imed.com

203. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 16:31:26 UTC
From: mack@mails.imed.COM
Message-ID: <9500187904.AA790454849@mails.imed.com>
Source record: 114754

Date: 16 Jan 1995 06:46:25 -0800
From: dmiller@crl.com (Donald J. Miller)
Subject: TUNER/I.F.

Brian Carling (brian.carling@acenet.com) wrote:

: Hello everyone. Can you help me identify this little box, OR the parts
: inside it?

: The case is about 2.5" X 1.5" X 0.5"

: "AUDIO, VIDEO, +12V and GROUND"

>This is likely a TV modulator. You put in audio and video, and get out a
>channel 3 or 4 modulated TV carrier. Sometimes these units will have a
>small switch that will let you select between chan 3 and 4.

Nothing "likely" about it! This is a computer type TV modulator. What tips you
off that this is a computer type modulator is that it uses an RCA connector for
the output instead of an F connector. Given the 221-??? part number I'd bet
that this is a Radio Shack part.

Ray Mack
WD5IFS
mack@mails.imed.com

204. Cave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 21:59:00 UTC
From: joe.taylor@woodybbs.com
Message-ID: <93.4533.7584.0NFB8D2A@woodybbs.com>
Source record: 114755

Hi Danny Britton
from Joe Taylor N4NAS

A couple of years ago a professor from IU Bloomington IN came down to the Mammoth Cave Amateur Radio Club, Inc. (Glasgow, KY) and gave a program on Cave Radio. He had the LF loops and receivers and showed us how they worked, gave some of the theory and presented a video. This fellow sounds like a guy that you might wish to talk with!!!

He is: W9MKV Frank S. Reid
POB 5283
Bloomington, IN 47402

This info is from 1994 SAM CALLBOOK.

Good luck from Mammoth Cave Region of South Central Kentucky

• BgNet 1.0•12 • 049/000: Pipeline BBS - Glasgow, Ky - 502-651-2556

205. TALENT SEARCH 2000

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 23:04:21 UTC
From: jsb@interaccess.com
Message-ID: <jsb.169.0448F984@interaccess.com>
Source record: 114756

$Show your talent on TV world-wide on the TALENT SEARCH 2000 Telvision Show. Everyone is accepted, no one is rejected. Cash prizes awarded quarterly. For only $50.00, your talent will be aired internationally on major TV NETWORKS. Here's how:

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jsb@pop.interaccess.com
jodyw@pop.interaccess.com

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TALENT SEARCH 2000, INC.
P.O. BOX 8027
CHICAGO, IL 60643-8027

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P.O. Box 8027
Chicago, IL 60406

==========
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HOME PHONE: _____ BEST TIME TO CALL: _____

METHOD OF PAYMENT: VISA____ MC_____ AM EXP_____ DISC_____

CARD NUMBER: _____ EXPIRATION DATE: _____

VHS TAPE AVAILABLE? YES____ NO_____

Send completed apps to:
jsb@pop.interaccess.com

206. Re: Down East Microwave stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-18 23:49:30 UTC
From: jdevenport@lanl.gov
Message-ID: <3fk9ea$do1@newshost.lanl.gov>
Source record: 114644

In article <3fi279$6bp@charm.magnus.acs.ohio-state.edu>,
sbertsch@magnus.acs.ohio-state.edu (Steve Bertsch) says:
>
>Well, I'm about to order a 144->28 receive converter from hamtronics. When
>I finish that, I'll get their transmit converter. But, before I do, I'd
>like to hear from anyone who knows anything about what Down East has to
>offer -
<snip>
I've never bought or built any Down East stuff but I'm very happy with
the Hamtronics stuff I've bought and built over the years.
When I built my 2M/10M transverter, I ordered the Hamtronics tx converter
first, used the output of the LO with a 10 PF cap feeding a homebrew
receive converter (Rochester type RX converter from QST) and it's worked
fine over the years.... still have it though I rarely use it any more.
Jim WB5AOX

207. Re: QEX--any good

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 01:06:29 UTC
From: jbaltz@watsun.cc.columbia.edu
Message-ID: <3fkdul$le2@apakabar.cc.columbia.edu>
Source record: 114757

In article <790442905snx@skyld.grendel.com>,
Jeffrey D. Angus <jangus@skyld.grendel.com> wrote:
>In article <3fhk6e$blt@apakabar.cc.columbia.edu> jbaltz@watsun.cc.columbia.edu writes:
> > Is there anyone out there willing to share his or her opinion with me over
> > whether or not QEX is worth the $12/year to subscribe to?
> If you're too cheap to spring for the $12 per year, you're certainly not
> going to want to buy any of the parts required to build any of the projects.

Who said anything about me being cheap?

Some things aren't worth $12/year. I wanted to know if QEX were WORTH it
(having never seen a copy personally).

So far the responses have been overwhelming in support of QEX, so it looks
like ARRL will get $12 more from me this year.

> Amateur: WA6FWI@WA6FWI.#SOCA.CA.USA.NOAM Internet: jangus@skyld.grendel.com

//jbaltz
--
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

208. What the @#$! is this chi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 02:31:00 UTC
From: neal.griggs@rodent.raider.net
Message-ID: <1e5.1697.2724@rodent.raider.net>
Source record: 114639

WE#>�#FROM :weinfurtner#ouvaxa.cats.ohiou.edu
WE#>�#SUBJECT:What the ##$! is this chip?

WE@>After a recent trip to my local Junk Emporium, I came home with a
WE@>box labeled "converter" with the first word burnt off. It had 2
WE@>"F" connectors and a "N" connector. Inside was a 8 pin metal
WE@>can about the size of a TTL chip, although about 3/8th of an

Interesting find....wish my local junk emporium had such finds. (G)

WE@>inch high. Markings on the outside : MCL SC-90 Is this a uhf

MCL = Mini Circuits, P.O. Box 350166, Brooklyn, NY 11235-0003
(718) 934-4500, Fax (718) 332-4661

As for the SC-90, looks to be a Splitter/Combiner although the latest
catalog I have doesn't list an "SC" by itself. Usually the number gives
the highest frequency the device will operate at. There are several
power combiners listed with a 90 as the suffix: SCPQ-90, 55-90 mhz,
surface mount; PSCQ-2-90 (the package you describe), 55-90 mhz, 8 pin
can. Note that the surface mount unit has a maximum power rating of .5
watts where the "dip can" is 50 mW. Both units are 50 ohm impedance,
2 way - 90 degree.

WE@>mixer? The PCB was etched with UHF style tracks. Oh yes, the
WE@>one pin is insulated with a blue color while the others are lime
WE@>green. Any guesses on this one? 73 de NS8O Greg

My guess is that the SC-90 was changed to the PSCQ-2-90. You can
contact Mini Circuits to be sure. The blue pin denotes pin one.
Suggested price is $24.95 in quantities of 1-9. They also make a large
selection of other devices from amplifiers to diode mixers to
directional couplers. Hope this helps...

73 de KC4YCM

� SLMR 2.1a #6969 � Real radios "glow" in the dark!

209. PCB CAD

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 02:36:52 UTC
From: modeldon@ix.netcom.com
Message-ID: <3fkj84$cnj@ixnews2.ix.netcom.com>
Source record: 114758

How about some leads on free/shareware PCB program suitable for a high school electronics program. We have used PCBcad, a shareware package, but it doesn't support our HP Deskjet 500. Past classes have laid out gel cell chargers and nicad chargers for the local aircraft model r.c. club. Any help would be apprec.
Don KA5NSQ
--
Don Roberts |"He who dies with the most toys|
Jomard Hobbies |wins the game." |
Richmond, Texas |Mail: modeldon@ix.netcom.com |

210. Help on Repeater ID'er

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 04:18:34 UTC
From: kbain@aol.com
Message-ID: <3fkp6q$8bc@newsbf02.news.aol.com>
Source record: 114759

I need to know if anyone has seen instructions in any book or magazine that tells you how to build a simple CW ID'er. The application I wish to use it in is for a repeater I'm building up. It is a commercial repeater with an autopatch, but the controller only controls things such as time out funtions, and squelch tails. It never ID'ed, so I need to install a simple board to do this every 10 minutes when the repeater is in use. Any suggestions?
KBain @ aol.com
KB5VME

211. Communications and CB crystals for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 04:38:00 UTC
From: hirschj@vax2.concordia.ca
Message-ID: <18JAN199523383266@vax2.concordia.ca>
Source record: 114760

I am liquidating my collection of crystals. I have 48 scanner and communications crystals and 24 CB crystals (frequencies listed below). I'm asking for the scanner/communications crystals $25 for the lot plus postage or $1.00 each plus postage. For the CB crystals I'm asking $35 for the lot plus postage or $3.00 plus postage. Take both groups complete and I'm asking $50 plus postage. Will discuss offers, trades for unwanted scanner, etc. If interested, email me at HIRSCHJ@vax2.concordia.ca.

Frequency Quantity

39.320 1
151.055 1
152.750 1
153.860 2
154.190 1
154.250 1
154.430 1
154.905 1
155.010 1
155.160 1
155.370 2
155.400 1
155.640 1
155.730 1
155.880 1
156.300 8
156.800 8
162.400 1
162.550 1
173.640 2
270.000 1
412.870 1
413.087 2
435.262 2
435.362 1
460.125 1
460.225 1
460.325 1
463.825 1

CB Crystals

Channel Receive/T ransmit Quantity

9 R 2
9 T 2

```
13 T 4
13 R 4
16 R 1
16 T 1
30 R 1
30 T 1
31 R 1
31 T 1
35 T 2
35 R 2
36 T 1
36 R 1
```

212. Direct Digital Syntesizer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 10:23:53 UTC
From: gebruiker@vnet3.vub.ac.be
Message-ID: <3flejp$b1a@rc1.vub.ac.be>
Source record: 114761

Hallo,

I'm looking for information about direct digital synthesizers.
If you have any information in that subject:device numbres,scematics,
data sheets. Let me please now.

The only datasheets i have is from Analog devices, and i'm going to desing
a local oscillator for a Transceiver with that device.

If you're interested in those data sheets let me now.

Thanks Stijn.

213. Re: QRP newsgroup/mailer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 13:12:52 UTC
From: smiller@motown.ge.com
Message-ID: <3flogk$3db@cnn.MOTOWN.GE.COM>
Source record: 114762

Is there still a boatanchors list?

214. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 13:33:21 UTC
From: zlau@arrl.org
Message-ID: <1995Jan19.133321.26435@arrl.org>
Source record: 114618

Bill Schaff (schaff@iiiv.tn.cornell.edu) wrote:

: I disagree. A power MESFET (wide gate) is not a good choice for low
: noise operation compared to a low noise FET (much narrower gate).

: Noise Figure F (the Fukui equation):

: F=1+2*pi*K*f*Cgs*[(Rg+Rs)/gm]1/2 x 1E-3

: All other things being equal, a wider gate (characersitic of a power
: MESFET) will increase Cgs and Rg, thus increase the noise figure.

Experimental results indicate otherwise at 2 meters and 222 MHz. See typical VHF NF contests results or the 1990 Central States VHF proceedings. "Power GaAs FET Preamps" by Kent Britain, p. 6-8. Perhaps the equation doesn't account for the noise generated by placing a very large field across a crystal. This can be on the order of KV/cm, due to the very tiny gate widths.

Maybe you could arrange to have some preamps brought to the Central States VHF conference for a comparision. I can remember to bring my 0.2 dB NF 144 MHz preamp and the 222 MHz one that measures even lower! Both use the MGF 1801 power GaAs FET. I also bring them to the Eastern States Conference, but I'm usually the one tasked with making the official measurements.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

215. Re: Help on Repeater ID'er

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 14:20:21 UTC
From: besancon@rain.org
Message-ID: <3flsf5$9n4@news.rain.org>
Source record: 114763

In article <3fkp6q$8bc@newsbf02.news.aol.com>, kbain@aol.com (KBain) writes:

>I need to know if anyone has seen instructions in any book or magazine
>that tells you how to build a simple CW ID'er. The application I wish to
>use it in is for a repeater I'm building up. It is a commercial repeater
>with an autopatch, but the controller only controls things such as time
>out funtions, and squelch tails. It never ID'ed, so I need to install a
>simple board to do this every 10 minutes when the repeater is in use. Any
>suggestions?
>KBain @ aol.com
>KB5VME
There is an easy to make cw id'er in a Sams book titled " The 555 Timer
Applications Sourcebook" by Howard M Berlin. I've used that circuit several
times and it worked fb for me. I like it because it uses easy to obtain parts
and no prom/ eprom is necessary.

73, Fred (NT6T)

216. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 14:53:09 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan19.145309.21067@ke4zv.atl.ga.us>
Source record: 114764

In article <D29HsI.7oo@hpcvsnz.cv.hp.com> tomb@lsid.hp.com (Tom Bruhns) writes:
>Lance Lascari WS2B (lascal@vccnorth22.its.rpi.edu) wrote:
>: Why 1 dB? Have you measured the background noise level at
>: your site with your antenna system? Depends where you are... but... I
>: dunno... after doing some research recently (based on a hunch), I
>: found that Noise levels due to humans and "galactic" sources are very
>: significant below 200 mhz.
>
>With an inefficient antenna (car antenna, for example), or with a lossy
>transmission line from the antenna, it wouldn't be hard to get down to
>signals where 1dB amplifier noise figure would be worthwhile. With
>available cheap parts, why not go for it? At 100MHz, seems like you
>could even do it with silicon parts.

Once a lossy transmission line, or a poor antenna, degrades the SNR
of the system, no amount of amplification, even from a perfect preamp
with zero contributed noise, will recover that SNR. Hence the reason
we like to put the preamp right at the antenna.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

217. Re: pros and cons of coil squeezing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 14:56:24 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan19.145624.21151@ke4zv.atl.ga.us>
Source record: 114765

In article <9501181025.A16697@xis.xerox.com> ptaber@xis.xerox.COM (Pat Taber) writes:
> I built a Ten-Tec 6M transverter, and love it, but have a question. At
> the end of the manual, after aligning the TX section it says you can
> play around with squeezing or pulling the coils to get some extra
> output over the rated 8 watts. I did and got a screaming 12 watts out,
> but wonder what I'm paying in return? Is the price just higher current
> consumption, or could might there be unwanted output products? (spurs,
> harmonics and the like.) Naturally, I would expect products that were
> there at eight watts to scale up with 12 watts, but would/could there
> be new Bad Things? Could the ones that were there before be enhanced
> more than scaled? This was my first project that actually put RF on
> the air, so I've never looked into this before.
>
> What say you?

There certainly could be unwanted products produced by too heavily
loading the stage. Tuning for maximum smoke is generally a good way
to get spurs, harmonics, and IMD. A look at the output with a spectrum
analyzer is highly recomended.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

218. Re: Help on Repeater ID'er

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 15:08:32 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan19.150832.21282@ke4zv.atl.ga.us>
Source record: 114766

In article <3fkp6q$8bc@newsbf02.news.aol.com> kbain@aol.com (KBain) writes:
>I need to know if anyone has seen instructions in any book or magazine
>that tells you how to build a simple CW ID'er. The application I wish to
>use it in is for a repeater I'm building up. It is a commercial repeater
>with an autopatch, but the controller only controls things such as time
>out funtions, and squelch tails. It never ID'ed, so I need to install a
>simple board to do this every 10 minutes when the repeater is in use. Any
>suggestions?

These used to be popular in the days before single chip microprocessors.
Basically, a gated oscillator drives a counter which addresses either
a diode matrix or a EPROM which has the dots, dashes, and spaces for the
ID programmed into it. The diode matrix is bulky, and uses a ton of diodes,
burning a EPROM is better if you have access to a burner. Your gated
oscillator can be a 555, and it's oscillation frequency will be your
code speed control. The counter needs to be resettable, and you need
some glue logic to gate the count off after the ID finishes. You can
use another 555, gated by the EPROM output, to generate the MCW tone,
and yet another 555, or other timer chip, for the 10 minute timer.

Of course all this can be programmed into a single chip micro which
can also attend to the other repeater control chores. That's the
way things are generally done today. One of the little Stamp controllers
would be fine for just making an IDer. Digi-Key sells them for around
$20. Several of the larger distributors will burn your code into one
for a small charge.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

219. Re: What is a "7805"?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 20:53:45 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.790548825@melpar>
Source record: 114622

A 7805 is a three-pin, flat-pak voltage regulator, rated at 5 VDC regulated output at 1 amp. If you intend to run it at 1 amp, heat-sink it to the chassis or a sink. Input voltage can be up to (I think) 25 volts, but it is commonly used to provide 5 volts from a 12-volt supply. I'm pretty sure there are also 7809, 7812, etc. versions with the last two digits indicating the regulated output.

73 DE K4MSG

220. Re: Satellite Tracking

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-19 23:18:19 UTC
From: cmlong@mtu.edu
Message-ID: <3fmrvr$j90@techsrv1.tech>
Source record: 114767

To whom this may concern:

I am searching for the equations and variables need for accurately tracking
a satellite for use in communications. I have a program that does this but
would like to possibly create my own that will run on a different machine.

Any help would be much appreciated.

Thanks
Mike

email cmlong@mtu.edu

221. Re: QEX--any good

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 01:41:54 UTC
From: waf@sunfish.zk3.dec.com
Message-ID: <WAF.95Jan19204154@sunfish.zk3.dec.com>
Source record: 114632

Galen, KF0YJ writes:
> Considering that it's only $12/yr, I'd bet the ARRL actually loses money
> putting it out. I'd pay more if they wanted it.

I wonder how much it would cost them to include those few
pages in QST, especially considering that in those months when there
is no useful material for QEX they wouldn't feel obligated to create
something? I'd be willing to pay more for my membership, maybe as
much as $12/yr more, if such material were in QST. As it is I
sometimes feel that ARRL is paranoid that potential new hams will be
frightend off by any hint that there are technical aspects to the
hobby. I'd like to break down walls between the technical and
non-technical, rather than build up what seems to amount to an
arbitrary division. Or if we must be segragated I'd settle for
receiving QEX in place of QST with my membership, but that doesn't
seem to be an option.

73, Bill - KE1G
--
Bill Freeman, waf@zk3.dec.com, KE1G, PP-SMEL-IA(ME VFR only) N4365Z
USABDA, MassABDA (novice modern), NMRA, rounds, squares, bad jokes.
Telemarketing: Do more than just say no, write saying you seek other vendors.

222. Re: Help needed identifying tubes EL505, TY2-12

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 01:54:33 UTC
From: leblancm@gel.ulaval.ca
Message-ID: <3fn54p$fg2@goudron.gel.ulaval.ca>
Source record: 114626

Hi Malcolm,

I don't have my books on hand, but I remember that the 6BK4 is a high voltage triode used as a voltage regulator in the 2nd anode supply of colour television receivers. Unfortunately, I don't know about the other tubes.

Good luck.

Mario Le Blanc, VE2GTP

In article 3466029@ps-pc64.massey.ac.nz, PsyTech@massey.ac.nz writes:
> Hi,
> ......
> I also have a couple of very weird (at least to me) looking tubes
> Amperex 6BK4C/6EL4A, these have a tubular anode connected to the cap with
> no filament or other electrodes inside (from what I can see) and a strange
> ......
> Thanks for any info,
> Malcolm Loudon

223. Re: QRP newsgroup/mailer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 02:17:30 UTC
From: jeffrey@kahuna.tmc.edu
Message-ID: <D2oMD6.9rK@news.hawaii.edu>
Source record: 114636

In article <3flogk$3db@cnn.MOTOWN.GE.COM> smiller@motown.ge.com writes:
>Is there still a boatanchors list?

You bet! And it's now automated. Enclosed in the subscription info.

To those of you unfamiliar with mailing lists they work like news-
groups *except* every article goes into the readers'/subscribers' email
boxes, which can number in the hundreds. Thus, you'll want to keep the
content of your article within the charter of the list (and each list
is centered around a very narrow field of interest). For example,
you wouldn't want to post a note to Boatanchors regarding solid
state equipment, nor would you mention operating above 5W on the
QRP list; those would be considered junk mail to all the
subscribers. Once you subscribe to a list the first thing you'll
notice is that there are no flames, and no noise. Remember, what
you say goes into hundreds of email boxes at people's place of
business. Given enough complaints, the list owner can always
unsubscribe a source of noise.

Oh, keep the `unsubscribe' instructions handy; after awhile you
might tire of getting so many emails each day.

Jeff NH6IL

BOATANCHORS CHANGEOVER RELAY GOES "KER-CHUNK"!!!

Greetings and welcome to the new and improved (but still vintage)
"boatanchors" mailing list. An automated list manager should help things
run more smoothly for everyone while still providing the same
outstanding signal-to-noise ratio we have enjoyed since the list's
beginning.
Jack Hill W4PPT has agreed to provide a new home for the list, with the
blessings of Paul Prescott N1AAC who took over from Our Esteemed Founder
Jim Lockwood KM6NK.
NOTE - You need not re-subscribe or take any special action other than noting
the new addresses listed below. The subscription list was moved intact
from the old mit.edu site and you are already on it if you got this message.
Subscribers of the satellite list on boatanchors@beacons.cts.com will also be
moved to this new address.
The new mailing list address is now
boatanchors@ThePorch.com.
Use this now for messages of general interest to the entire group
Please don't use it to subscribe, change address, etc.
The new automated list manager address is

ListProc@ThePorch.com
Use this for subscribing, unsubscribing, getting archived info,
getting the FAQ message, changing your address, etc.
Now send a message to ListProc@ThePorch.com with just
HELP in the body to get info on how to do this.
The new list owner address is
ListOwn@jackatak.ThePorch.com
Use this address only when there is a problem which really
truly can't be resolved otherwise.
Now, yes right now, save this message so you'll have these addresses
handy. Whew, thanks - doesn't that feel better?
You will also soon receive a copy of the "Welcome" message that will be sent
to all new subscribers. It includes more useful info on things like the
purpose of the list, how to subscribe/unsubscribe, etc. It would be a
good idea if you save it along with this message for future reference
or to pass on to interested parties. Thanks.

224. Re: Help on Repeater ID'er

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 02:33:21 UTC
From: jeffrey@kahuna.tmc.edu
Message-ID: <D2on3L.ALA@news.hawaii.edu>
Source record: 114621

gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>In article <3fkp6q$8bc@newsbf02.news.aol.com> kbain@aol.com (KBain) writes:

>>I need to know if anyone has seen instructions in any book or magazine
>>that tells you how to build a simple CW ID'er. The application I wish to
>>use it in is for a repeater I'm building up. It is a commercial repeater
>>with an autopatch, but the controller only controls things such as time
>>out funtions, and squelch tails. It never ID'ed, so I need to install a
>>simple board to do this every 10 minutes when the repeater is in use. Any
>>suggestions?

>These used to be popular in the days before single chip microprocessors.
>Basically, a gated oscillator drives a counter which addresses either
>a diode matrix or a EPROM which has the dots, dashes, and spaces for the
>ID programmed into it. The diode matrix is bulky, and uses a ton of diodes,

Hamtronics makes such a kit for $59. It's field programmable with a
158 bit diode matrix. The wired/tested version is $139.

Hamtronics, Inc.
65 Moul Road
Hilton, NY 14468-9535
716-392-9430

Jeff NH6IL

225. 10m beacon plans, designs, or kits??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 06:04:20 UTC
From: DSDC50A@prodigy.com
Message-ID: <3fnjp4$vca@usenetp1.news.prodigy.com>
Source record: 114629

I was wondering if anyone has any designs or plans for a stable 5 - 10 watt CW beacon tx for 10 meters? Or does anyone know if the MFJ, Ten-Tec, or other makers will make up one? I see their adds for QRP CW txs but not for 10. Tnx for any info you can give. 73

Russ N5EJS

E-mail: n5ejs@pumabbs.com
Packet: n5ejs@kd5sl.#btr.la.usa.na
or here

226. Re: Make a mobile antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 06:16:03 UTC
From: markt@coho.halcyon.com
Message-ID: <3fnkf3$q4q@news.halcyon.com>
Source record: 114625
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <3fekki$hil@floyd.santarosa.edu>,
John Thompson <jthompso@nermal.santarosa.edu> wrote:
>Allright I sucessfully made a base dipole antenna thanks to input from this
>group and others. Now I want to make a mobile antenna for my radio for my
>car. I have not seen an discussion on this so I am wondering if it is
>possible. If you know how please let me know! E-mail me or post here.

I built a 15m mobile whip.. From a 4ft tall top loaded CB whip.
A friend gave me the whip, and I was planning on converting it to 10m by
just trimming a little of the wire at the top of the load.
But, I uncoiled about 3 turns off the coil and checked to find out where it
was close to being resonant.. I was shocked to find it nearly resonant on
12 meters.. Then I thought about the fact that the farther up the antenna
the load is, the more inductance you need. I had lowered it down the
antenna but not really affected the coil much, the coil was a tightly wound
22 gauge on about a 1/2 inch fiberglass rod about 8 inches tall.

So I figured, if 3 turns moved it from 11m to 12m, and I had been using the
antenna with about a 3:1 SWR on the lower end of 10M.. it had gone sky high
when I did that. I unwound 3 more turns and found it close to 15M.. I
then trimmed about 1/2 inch off the top and brought it resonant at about
21.300. There are a few problems, the wire is thin and the very top of it
burned off the insulation. And, it bends and moves around easy.. so my
resonant point is always changing.. I'm planning on using something a little
bigger and stronger to make the top stinger out of.. maybe some welding rod
and clamp it to the top with some stainless hose clamps..

I'm gonna be on the look for old 11M top loaded whips to make a 12M and a
17M whip next.

Its Important to use a top loaded whip.. they will have the largest coils
in them.. in this case, my 15M antenna was free.. I've worked JA and CM
on it.. it does pretty good for a 4.5 foot antenna. Althought, you can
probably get a stronger signal with a hamstick or something simalar.. I
was just cheap when I went this route. a hamstick is $20 bucks, so if
you have to pay more then that for your materials, dont. hehe

>
>Thanks,
>
>John Thompson
>**
>** John Thompson ** O O **
>** jthompso@nermal.santarosa.edu ** / \ **
>** \/\/\/\/\/\/\/\/\/\/\/\/\/\/\ ** \-----/ **

>**********
>

Mark Tapper
KJ7GK markt@halcyon.com

227. Re: Brew Pub Research Report

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 06:36:15 UTC
From: nx7u@primenet.com
Message-ID: <nx7u.40.00108C4E@primenet.com>
Source record: 114619

In article <sholmes-1801952304000001@192.0.2.1> sholmes@netrix.com (Stephen R Holmes) writes:
>From: sholmes@netrix.com (Stephen R Holmes)
>Subject: Re: Brew Pub Research Report
>Date: Thu, 19 Jan 1995 04:04:00 GMT

>In article <Srfanz71.18.0013038D@indirect.com>, Srfanz71@indirect.com
>(Franz Amussen) wrote:

>> If anyone is interested in a research report on the developing brew pub
>market
>> and industry then e mail me your address and phone number and I will send it
>> to you.
>>
>> It is very good.
>>
>> Franz Amussen

>ROTFL! A classic case of taking keyword searches too literally... I
>wonder if my solder joints will improve after a few "homebrews"?!

Maybe he was referring to a pair of 807's...

228. Re: Help on Repeater ID'er

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 07:45:21 UTC
From: pyro@li.net
Message-ID: <3fnpmh$uc@linet01.li.net>
Source record: 114623

KBain (kbain@aol.com) wrote:
: I need to know if anyone has seen instructions in any book or magazine
: that tells you how to build a simple CW ID'er. The application I wish to
: use it in is for a repeater I'm building up. It is a commercial repeater
: with an autopatch, but the controller only controls things such as time
: out funtions, and squelch tails. It never ID'ed, so I need to install a
: simple board to do this every 10 minutes when the repeater is in use. Any
: suggestions?
: KBain @ aol.com
: KB5VME
Take $50 bucks, go to Shack, buy the voice sampler chip ($20) and a 555
timer. Get pizza. Go home build voice ID.
73

229. Re: QEX--any good

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 08:19:00 UTC
From: niles.stacey@infoway.com
Message-ID: <9501220043032868@infoway.com>
Source record: 114620

GW>Path: miwok!news.zeitgeist.net!ico.net!lowell.bellcore.com!newsserver.jvnc.n
GW>From: galen@picea.CFNR.ColoState.EDU (Galen Watts)
GW>Newsgroups: rec.radio.amateur.homebrew
GW>Subject: Re: QEX--any good
GW>Date: 18 Jan 1995 15:26:40 GMT
GW>Organization: College of Natural Resources, Colo. State Univ.
GW>Lines: 13
GW>Message-ID: <3fjbvg$1ump@yuma.ACNS.ColoState.EDU>
GW>References: <3fhk6e$blt@apakabar.cc.columbia.edu>
GW>NNTP-Posting-Host: storm.cnr.colostate.edu

GW>In article <3fhk6e$blt@apakabar.cc.columbia.edu> jbaltz@watsun.cc.columbia.e
GW>>Is there anyone out there willing to share his or her opinion with me over
GW>>whether or not QEX is worth the $12/year to subscribe to?

GW>I think it's worth it, but I'm a very technical minded type, I usually
GW>look at the schematics first.

GW>Considering that it's only $12/yr, I'd bet the ARRL actually loses money
GW>putting it out. I'd pay more if they wanted it.

GW>73,
GW>Galen, KF0YJ

I agree with Galen....it's great!

Niles - N6ZVZ
---
* SLMR 2.1a * Save trees, eat beavers.

230. Re: FM broadcast receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 08:55:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <19950120085501OSYSMAS@MVS.OAC.UCLA.EDU>
Source record: 114646

```
>> Measurement of Receiver Phase Characteristics
>> Wilfred L. Hand
>> Sylvania Electric Products Inc, Batavia, New York
>>
>> FM IF Filter Design with Gropu Delay and Amplitude Response
correction: ---> Group
>> Considerations
>> J. P. GrosJean
>> Sylvania Electric Products Inc, Batavia, New York
>>
>
>I start to see that there is a lot more to this than I initially
>thought :-). Any advice to *where* these refs could be available ?

I saw them at UCLA, unfortunately the copy doesn't contain the
name of what it was copied from. You could try some index
(reports, electronic and/or radio). The articles reference
"Journal of Audio Engineering Society, January 1965" and
"Proceedings of the I R E January 1954" plus some books.

>>Anyway, the point of these articles is that they claim that a
>>flat filter (amplititude) isn't the best, thus the stagger tuning
>>isn't the best. It might have been necessary before IC IFs where
>>you needed multiple stages of gain, but even then the poorer
>>phase response hurt.
>
>Excuse my ignorance but given a bandpass filter how do you tune
>for "linear phase" ?

Linear phase is a specific type of filter, different from
Butterworth or Chebyshev. I would expect that a good filter
design book would cover it. Once you have the right Qs and
loading, you tune all the tuned circuits to the same frequency.

This is easier than stagger tuning! Also it makes it easier to
tune in FM stations since the peak response is when you are on
the stations frequency (no multiple peaks).
```

231. Re: very low freq reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 10:14:02 UTC
From: tgm@netcom.com
Message-ID: <tgmD2p8FE.MAA@netcom.com>
Source record: 114624

DougS39314 (dougs39314@aol.com) wrote:
: I'm trying to find a schematic for a very low frequency reciever, i'm not
: sure exactly what frequency band it would be, but I am interested in those
: 'sounds' that are assumed to be due to atmospheric activity. If anyone has
: any information about this kind of thing, I would be grateful. Thank you.
: Doug Seidel

The January 1994 issue of 73 Magazine has a design for a 60 KHz
receiver for WWVB. It could easily be modified for other frequencies.
It is a nice design.

Thomas
de KI4N

232. MANUALS FOR SALE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 12:27:04 UTC
From: miles.gillie@mms.raleigh.nc.us
Message-ID: <9501201227.0HHPC00@mms.raleigh.nc.us>
Source record: 114645

I have the following service manuals for sale for $15 each including shipping (add $3.50 for COD). You are welcome to leave a message here or call me at 919) 847-2489.

Aerotron Aerocom Six VHF HI
Aerocom 8 UHF
MEGA VHF LO
Unicall
1045A Power Supply
Concept VHF HI
Concept UHF
PAC-2 HT VHF HI

Fujitsu FTP15-592L HT VHF HI
FTP40-554AT HT UHF

GE Mastr II UHF
Mastr II VHF LO
Mastr Exec II VHF HI
Mastr Exec II UHF
Custom MVP UHF

Kenwood R-2000 Rcvr Svc Manual

Motorola MT1000 HT ALL
Mocom 70 VHF LO
Mocom VHF HI
Mocom 70 UHF
Motrac VHF LO
Micor VHF HI
Micor UHF
MSR2000 Base and Repeater UHF
Mintor Alert Monitor ALL
Compa-Station Repeater UHF
Compa-Station Base Station VHF LO
Compa-Station Base Station VHF HI
RT Repeater VHF LO
Syntor UHF
Mitrek Super Consollette Base
HT RF Link ALL
T1600 Tone & DC Remote Console
T1605 Tone Remote Console

Pace 1645 VHF LO/HI
Landmaster 3 HT UHF

Plectron R8000 Receiver

Regency ACT-T-K100
RBH252 Base Station VHF HI

Shinwa SR32VT Paging Receiver

Standard HX320V HT VHF HI
866L/866L16 VHF HI
867L VHF HI
TN14S CTCSS
Sonar FM2101/2102/2103/2104 VHF HI

END OF LIST

233. Re: ICOM 735 232 interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 14:34:57 UTC
From: dabloodgod@aol.com
Message-ID: <3fohmh$olo@newsbf02.news.aol.com>
Source record: 114637

Id be interested in the schematic and the communications protocol / message formats - I can write the required code, once I know what it has to do.

Thanks de Dave, kd6pro.

234. Re: Help on Repeater ID'er

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 14:53:40 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan20.145340.25765@ke4zv.atl.ga.us>
Source record: 114642

In article <3fn8v3$jkn@newsbf02.news.aol.com> kbain@aol.com (KBain) writes:
>Gary..
> Thanks for reply. I have not run across any of the single chip micro's
>that you mentioned. You said that Digi-Key is the name of an outfit that
>sells them. If those are somewhere in the neighborhood of $20, that is
>most
>likely the route I'll take. I'm a typical ham.. champainge tastes on a
>beer budget! Do you have any information on how to get some information
>from Digi-Key or a company that would sell their products? If so, I would
>certainly appreciate it.

Digi-Key is a large mailorder distributor of electronic parts. If you're into building, you need their catalog. Their phone number is 800-344-4539. That's 800-DIGI-KEY.

I just checked their latest catalog, and the only Stamp they're carrying now is the Basic Stamp. That's a Microchip PIC processor with a built in Basic interpreter, installed on a circuit board with an EEPROM for program storage, and with the oscillator components, power regulator, and terminals for all the I/O pins. The PIC can sink 25 ma on each output pin, so it can drive displays or LEDs directly. The Basic Stamp is $39, and you can get a complete PC based development package, including a Stamp, for $137.99. The raw PIC processor with built in Basic interpreter is $18 quantity one.

The PIC processors, without the Basic interpreter, and in OTP configuration, start at $5.10 each, but the assembler development package, programmer, emulator, and debugger, all PC based, run another $179. A good deal if you're going to be doing more than one of these projects, not so good for a one time project. The bottom line PIC has 13 I/O bits, a RTC, a 16 bit counter/timer, watchdog timer, and the new 71 series also features an A/D converter with a 20 uS conversion time, and a 4 line multiplexer. OTP price for the 71 series starts at $12.30 for quantity one. All the PICs are RISC architecture, and can run at a 25 MHz clock.

These are great little problem solvers, but since you need one or the other development package to get started (sorry, I forgot that bit in the first message), it's not going to be the cheapest way to solve your specific IDer problem.

> So far I've found some ID boards, but they've all been the kind that do
>everything.. from control of the autopatch, to squelch tails and CW ID.

Check with Hamtronics, they have a diode matrix IDer kit that will solve your immediate problem. It's priced at an outrageous $59 though. Their phone number is 716-392-9430. Or look on page 14-8 of the 1992 Handbook

for a 5 chip IDer based on a 2716 EPROM. You'll need access to an EPROM burner to program that. Looks like the PIC isn't that bad a deal after all.

>The controller in the repeater will do all of that, but for some reason,
>it didn't include the ID circuitry. I can't understand that, because I've
>always been under the understanding that even commercial repeaters must
>ID,
>but on 15 minute intervals instead of 10 (as in amatuer). If that is the
>case.. looks like the buisiness I got this from operated illegally!

Probably not. Likely they removed the IDer before selling it to you since it would have their commercial callsign permanently burned in.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

235. Re: FM broadcast receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 14:55:03 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <3foirg$na3@cat.cis.Brown.EDU>
Source record: 114631

In article <199501182206210SYSMAS@MVS.OAC.UCLA.EDU>, OSYSMAS@MVS.OAC.UCLA.EDU (Michael Stein) said:

> Measurement of Receiver Phase Characteristics
> Wilfred L. Hand
> Sylvania Electric Products Inc, Batavia, New York
>
> FM IF Filter Design with Gropu Delay and Amplitude Response
> Considerations
> J. P. GrosJean
> Sylvania Electric Products Inc, Batavia, New York
>

I start to see that there is a lot more to this than I initially thought :-). Any advice to *where* these refs could be available ?

>Anyway, the point of these articles is that they claim that a
>flat filter (amplititude) isn't the best, thus the stagger tuning
>isn't the best. It might have been necessary before IC IFs where
>you needed multiple stages of gain, but even then the poorer
>phase response hurt.

Excuse my ignorance but given a bandpass filter how do you tune for "linear phase" ?
> "Linear phase 10.7 MHZ IF amplifier filters can offer many
> advantages such as lower distortion and improved stereo
> multiplex performance over those having rectangular response
> characteristic. Design procedures, possibilities for filter
> grouping and experimential results with Linear Phase and
> Butterworth filters are presented. Designs are oriented toward
> using readily available low cost components."

>It's in the section "application guide" selection section of my
>RCA tube manual under "FM Quadrature-Grid". I think that there
>were some "quadrature" beam tube based detectors, but the manual
>doesn't describe it (only ratio detectors and discriminators).

I had started to doubt the information I had on the 6BN6.
Maybe I'll try to post here an ascii schematic of how Fisher FM tuner uses it. As I don't have the service manual yet I don't even know if Fisher used the 6BN6 as a detector.

Thank you for your reply,
john

236. Re: Help on Repeater ID'er

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 15:03:10 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan20.150310.25899@ke4zv.atl.ga.us>
Source record: 114643

In article <3fnpmh$uc@linet01.li.net> pyro@li.net (Sy) writes:
>KBain (kbain@aol.com) wrote:
>: I need to know if anyone has seen instructions in any book or magazine
>: that tells you how to build a simple CW ID'er.
>
>Take $50 bucks, go to Shack, buy the voice sampler chip ($20) and a 555
>timer. Get pizza. Go home build voice ID.

Oh, I like that. I just looked at the 95 catalog and they have a voice storage board, already built, with enough storage (10 sec) for a voice ID, or even a whistled Morse ID. :-) $39.95.

I think I'll hustle over there and pick up a couple, easiest repeater IDer ever.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

237. Re: What is a "7805"?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 15:23:24 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <3fokhc$h2o@abyss.West.Sun.COM>
Source record: 114635

In article 790548825@melpar, phb@syseng1.melpar.esys.com (Paul H. Bock) writes:
> A 7805 is a three-pin, flat-pak voltage regulator, rated at 5 VDC
>regulated output at 1 amp. If you intend to run it at 1 amp, heat-sink
>it to the chassis or a sink. Input voltage can be up to (I think) 25
>volts, but it is commonly used to provide 5 volts from a 12-volt supply.
>I'm pretty sure there are also 7809, 7812, etc. versions with the last
>two digits indicating the regulated output.

Paul is generally correct. However, be aware that the 1 amp current
rating represents somthing like a maximum; these chips have foldback
current limiting and thermal shutdown. If you want to run it at 1A,
you need to both heatsink it so the thermal shutdown doesn't kick in,
but you also need to use an input voltage near the minimum differential.

Most of the 78xx devices are spec'ed at something like a 2V input/output
differential. A 5V device will give the most current when regulating a
7V supply, for example. Certainly 7805s are commonly used in 12V powered
equipment, but the output may not give you the 1A mentioned above. I don't
have a data sheet here, but you can probably find a chart of the foldback
characteristic there.

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Antenna waves be burnin' up my radio" -- ZZ Top *

238. Re: Optical Encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 16:05:37 UTC
From: mack@mails.imed.COM
Message-ID: <9500207906.AA790625825@mails.imed.com>
Source record: 114627

>From: wrb@pizza.cnet.att.com (w.r.bullman)

>Greetings,
> Just getting started in homebrew(radio at least), and I am
>wondering what is the the big "dial" used for frequency selection
>on PLL and DDS based transceivers?
>Is it a optical Grey code encoder? Resistive Grey Encoder? Optical
>shaft encoders? Or something else. I don't have a radio I can tear
>apart.
>Anybody know of a cheap source for these components?
>Thanks.
>73,
>Bill

Bill:

Greyhill makes a line of very good optical encoders. They are not
especially cheap (~ $25 ea) but they are top quality. They are also very easy
to use. With an AT&T address you might even be able to get them to sample one
to you.

Ray Mack
WD5IFS
mack@mails.imed.com

239. Re: Optical Encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 16:10:03 UTC
From: mack@mails.imed.COM
Message-ID: <9500207906.AA790625837@mails.imed.com>
Source record: 114628

I forgot to post the answer to the other part of the question.

There are two types of optical encoders. The first is just a "relative" encoder that generates a 90 degree quadrature digital signal. Your hardware (or software) must make sense of what is happening. This is the cheap variety.

The second variety is an absolute encoder. These generate an absolute code corresponding to shaft position. This type tends to be VERY pricey depending on the number of steps per rotation. I haven't used them, but I suspect they come standard as straight binary encoding. For a price you can probably get any coding you want.

Ray

_____ Forward Header _____
Subject: Re: Optical Encoders
Author: Mack Ray at nfsoffice
Date: 1/20/95 10:05 AM

>From: wrb@pizza.cnet.att.com (w.r.bullman)

>Greetings,
> Just getting started in homebrew(radio at least), and I am
>wondering what is the the big "dial" used for frequency selection
>on PLL and DDS based transceivers?
>Is it a optical Grey code encoder? Resistive Grey Encoder? Optical
>shaft encoders? Or something else. I don't have a radio I can tear
>apart.
>Anybody know of a cheap source for these components?
>Thanks.
>73,
>Bill

Bill:

Greyhill makes a line of very good optical encoders. They are not especially cheap (~ $25 ea) but they are top quality. They are also very easy to use. With an AT&T address you might even be able to get them to sample one to you.

Ray Mack
WD5IFS
mack@mails.imed.com

240. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 16:47:12 UTC
From: alf@agreen.iac.honeywell.com
Message-ID: <3fopeg$3dt@adm09.iac.honeywell.com>
Source record: 114638

Stephen P. Bachhuber (spbachhu@mtu.edu) wrote:
> :
> : I know for a fact that tuners with noise figures under 1 dB offer
> : superior performance in the FM band, not based on any kind of
> : background noise measurement, but from experience. Just as an example,
> : why would Pioneer offer car stereos with .7 microVolt sensitivity?
> : And, I believe the noise figs. for the ARRL preamps were something
> : around .5 dB.
>

0.7uV into 50ohms at 150kHz bandwidth is a noise figure of about 12dB,
so nothing special here.

If you want to improve something like that, you might as well go with a
1dB preamp, rather than a 3dB one, so long as it has good strong-signal
handling performance. Just dont go from a 3dB to a 1dB NF preamp and
expect to see any noticeable improvement.

All my homebrew rigs up through 432 use the MRF955 GaAsfet, because its
cheap, available and easy to use. The fact it gives me a sub-1dB noise
figure is of little importance, except for when I'm on Oscar 13.

Best rgds, Alf NU8I/G4ABB

Alf Green | Tel (602) 863 5842 | An organised person is just
Honeywell IAC | Fax (602) 789 4990 | too lazy to hunt for things.
Phoenix AZ | alf@agreen.iac.honeywell.com |
==

241. Zener diodes 1N2842B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 18:05:31 UTC
From: C15201@email.comm.mot.com
Message-ID: <9501201805.AA31651@c15201.maccvm>
Source record: 114640

I am currently looking for a supplier of Power zener diodes, this, to build a screen power supply for vaccuum tubes.
The model number is 1N2842B 130V 50W.
Any ideas where I can find a couple (10) of those units ?.

Regards
Jean-Marc

dsphdi

242. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 18:12:17 UTC
From: Bill Schaff <schaff@iiiv.tn.cornell.edu>
Message-ID: <3foue1$f1c@newsstand.cit.cornell.edu>
Source record: 114641

Re: GaAsFET preamp retuning
I Perhaps
>the equation doesn't account for the noise generated by placing a very
>large field across a crystal. This can be on the order of KV/cm, due to
>the very tiny gate widths.
>

There will be no difference in electric fields under a gate of a short width (low noise FET) versus a wider gate (power FET) for otherwise identical designs. There will be considerable difference as a function of gate length though. The nomenclature for FET gate dimensions is not what one might expect. The longest dimension of the gate (100 microns or more) is the gate width and the short dimension (on the order of one micron or less) is the gate length.

A low noise MESFET will usually have a single gate feed which usually feeds two gates from the center of a split-source pad design. A power MESFET will have many gate feeds which will require an expensive process step to connect multiple source pads. The mutiple source connection will add parasitic source inductance to the circuit. The number of power MESFETs produced per wafer is small because of the significantly larger size of the device die. Yield also falls with device area. Thus, the devices are expensive to manufacture.

There are many more low noise MESFETs manufactured today than power MESFETs because the demand for low noise satellite dish TV reception in Asia and Europe requires millions of MESFETs per year. I don't know anything about about the small quantity availability of the two different classes of MESFETS, but I would guess that the power MESFETS which are much expensive to produce would be more desirable to sell on the low volume surplus market because of the economics of small quantity/high price versus large quantity/low price. It may be that the more easily available MESFETs are power FETs for this reason. Power MESFETs, however, are inferior in noise figure for every design aspect. It would be well worth one's effort to find out how to get ahold of MESFETs from Anadigics in New Jersey, ITT in VA, Varian Assoc or Watkins Johnson in CA as surplus, or out or spec devices. The real volume producers are Hitachi and Toshiba.

The military and commercial low noise FET world has moved from metal semiconductor field effect transistors (MESFET)s to modulation doped FETs (MODFET)s, also called high electron mobility transistors (HEMT)s, or heterojunction FETs (HFET)s. The very best noise figures come from MODFETS (HEMTS, HFETs etc). I would advise one looking for the top noise performance to find a source of HEMTs for operation at any frequency -

the higher the frequency, the greater the noise figure advantage over MESFETs.

243. Re: Down East Microwave stuff ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 18:14:52 UTC
From: mclendon@brtph833.bnr.ca
Message-ID: <3fouis$jd6@brtph500.bnr.ca>
Source record: 114634

I designed and built a transverter HF<>2M around the Hamtronics receive converter and transmitting converter. Kit quality was good and instructions fine for the technical kit builder.

I added rf sensed T/R switching, meters for RF out and input current, a 28Mhz amp design as in ARRL handbook, 40dB pad, connectors, relays, and a box. It works great on FM,SSB,CW and Packet. What a blast to build and operate (hearing 2M traffic coming from my old HF rig is strange).

Another thanks to the Homebrew crew for the assistance...

Mike - KE4END

--

*** I speak for myself and not for BNR ***

244. Re: Help on Repeater ID'er

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 18:31:53 UTC
From: nick@vlsi.polymtl.ca
Message-ID: <3fovip$991@charles.cdec.polymtl.ca>
Source record: 114630

>In article <3fkp6q$8bc@newsbf02.news.aol.com>, kbain@aol.com (KBain) writes:
>
>>I need to know if anyone has seen instructions in any book or magazine
>>that tells you how to build a simple CW ID'er. The application I wish to
>>use it in is for a repeater I'm building up. It is a commercial repeater
>>with an autopatch, but the controller only controls things such as time
>>out funtions, and squelch tails. It never ID'ed, so I need to install a
>>simple board to do this every 10 minutes when the repeater is in use. Any
>>suggestions?
>>KBain @ aol.com
>>KB5VME

Checkout the Feb '94 issue of QEX. I wrote an article on just what you
are asking for. It uses a cheap (read <$1.00) EPROM and a few parts to
create a nice little IDer.

Nick

245. Re: Is QEX any good

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 20:09:25 UTC
From: kell@mpac.jsc.nasa.gov
Message-ID: <kell-2001951409250001@netguy.jsc.nasa.gov>
Source record: 114648

In article <9500187904.AA790453670@mails.imed.com>, mack@mails.imed.COM wrote:

> In my opinion you should call them immediately. If you are TECHNICALLY
oriented
> you cannot live without this publication!
>
> Ray Mack
> WD5IFS
> mack@mails.imed.com

Ok, who should we call and how much does it cost??

246. Re: Satellite Tracking

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 20:44:12 UTC
From: kennykb@carla.crd.ge.com
Message-ID: <D2q1Lp.1n2@crdnns.crd.ge.com>
Source record: 114633

In article <3fmrvr$j90@techsrv1.tech>, cmlong@mtu.edu (Mike) writes:
|> I am searching for the equations and variables need for accurately tracking
|> a satellite for use in communications. I have a program that does this but
|> would like to possibly create my own that will run on a different machine.

How much physics do you know? Are you interested in a `cookbook'
approach, or are you looking to come up with your model from scratch?

Good books on the subject include:

Moulton, Forest Ray. _An Introduction to Celestial Mechanics_
New York: Macmillan, 1914. No, the date is not a typo;
Moulton's exposition is still unparalleled. Dover
used to have this one in reprint; I don't know if
they still do.

Escobal, Pedro Ramon. _Methods of Orbit Determination._
New York: Wiley, 1965. This one is more adapted to
the computer age, and has some interesting examples of
`Keplermanship.' I understand that it's been reprinted.

Hoots, Felix R., and Ronald L. Roehrich. `Models for Propagation
of NORAD Element Sets.' Spacetrack Report No. 3,
North American Air Defense Command. TS Kelso has
this online on his BBS somewhere; my copy was last
seen in Champaign, Illinois in 1989 or so.

If you're more interested in a cookbook approach, I suggest
copying the C or Fortran code of one of the publicly-available
prediction programs. I speak from personal experience when I say that
it takes a while to get one right, even using a simple model like SGP.

Back seven or eight years ago, I did an orbit predictor based on
SGP that was intended for optical tracking of spacecraft (and
therefore devoted more effort to plotting against star charts than
to characterizing AOS/LOS, Doppler shift, etc.

It still appears to be available from the University of Illinois,
where I worked at the time; you can therefore find some reasonably
commented C code for orbit prediction in the files in the directory

ftp://cs.uiuc.edu/pub/sat-track/
--
73 de ke9tv/2, Kevin KENNY GE Corporate R&D, Niskayuna, New York, USA

247. Re: Solid State replacements for tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-20 22:50:27 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <790642227snz@lfheller.demon.co.uk>
Source record: 114647

In article <3fhtd0$nq0@newsbf02.news.aol.com> johnsorj@aol.com "Johnsorj" writes:

> Hi
> Does anyone have experience in replacing tubes in older test equipment
> with solid state replacements? I have a number of older HP boxes (140
> series scopes) and I would like to build up solid state replacements
> for the harder-to-find tubes
> Ray KC0BL/3

Many years ago, when FETs first became available, I remember reading about some valve (tube in the US) replacements that used FETs, and one or two other components, mounted on standard valve bases. Some people built their own by removing the glass and electrodes, and mounting the FETs etc. in the valve base. I think they generally used something like two 2N3819s in a cascode circuit; this could replace a triode, in most cases, with few if any circuit changes.

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

248. Two-Fer and air varable caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-21 18:51:26 UTC
From: bcdlr@aol.com
Message-ID: <3frl3e$aef@newsbf02.news.aol.com>
Source record: 114650

I have the stuff to build a Two-Fer 40m xmtr. but I have since lost the magzine article(s), don't remember which mag. Probably a few years ago, maybe 1988, anybody remember and still have the magazines?

Need cheaper sources of air variable caps, 365mfd, 100mfd, etc. I can never find these anywhere, I'd like a box full!! Help me out.

Dan Reynolds, bcdlr@aol.com

249. printed pc-boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-21 20:20:51 UTC
From: richeych@iastate.edu
Message-ID: <3frqb3$q9r@news.iastate.edu>
Source record: 114649

Hello. I am a student in Industrial Education and Technology at Iowa State University. Currently I am enrolled in an industrial printing class and I am planning on doing a project on printed pc-boards. I have never had any practrical experiance with printed pc-boards and would apreciate any hints that you could give me. For example, process considerations, favorite methods, supply sources, any tricks that you may know... Generally, Anything.

TNX

Carlton Richey

(Tech plus liscence pending)

--

250. Re: TALENT SEARCH 2000

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 00:21:36 UTC
From: jeevan@coho.halcyon.com
Message-ID: <3fs8eg$3fq@news.halcyon.com>
Source record: 114651

Scam!

-Zeet

251. HELP- IDENTIFY THIS LINEAR AMPLIFIER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 03:31:07 UTC
From: uiahmed@uxa.ecn.bgu.edu
Message-ID: <3fsjhr$ob9@news.ecn.bgu.edu>
Source record: 114652

Subject: HELP- IDENTIFY THIS LINEAR AMPLIFIER
Newsgroups: rec.radio.amateur.misc,
rec.radio.amateur.homebrew,rec.radio.amateur.equipment Summary:
Keywords:

Few months back somebody gave me a linear amplifier for 10m. It is a solid state unit. I accidentily applied high power input signal to it then recommended. As a result of which the input circuit of the amplifier was destroyed. Some of the pcb connections were also burnt. I don't have any technical information about this amplifier. There is no company name on it but the guy who gave it to me, told that it is a USA made amplifier. The only inormation about the amplifier on its box is its model which says TX500. It contains four Toshiba power transistors. I was wondering if some body out there can provide me with more information about this unit. Even if you know about the company that will work for me. Appreciate any replies in this regard.

73s

Khan (N7OLJ / AP2CW)

252. RC Coil Trouble

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 04:47:47 UTC
From: a012928t@bcfreenet.seflin.lib.fl.us
Message-ID: <3fso1j$qv7@bcfreenet.seflin.lib.fl.us>
Source record: 114653

This is my third attempt at writting this thing. That bloody warning ahhhhhhhh! I hate that warning thing!
--

Joshua Strickland
a012928t@bcfreenet.seflin.lib.fl.us

253. Re: PCB CAD

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 05:14:45 UTC
From: "Peter A. Stark" <pastark@cloud9.net>
Message-ID: <Pine.SUN.3.91.950122001330.20364A-100000@cloud9.net>
Source record: 114654

As to PCBcad not supporting your Deskjet ... does it support an HP plotter? If so, then there is a shareware ($25) program called PRINTGL which converts plotter commands to PCL. I believe that it would work on any DeskJet (though I have only tried it on the portable 320).

254. FREE HAM NEWSLETTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 05:15:12 UTC
From: AMSOFT@EPIX.NET
Message-ID: <NEWTNews.18260.790755434.amsoft@amsoft.epix.net>
Source record: 114655
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

The Jan 95 "The World of Ham Radio" CD-ROM newsletter is now available. This CD-ROM offers more ham programs than any of the others out there! Over 20,000 IBM files for amateur radio are stored on this CD-ROM. Included are the FCC CALLSIGN call book with US & Foreign listings current to 12/94, and AMCALL the new logbook from AmSoft that will auto log from the CD for you. Over 1,350 Radio Modifications. The latest HST, NASA & Space images. Over 700 Megabytes of Amateur Radio Software packed into 1 CD. This CD-ROM is published every 4 months without delay in JAN, MAY, & SEP.

If you would like to get a FREE newsletter about the JAN 1995 AmSoft CD-ROM please send your Internet E-mail address to: amsoft@epix.net

255. Re: Help on Repeater ID'er

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 05:22:59 UTC
From: "Peter A. Stark" <pastark@cloud9.net>
Message-ID: <Pine.SUN.3.91.950122001951.20364B-100000@cloud9.net>
Source record: 114656

Regarding a simple CW ID'er: I wish I could give you the exact month/year, but I wrote two articles for 73 Magazine back in the seventies that described CW ID'ers. One used a diode matrix (used roughly 15 diodes for a typical call), and was about 1972. The article was on a "Simple Repeater Controller". The second article, roughly 1980, was entitled "Microprogrammed Sequential Controllers" (or at least, that's the name when I sent it to 73), and described how to do it with a state machine; it used an EPROM and two TTL IC's.
Perhaps you can get the info and a back issue from 73 Magazine.

Pete, K2OAW

256. SberDown East Microwave Stuff Review In

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 06:26:00 UTC
From: Stephen.Thurber@f239.n109.z1.fidonet.org
Message-ID: <808_9501221137@blkcat.fidonet.org>
Source record: 114659

I have built the 2 meter hamtronics receive converter and the 435 mhz
transmit converter. I found both to perform as advertised, although I
never have used either of them much so cannot comment on longevity.

Fidonet: Stephen Thurber 1:109/239
Internet: Stephen.Thurber@f239.n109.z1.fidonet.org

257. Re: FM broadcast receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 11:53:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <199501221153 54OSYSMAS@MVS.OAC.UCLA.EDU>
Source record: 114661

> The downside of these filter designs is that they have poor
> skirt selectivity. That means you can't pull out a distant
> station when there is a strong local on a nearby channel. Since
> the FM broadcast band has gotten a lot more crowded since the
> 1970s, this style of filter is no longer very useful in a high
> performance receiver.

Which is why the Introduction says:

", have a linear phase charracteristic which extends up to
the 3db cutoff frequency of the filter. Thus, it is
possible to design an FM receiver with a much narrower
bandwidth than would at first seem necessary, which
features the same alternate channel rejection as the set
with the rectangular bandpass filter while at the same
time having stereo separation and high frequency
distortion characteristics which are superior."

I think the reason these aren't see in actual radios is cost.
These linear phase filters would be cheaper than LC non-linear
phase, however most FM receivers now use ceramic filters which
are much cheaper. But probably not as good...

258. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 15:49:06 UTC
From: bob@texas.net
Message-ID: <3ftupi$plu@cactus.texas.net>
Source record: 114568
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <NEWTNews.18260.790755434.amsoft@amsoft.epix.net>, AMSOFT@EPIX.NET says:
>
>
>The Jan 95 "[deleted]" CD-ROM newsletter is now
>available. This CD-ROM offers more ham programs than any of the
>others out there! blah blah blah bullcrap

/\/\/\/\/\/\/\ Chainsaw inserted here /\/\/\/\/\/\/\/\/\/\

I, for one, do not wish to see the internet become a medium which
presents a non-hostile environment for those who wish to use it to
spew forth electronic junk mail. Many other would-be advertisers
have had their mailers crashed by angry replies to such electronic
fecal matter. I wish the same on the hoseheads at AMSOFT.

Bob | Roses are red, Violets are blue
bob@texas.net | I'm schizophrenic, And so am I

259. Re: Make a mobile antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 17:19:08 UTC
From: dpfg@ukc.ac.uk
Message-ID: <5996@rook.ukc.ac.uk>
Source record: 114657
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

>On a base station, a wire dipole is easy to make and since it is in a fixed
>location, they do not have to be rigid. Mobile use is a totally different

When attempting this sort of thing, does the nature of the dipoles make any
difference, provided they are well connected up with the correct co-ax?
For instance, would scaffolding poles and the conductors from electrical
flex have noticably different effects? Would it be important whether
the rubber insulation was left on?

--
"If management services were to grow to the point where they became the
tail that wags the dog, I would have to seriously rethink my position."

Byker Grove Gazette, July 1969

260. Re: FM broadcast receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 17:33:30 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan22.173330.4526@ke4zv.atl.ga.us>
Source record: 114658

In article <199501200855010SYSMAS@MVS.OAC.UCLA.EDU> osysmas@mvs.oac.ucla.edu writes:
>>>Anyway, the point of these articles is that they claim that a
>>>flat filter (amplititude) isn't the best, thus the stagger tuning
>>>isn't the best. It might have been necessary before IC IFs where
>>>you needed multiple stages of gain, but even then the poorer
>>>phase response hurt.
>>
>>Excuse my ignorance but given a bandpass filter how do you tune
>>for "linear phase" ?
>
>Linear phase is a specific type of filter, different from
>Butterworth or Chebyshev. I would expect that a good filter
>design book would cover it. Once you have the right Qs and
>loading, you tune all the tuned circuits to the same frequency.
>
>This is easier than stagger tuning! Also it makes it easier to
>tune in FM stations since the peak response is when you are on
>the stations frequency (no multiple peaks).

The downside of these filter designs is that they have poor skirt selectivity. That means you can't pull out a distant station when there is a strong local on a nearby channel. Since the FM broadcast band has gotten a lot more crowded since the 1970s, this style of filter is no longer very useful in a high performance receiver.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

261. **VFO DRIFT in HEATH HW-99***

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 19:38:44 UTC
From: rar3h@uvacs.cs.Virginia.EDU
Message-ID: <D2tnwK.A77@murdoch.acc.Virginia.EDU>
Source record: 114660

I have a Heath HW-99 and its VFO drifts very badly with
temperature changes. Has anyone encountered this problem
and if so, what was thr solution?

thanks in advance
Bob
rar3h@virginia.edu

--

Robert A. Ross University Of Virginia
Research Scientist Center for Semicustom Integrated Systems
rar3h@virginia.edu INTERNET Systems Integration Laboratory
804-982-2227 VOICE
804-982-2214 FAX "Implementation is far from but a detail"
---

262. Re: Ramsey Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 22:24:09 UTC
From: jdc3538@ultb.isc.rit.edu
Message-ID: <1995Jan22.222409.562@ultb.isc.rit.edu>
Source record: 114662
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Ramsey kits aren't great, but it gives you a convenient starting point.
A friend gave me his PA-10 amp after it died for the third time. The
heatsink is minimal, which can be fixed. The output filtering on this
class-C amp is pretty much non-existent, which can be fixed. The
preamp transistor overloads with a mag-mount 1/2 wave in a suburban
location. It's fixed by removing it.

On the other hand you get a ready made PC board, 80-90% of the parts,
and for a extra price, a matching case. Some kits even include the case.
Think of it as a convenient way to get that next project going. Much
easier than buying parts from eight different mail-order suppliers.

73...Jim N2VNO

In article <cjs9.206.000C7C73@cornell.edu> cjs9@cornell.edu (Carl Steckler) writes:
>
>>I have built a few Ramsey kits, and I would recommend avoiding them.
>>/mike
>
>>Mike; I don't wish to disparage your electronics skills, but I have had
>more that moderate sucess with Ramsey kits. Their price is reasonable and I
>have found for the most part the instructions clear. Unlike some that are
>translated into english by the illiterate. "adjust until meter quivers most
>rightly"? Gine me and Ramsey a break. Heathkit had it's share of problems as
>well.
>Carl KB2SGX (ex-jarhead) Semper Fi
>"To those who fought for it, freedom has a flavor
>the protected will never know"
>unknown Marine; Khe Sahn, Viet Nam

263. Re: FREE HAM NEWSLETTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-22 23:20:51 UTC
From: bob@texas.net
Message-ID: <3fup8j$s21@cactus.texas.net>
Source record: 114569
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <NEWTNews.18260.790755434.amsoft@amsoft.epix.net>, AMSOFT@EPIX.NET says:
>
>
>The Jan 95 "[deleted]" CD-ROM newsletter is now
>available. This CD-ROM offers more ham programs than any of the
>others out there! blah blah blah bullcrap

/\/\/\/\/\/\/\ Chainsaw inserted here /\/\/\/\/\/\/\/\/\/\

I, for one, do not wish to see the internet become a medium which
presents a non-hostile environment for those who wish to use it to
spew forth electronic junk mail. Many other would-be advertisers
have had their mailers crashed by angry replies to such electronic
fecal matter. I wish the same on the hoseheads at AMSOFT.

-

Bob Scott WY7O | Roses are red, Violets are blue
bob@texas.net | I'm schizophrenic, And so am I

264. Re: **VFO DRIFT in HEATH HW-99***

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 00:57:33 UTC
From: davek9sw@aol.com
Message-ID: <3fuutt$pia@newsbf02.news.aol.com>
Source record: 114663

Bob -

Excuse my ignorance, but what is a Heathkit HW-99?

Dave Moorman
Downers Grove, Illinois
DaveK9SW@aol.com

265. CD changer FM transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 08:23:53 UTC
From: dyeske@st6000.sct.edu
Message-ID: <3fvp2p$6lr@news-feed-1.PeachNet.EDU>
Source record: 114664

I have seen car CD changers that had a many FM stereo transmitter so that you could keep your CD changer safe in your trunk while tuning in to your CD's. I have a car radio (no tape) and a portable CD player. I am sure I could build or buy a small FM stereo transmitter to hook up to the earphone jack of the CD player so I can hear it through the car's speakers. Is there a basic schematic to build this or do I need to order a kit? If so what would be the best kit for this situation?

266. Re: Solid State replacements for tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 10:53:37 UTC
From: raateland@vyh.fi
Message-ID: <1995Jan23.105337@vyh.fi>
Source record: 114665

>
> Many years ago, when FETs first became available, I remember reading
> about some valve (tube in the US) replacements that used FETs, and
> one or two other components, mounted on standard valve bases. Some
> people built their own by removing the glass and electrodes, and
> mounting the FETs etc. in the valve base. I think they generally used
> something like two 2N3819s in a cascode circuit; this could replace
> a triode, in most cases, with few if any circuit changes.
>
> Leon Heller | "Do not adjust your mind, there is
> G1HSM | a fault in reality": on a wall
> Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
> Phone: +44 (01734) 266679 |
--

In the seventees when I had a DRAKE R4A ham band receiver, I tried to replace some of its tubes with solid state circuits. There was an article in some ham magazine (QST?) that I still have a photocopy of to guide me. The results were not really very good. I got a lot more spurious responses etc. and I put the tubes back in. The only solid state mod that I kept was a MC1496 IC for product detection, but that wasn't a tube replacement, if I recall correctly.

If you cannot check the performance of the gear thoroughly after you do the replacement, it may not be worth the trouble.

73 de OH2ZAZ, ex-PAoSCS

Arjen Raateland, SAS User Support
Water and Environment Research Institute,
National Board of Waters & the Environment
Helsinki, Finland

267. Novice tests in Northern NJ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 12:33:23 UTC
From: rachel@ritz.mordor.com
Message-ID: <D2uyvn.E6@ritz.mordor.com>
Source record: 114579

Can anybody tell me when/where the Novice tests are being given in
Northern NJ? I want to suprise a friend of mine by passing it.. :)

268. Re: GaAsFET preamp retuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 14:18:01 UTC
From: zlau@arrl.org
Message-ID: <1995Jan23.141801.14800@arrl.org>
Source record: 114573

Bill Schaff (schaff@iiiv.tn.cornell.edu) wrote:

: There are many more low noise MESFETs manufactured today than power
: MESFETs because the demand for low noise satellite dish TV reception in
: Asia and Europe requires millions of MESFETs per year. I don't know
: anything about about the small quantity availability of the two different
: classes of MESFETS, but I would guess that the power MESFETS which are
: much expensive to produce would be more desirable to sell on the low
: volume surplus market because of the economics of small quantity/high
: price versus large quantity/low price. It may be that the more easily
: available MESFETs are power FETs for this reason. Power MESFETs,
: however, are inferior in noise figure for every design aspect. It would

Power FETs are considerably more difficult for amateurs to obtain. Once in
a while some do appear on the surplus market, but they always cost as much
or more than low noise FETs. On the other hand, low noise FETs are often
available as engineering samples, unlike the power devices. There are also
a lot of more of them on the surplus market. While some people do use them
for higher dynamic range, most people try them because of the lower reported
noise figures at 144 and 222 MHz (or they see a side by side comparision
at a NF contest). Have you ever noticed that nobody really cares what is
used in a preamplifier that came in fourth?

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

269. Re: SPECIAL EVENTS STATION!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 14:48:02 UTC
From: cmlong@mtu.edu
Message-ID: <3g0fj2$jpg@techsrv1.tech>
Source record: 114667

The W8YY Winter Carnival Special Event Station is being set up for this year. As of now we are planning to operate W8YY for 24 hours straight from Thursday Feb. 2nd until Friday Feb. 3rd. The times will be from 6am Thursday to 6am Friday. The following frequencies will be used: >From 6am to 6pm Thursday, 14.255 Mhz. From 6pm to 11pm Thursday, 7.255 Mhz. From 11pm to 4am Friday, 3.805 Mhz, and the last 2 hour will be held on 7.255 Mhz again. We will also be monitoring 146.58 Mhz during the operation period. Anyone wishing to contact us via Packet can log in on 144.09 Mhz to the MTUBBS. Certificates will be awarded to all stations contacting W8YY during this period. Please send a large self addressed stamped envelope, certificate sized if you don't want any creases. The certificate is 8.5 x 11 inches.

--

Michael Long Public Relations Manager for HARC
234 West McNair email majordomo@mtu.edu with
1801 Townsend Dr. subscribe harc-l (for amateur radio)
Houghton, MI 49931
Electrical Eng. Tech. Major
email: cmlong@mtu.edu Electromechanical Eng. Tech Major
Phone: (906)487-0204 Michigan Technological University
---

270. Re: Solid State replacements for tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 14:57:06 UTC
From: zlau@arrl.org
Message-ID: <1995Jan23.145706.16343@arrl.org>
Source record: 114577

Johnsorj (johnsorj@aol.com) wrote:
: Hi
: Does anyone have experience in replacing tubes in older test equipment
: with solid state replacements? I have a number of older HP boxes (140
: series scopes) and I would like to build up solid state replacements
: for the harder-to-find tubes
: Ray KC0BL/3

There were some articles published Unfortunately, the tubes were
often replaced with high voltage FETs now more difficult to find
the tubes. Texas Instruments used to make the FETs. Hexfets, while
high voltage devices, probably won't work in most applications. They
have very high capacitances, unlike tubes. The drive these days seems
to be toward lower and lower voltage devices.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

271. WTB: 8072 Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 15:00:20 UTC
From: galen@picea.CFNR.ColoState.EDU
Message-ID: <3g0ga4$2pjn@yuma.ACNS.ColoState.EDU>
Source record: 114666
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Looking for some 8072 tubes.
Galen, KF0YJ
galen@storm.cnr.colostate.edu

272. 2 meter all mode rx performance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 15:28:13 UTC
From: David_Bourque@UB.com
Message-ID: <9501231529.AA6007@smtp.UB.com>
Source record: 114570

Ok, So the VHF contest was lots of fun except for Sunday evening when lots of the BIG local signals came on at the same time for several hours. Now I know how bad the dynamic range is on my receiver. Splash everywhere. Useless. Anyone got any tips on how to improve things? I run an older Icom 271A. I've known about the poor dynamic range for some time but until last night I was always able to find a spot on the band to work the crowd during the contest. With one or two bigs signals I can null them out with carefull beam headings and carefull timing of when to answer calls. Last night was the one exception. So, has anyone got any suggestions for what I should look at changing in the receiver chain that will help things out? I know the first logical choice is the first amplifier stage but what is the major factor in determining dynamic range? Any suggestions at all will be appreciated. Thanks post here or directly to me via email.

David Bourque
WB1FLD
dbourque@ub.com

273. Re: QEX--any good

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 17:38:27 UTC
From: kchen@apple.com
Message-ID: <3g0pij$1p7@apple.com>
Source record: 114571

galen@picea.CFNR.ColoState.EDU (Galen Watts) writes:

>In article <3fhk6e$blt@apakabar.cc.columbia.edu> jbaltz@watsun.cc.columbia.edu (Jerry B Altzman) writes:
>>Is there anyone out there willing to share his or her opinion with me over
>>whether or not QEX is worth the $12/year to subscribe to?

>I think it's worth it, but I'm a very technical minded type, I usually
>look at the schematics first.

>Considering that it's only $12/yr, I'd bet the ARRL actually loses money
>putting it out. I'd pay more if they wanted it.
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

Hush! Jon Bloom reads this newsgroup! :-) :-)

In my opinion, QEX is one of the better kept secrets of the ARRL. Last September's issue had the USPS statement and it gave circulation at less than 5,000, a shockingly low number.

For those who are interested in subscribing, the masthead gives Cathy Stepina at ARRL HQ as being in charge of QEX circulation and qex@arrl.org as the Internet address. You don't even have to be an ARRL member, except that they charge double if you are not :-) :-).

No connections... just a happy subscriber to QEX.

73

Kok Chen, AA6TY kchen@apple.com
Apple Computer, Inc.

274. Re: 2 meter all mode rx performance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 17:56:57 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.790883817@melpar>
Source record: 114572

David, let me suggest that you locate a copy of "Communications Receivers" by Ulrich L. & T.T.N. Bucher (McGraw-Hill, 1988, ISBN 0-07-053570-1) and review the sections on intermodulation, intercept point, dynamic range, etc. It's an excellent reference to have handy while you examine your own receiver's design and hypothesize on how to effect improvements.

Unless, of course, some other poster has some specific insights into your rig in particular.

I might also point out that, at least here in FM19, part of the problem was that at least one of the "big guns" had a *very* trashy signal, while some others were extremely clean by comparison. I would be in favor of a QRO limit during contests; 300 watts might be a nice figure, it puts everyone on a more equal footing and forces operators to focus on things like line loss, antenna configuration, etc., to gain an "edge." But, that's just my opinion.....

73 DE K4MSG

```
__/ __/ __/ __/__/ __/__/ __/__/__/ __/__/__/__/
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__/ __/ __/ __/ __/ __/ __/ __/
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```

(|_|) Paul H. Bock, Jr. K4MSG Internet: pbock@melpar.esys.com
| |) Principal Systems Engineer Telephone: (703) 560-5000 x2062

275. Re: **VFO DRIFT in HEATH HW-99***

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 18:58:42 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-2301951358420001@k4dii.ksc.nasa.gov>
Source record: 114574

In article <D2tnwK.A77@murdoch.acc.Virginia.EDU>,
rar3h@uvacs.cs.Virginia.EDU (Robert A. Ross) wrote:
> I have a Heath HW-99 and its VFO drifts very badly with
> temperature changes

Bob-

I don't recall what an HW-99 is, but have had many Heathkits over the years, including an HW-100.

My experience is that drift is "relative"! Until the modern synthesized radios came on the market, with frequencies phase-locked to crystal oscillators, some drift was accepted as a fact of life. Before you embark on a project to completely eliminate your drift, you should reconsider how bad it is.

Most VFOs have temperature-compensation capacitors included in their frequency-determining circuits. Such capacitors are available in both positive and negative temperature coefficients. By trying different TCs, and changing the ratio of compensated to non-compensated capacitance, you can probably improve your drift. (You might also check to see if one of the TC capacitors is too close to a vacuum tube!)

73, Fred, K4DII

276. Re: **VFO DRIFT in HEATH HW-99***

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 20:10:38 UTC
From: zlau@arrl.org
Message-ID: <1995Jan23.201038.2218@arrl.org>
Source record: 114575

Robert A. Ross (rar3h@uvacs.cs.Virginia.EDU) wrote:
: I have a Heath HW-99 and its VFO drifts very badly with
: temperature changes. Has anyone encountered this problem
: and if so, what was thr solution?

The HW-99 is the CW novice version of the HW-9--runs more power but less bands, if I recall correctly. It probably has the same VFO as the HW-9 QRP rig, which is much more common. I temperature compensated mine, but this is a time consuming process. You can sometimes buy temperature compensating capacitors at Radio Shack--they are often in those bargain packs of ceramic capacitors.

Page 14.20 of the 1995 ARRL Handbook has an oscillaor temperature compensation circuit using two thermisters. More complex, but undoubtedly an easier approach.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

277. a little fantasy, QRP from Mt. Logan

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 20:13:19 UTC
From: kbn@Eng.Sun.COM
Message-ID: <3g12kv$jic@engnews2.Eng.Sun.COM>
Source record: 114576

When I was a novice in high school, I had an old 2 watt xcvr for CW on 80m.
I used to be psyched to get a contact from NY to Maine.

I used to wonder about how far I could get if I was really high up.

Well, over time, I dropped the ham thing, but pursued the climbing thing.

Turns out I'm heading to Mt Logan in May with some friends.
It's just under 20,000'. 2nd highest in NA, highest in Canada.
(in the area of SE Alaska). Mass-wise, it's a huge mountain.
(and it'll be cold!)

It doesn't see as many people as Mt McKinley.

I was thinking about what radios to bring (CB and weather), and I got
to thinking about my old ham days, and the possiblity of transmitting
from the mtn. (the summit)

I was wondering if anyone would be interested in a project like this.
I don't really have the gear to put together a small, lite QRP cw xcvr,
but maybe someone else would?

The coolest thing would be a mod to an existing
CB unit that could allow it to send/rcv cw on 80 meters.

If someone would be interesting in working together on this,
I'd foot the bill for parts, etc.

The payback? Well, I could send some cool contact cards with a picture
of Logan etc. (sure to be unique?)

ps. In any case, I'm also interested in sources/prices for small solar cells
that could be used to recharge batteries.

278. Re: Frequency knobs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 21:52:17 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <790897937snz@lfheller.demon.co.uk>
Source record: 114578

In article <D2KE1p.7Hz@nntpa.cb.att.com>
wrb@pizza.cnet.att.com "w.r.bullman" writes:

> Greetings,
> Just getting started in homebrew(radio at least), and I am
> wondering what is the the big "dial" used for frequency selection
> on PLL and DDS based transceivers?
> Is it a optical Grey code encoder? Resistive Grey Encoder? Optical
> shaft encoders? Or something else. I don't have a radio I can tear
> apart.
> Anybody know of a cheap source for these components?

Cirkit, here in the UK, stock the ALPS Incremental Encoder. It's a simple rotary switch-like device which generates 50 pulses/rev. Maximum speed is 1000 rpm. Two output signals at 90 +/- 45 degrees are produced. They cost #8.18. It requires some electronics to interface it to a synthesiser chip, of course. A PIC 16LC84 processor would be ideal for this. I keep meaning to buy one of these to play with.

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

279. Re: RCA NuVistor sub-min valve 6-52

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 23:16:28 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-2301951816280001@k4dii.ksc.nasa.gov>
Source record: 114589

In article <D2E4oG.1A5@cix.compulink.co.uk>, oddjob@cix.compulink.co.uk
("Stephen Walters") wrote:
> I have just aquired a handfull of these. These are tiny Thermonic
> Valves.. Triode? Pentode? and I am looking for any useful data and some
> more samples to experiment with. I would like to build a
> super-regenerative receiver and qrp/low power amateur radio transmitters
> with them.

Steve-

I played with a Nuvistor back in the mid-60s. The feature that they were noted for, was having a very good noise figure, when used as an RF pre-amplifier. Some may have been used as local oscillators, and be useful in QRP transmitters, but I don't recall hearing of them being used that way.

Compared to today's low noise solid state devices, the Nuvistor is probably not so good. However, I would guess the pentodes would have superior intermodulation characteristics, due to the high operating voltages involved.

By the way, do yours have other tube numbers besides 6-52? I recall 4-digit numbers on some, and numbers like 6CW4 on others.

73, Fred, K4DII

280. Re: Hambrew Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-23 23:44:56 UTC
From: riyadth@boi.hp.com
Message-ID: <D2vtyx.JJ7@boi.hp.com>
Source record: 114580
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

Hello,

In article <1CE00336A9F@iunhaw1.iun.indiana.edu>,
Tim Stabler <TSTABLER@iunhaw1.iun.INdiana.EDU> wrote:
> For those who have not seen it, Hambrew is an excellent magazine for
> those who like to home-brew equipment. Some feel that it is oriented
> towards QRP, but not necessarily so.
>
> The new price is $10/yr for the U.S., $15/yr for Mexico and Canada
> and $21/year for international. The magazine is a quarterly.
>
> Their phone number is (800)5-HAM-RIG and the address is P.O. Box
> 260083, Lakewood, CO 80226.
>
> I am not connected with them but have every issue. When the new
> issue arrives, I do nothing until I have read it from cover to cover.

I would just like to say that I agree completely. I liked my first issue
so much I ordered all the back-issues.

Hambrew certainly isn't on the level of Communications Quarterly when it
comes to heavy theory and complex, advanced designs, but they do a great
job of addressing the QRP enthusiast. Constant improvements to existing
designs are presented, and new ideas are discussed for readers to
experiment with.

I have no affiliation to Hambrew magazine, other than I, too, read it
from cover to cover.

-Riyadth Al-Kazily
riyadth@boi.hp.com
--
-- Riyadth Al-Kazily Hewlett-Packard Advanced LaserJet Operation --
-- riyadth@boi.hp.com (208) 396-4987 Boise, Idaho KB7YWE DoD #295 --

281. HAMCALC9.ZIP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 00:16:50 UTC
From: jgrubs@voxbox.norden1.com
Message-ID: <RaPeZc2w165w@voxbox.norden1.com>
Source record: 114584
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,alt.radio.pirate

-----BEGIN PGP SIGNED MESSAGE-----

Some have expressed interest in having the VE3ERP HAMCALC9 programs unpack with PKUNZIP -D and still be located in and work from elsewhere than the root directory. I have reworked the files so they work off \HAMCALC. If I missed a program, please let me know.

I didn't change anything else. It's too good the way it is.

I called the revised zip HAMCALC0.ZIP.

I'll send it uuencoded by e-mail to anyone who asks. Free, of course, but donations to MDA are urged or the Canadian charity VE3ERP requested.

-----BEGIN PGP SIGNATURE-----
Version: 2.6.2

iQCVAwUBLyRHmN74r4kaz3mVAQFI3QP9FWC3VQgYLqc04g9/uu0AMljLE4M3WLX5
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SuOZQmfIinO49eod7PCxGEar+2chyCXpiJutrRxbW703mWDJ++XUrDHMqL+kwvFH
kROVu3JEcz4=
=o0KE
-----END PGP SIGNATURE-----

282. Re: FM broadcast receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 00:35:54 UTC
From: dmturne@ptsfa.PacBell.COM
Message-ID: <1995Jan24.003554.19372@ptsfa.PacBell.COM>
Source record: 114581

In article <1995Jan22.173330.4526@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>>
>>Linear phase is a specific type of filter, different from
>>Butterworth or Chebyshev. I would expect that a good filter
>>design book would cover it. Once you have the right Qs and
>>loading, you tune all the tuned circuits to the same frequency.
>>
>>This is easier than stagger tuning! Also it makes it easier to
>>tune in FM stations since the peak response is when you are on
>>the stations frequency (no multiple peaks).
>
>The downside of these filter designs is that they have poor skirt
>selectivity. That means you can't pull out a distant station when

The Marantz Model 10-B (one of the finest FM receivers ever, IMHO) used six IF stages each with a three-pole Butterworth filter (18 dB per octave) for a total of 108 dB/octave.

>there is a strong local on a nearby channel. Since the FM broadcast
>band has gotten a lot more crowded since the 1970s, this style of
>filter is no longer very useful in a high performance receiver.
>

Listening to many current FM receivers, I'd gladly have a 1960s 10-B instead.

The 10-B wasn't cheap; it sold for $750 in 1966.

--
Dave Turner (510) 823-2001 dmturne@pacbell.com

283. Re: RCA NuVistor sub-min valve 6-52

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 05:11:12 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <3g224s$77t@cat.cis.Brown.EDU>
Source record: 114582

In article <frederick.mckenzie-1-2301951816280001@k4dii.ksc.nasa.gov>,
frederick.mckenzie-1@kmail.ksc.nasa.gov (Fred McKenzie) said:

>I played with a Nuvistor back in the mid-60s. The feature that they
>were noted for, was having a very good noise figure, when used as an RF
>pre-amplifier. Some may have been used as local oscillators, and be
>useful in QRP transmitters, but I don't recall hearing of them being
>used that way.

Amory Fisher specified the 6CW4 'vistor for local oscillator and
mixer in his top of the line FM-1000 "FM broadcast monitor".
This is a high-mu miniature triode.

Quite a few different ones must have been made. I have the
highly regarded 8393 Nuvistor in a Tek 50MHz o'scope from '64.
If it breaks I'll have a hard time finding a semi that's take it's
place (actually I think there are six of them in there).

I still wonder if the original poster looked at the right numbers
when he identified this tube. I do not remember ever having seen
a "6-52".

>Compared to today's low noise solid state devices, the Nuvistor is
>probably not so good. However, I would guess the pentodes would have
>superior intermodulation characteristics, due to the high operating
>voltages involved.
Would you explain this ? Are we talking a large linear range or
is there some nitty-gritty trickery here ?

john 015

284. Re: QEX--any good

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 05:14:54 UTC
From: faunt@netcom3.netcom.com
Message-ID: <FAUNT.95Jan23211454@netcom3.netcom.com>
Source record: 114583

My only problem with QEX is that I have to renew every year, and I
haven't been able to find a complete set of back issues.
The renewal form only mentions single year renewals. I have already
sent mine in for another year.
73, doug

285. CB to 6 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 06:27:29 UTC
From: gayle@cyberspace.COM
Message-ID: <Pine.SUN.3.91.950123222619.7713A-100000@wage>
Source record: 114594

Hello, All!

Not too sure if this question belongs here or, perhaps, in the
equipment group, but I'll try here first and see what happens...

Anyway, I have heard a little lately about converting old AM/SSB CB
gear to 6m. Note that I said six meters and _not_ ten meters. While I have
not put much thought into this yet, I would think that there would be some
serious problems to overcome in this radical of a change in frequency.

If this could be done, it would be a cheap way to get on 6m, at least
around these parts, since a 40 channel AM/SSB mobile CB can be had for
well under $50!

Anyone have any information and/or comments?

Take Care & 73 de Marty KC6UFM

KC6UFM@KC6UFM.#SEMO.MO.USA.NOAM
kc6ufm@kc6ufm.ampr.org. [44.46.96.1]

286. Re: 2 meter all mode rx performance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 08:18:33 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3g2d4p$1bhv@info4.rus.uni-stuttgart.de>
Source record: 114521

In article <9501231529.AA6007@smtp.UB.com>,
David Bourque/UB Networks <David_Bourque@UB.com> wrote:
>Ok, So the VHF contest was lots of fun except for Sunday evening when lots of
>the BIG local signals came on at the same time for several hours.

David,

Your problem is actually twofold:

1. the dynamic range of your RX. Limitation arises in the TX/RX switch
if it is not a relay and in the mixer. You can minimize the latter by
avoiding excessive gain in the front. But you want a good nf at the same
time...

You might be able to find mods for your set, but a better alternative is
to exchange it for a good HF TRX and a good transverter.

2: The splatter by the other stations. Even the best RX wont help here.
Some "contesters" deliberately overdrive their transmitter, to keep
the band around their frequency clear. (I know, they should be dis-
qualified).
What is worse, is that some syntezized VHF multimodes put out a considerable
noise floor, and signals off their frequency, there is little help either.
The bad news is that if I am remembering correctly the 271 is *very*
bad in that respect, like the FT290R.

An example: My RX has a high level FET mixer, but in a contest
I could hear a station with s9+40 and 50KHz down there it was
again loud and clear with s7.

Hope you will be able to solve your problem,

73, Moritz DL5UH

287. Re: What is a "7805"?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 09:26:35 UTC
From: robertc@qnet.com
Message-ID: <3g2h4b$j86@cello.qnet.com>
Source record: 114600

so-patu@stekt14.oulu.fi (Timo Patana) writes:

>In article <3fgthm$o7v@masala.cc.uh.edu> djenkins@jetson.uh.edu (David Jenkins) writes:

>> Summary: Saw a reference to a "7805" in VR context - what is it?

>> I am not solid-state literate - can someone tell me what this device is, and
>> its likely application(s)?

>Noise generator ? :)

> Timo
>---
>Timo Patana ARE : +358-81-344947
>OH6NVG GSM : 940-0853872 (OULE TPa)
>Men know it-North State is full tobacco

7805 is a 5 VDC regulator

--

| Robert Comperini, KN6EZ Packet: KN6EZ@KB6ZBI.#soca.ca.usa.na |
| Lancaster, California E-Mail: robertc@qnet.com |
---

288. RCA NuVistor sub-min valve 6-52

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 13:01:55 UTC
From: gsymonds@hpb.hwc.ca
Message-ID: <3g2to4$58k@m.ehd.hwc.ca>
Source record: 114606

There was one nuvistor that was used as a transmitter - it was a tetrode (with a plate cap) used in sonobuoys that output about 600 mw at 80 MHz operating class C. I think it was an 8203. This nuvistor had its shock rating (in g's) specified quite tightly, as I expect it had to survive smacking into the ocean after being dropped from a plane.

Altogether about a dozen types were manufactured, and I know of only two (the one mentioned above and the 7587) that are not triodes. I sold a couple of 6CW4's the other day, and they had a measured Gm of about 14,000.

Recently here in Ottawa, some Communications Electronics surveillance receivers (10 - 300 MHz) came on the surplus market. They use a pailful of nuvistors each - I would guess abot 6 - 6CW4 and 25 - 7587. Virtually all of the tubes (sorry, nuvistors) are low in Gm - they were probably used by a government "surveillance" agency and left on for years at a time.

RCA tried to pretend that nuvistors were not tubes, hence the word "tube" does not appear anywhere in their literature. The name of the RCA "New Vista" television, which used a 6CW4 as an RF amp, is a play on the word "nuvistor"!

Gordon Symonds

A
A
standby for years.

289. 2M SSB TX performance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 14:15:41 UTC
From: zlau@arrl.org
Message-ID: <1995Jan24.141541.28422@arrl.org>
Source record: 114586

Paul H. Bock K4MSG (phb@syseng1.melpar.esys.com) wrote:

: I might also point out that, at least here in FM19, part of the
: problem was that at least one of the "big guns" had a *very* trashy
: signal, while some others were extremely clean by comparison. I
: would be in favor of a QRO limit during contests; 300 watts might be
: a nice figure, it puts everyone on a more equal footing and forces
: operators to focus on things like line loss, antenna configuration,
: etc., to gain an "edge." But, that's just my opinion.....

I have to disagree, even though I'm a pretty experienced QRP
VHF+ contester.

The problem with the limit is that it is likely to encourage people
to run solid state bricks flat out, as opposed to tube amplifiers
loafing around. The trashy signals usually result from high power
bipolar finals run at maximum output on the meter. The problem isn't
the 3rd order IMD, it is really the high order stuff. Mark Wilson,
AA2Z, got excellent results running a 28 volt FET driver between his
transverter and the tube final. I think W2SZ/1 now does this as well.
With a well designed circuit, best signal quality often occurs when you
run a brick at 1/2 the maximum output. Not sure how to run those bricks
with poor bias circuits (those that don't even have a monotonic gain vs
output curve). However, you might as well run those hybrid modules at
full rated output--lowering the output doesn't help much.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

290. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 14:19:09 UTC
From: mack@mails.imed.COM
Message-ID: <9500247909.AA790964735@mails.imed.com>
Source record: 114588

```
**********************************************************************
From: dyeske@st6000.sct.edu (David Paul Yeske)
Subject: CD changer FM transmitter

I have seen car CD changers that had a many FM stereo transmitter so that
you could keep your CD changer safe in your trunk while tuning in to your
CD's. I have a car radio (no tape) and a portable CD player. I am sure
I could build or buy a small FM stereo transmitter to hook up to the
earphone jack of the CD player so I can hear it through the car's
speakers. Is there a basic schematic to build this or do I need to order
a kit? If so what would be the best kit for this situation?
**********************************************************************

David:

Don't bother trying to make one. Radio shack sells a complete one for
about $30 to $40. It is MUCH easier than trying to build your own.

If you are just interested in building one for the thrill of building
it, it is not terribly difficult to build a discreet component stereo
transmitter. I am not aware of an off the shelf stereo tranmitter IC. If there
was one then there would be no challenge in building it anyway.

The blocks needed to build on are a 38 KHz oscillator, a divide by two
circuit and filter for the 19 KHz pilot tone, a double balanced mixer, and
circuitry to generate a Left minus Right audio signal. This stuff generates the
stuff for the stereo part. Then you need a FM transmitter (a VCO of some sort).

If you are interested in further information please ask.

Ray Mack
WD5IFS
mack@mails.imed.com
```

291. Re: 2 meter all mode rx performance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 14:23:26 UTC
From: zlau@arrl.org
Message-ID: <1995Jan24.142326.28670@arrl.org>
Source record: 114587

David Bourque/UB WB1FLD Networks (David_Bourque@UB.com) wrote:
: and carefull timing of when to answer calls. Last night was the one
: exception. So, has anyone got any suggestions for what I should look at
: changing in the receiver chain that will help things out? I know the first
: logical choice is the first amplifier stage but what is the major factor in
: determining dynamic range? Any suggestions at all will be appreciated. Thanks

The weakest link(s) are usually the mixers. Thus, if you can switch out
the RF amplifier in the radio this will help a lot--have a single mast
mounted preamp feeding the bpf/mixer. Alternately, you could improve
the mixer--Mutek electronics once sold conversion boards for Icom receivers.
These were a relay for low loss T/R switching, a low noise preamp, and a
diode passive mixer. A mast mounted preamplifier accomplishes the
first two even more effectively.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

292. Announcing once again... the "lancedude" archive

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 14:38:05 UTC
From: lance@PROBLEM_WITH_INEWS_DOMAIN_FILE
Message-ID: <3g33cd$dal@usenet.rpi.edu>
Source record: 114604

I've been collecting parts data, mostly RF parts data and utilities
for many months, and I've put them on my computer. They are now
available by anonymous FTP (or available via mosaic's ftp interface...
more on that later) for now. If things go well, this availability
will continue.

I have two requests:
1) please ftp the files between 7 am and 11 pm, the computer is
in my dorm room, and the drive is loud.
2) Please contribute!!

More on Item 2: If you have any parts data on RF transistors, diodes,
anything, please let me know, and I'll add it to the archive. Also,
if you have any free software/utilities relating to RF circuit design,
the same applies.

I have the following:

-Motorola RF data (which rev I'm not sure), noise and s
parameter data files that they provide on disk.
- NEC RF data (same as above) and plotting/selection utilities
(from the wireless sampler I won at packrats this year)
- HP parts data (and hp appcad in the software directory) that came
with hp app-cad

- some spice models for op-amps and such

That's it, so if you know where I can get more, please let me know!

Here's the addr: lancedude.stu.rpi.edu

The directory structure is a little Kooky, here's a summary

pub/Stuff/Electronics
pub/Stuff/Electronics/Data
pub/Stuff/Electronics/Data/RF_DATA
pub/Stuff/Electronics/Data/RF_DATA/moto
pub/Stuff/Electronics/Data/RF_DATA/nec_si
pub/Stuff/Electronics/Data/RF_DATA/nec_gaas
pub/Stuff/Electronics/Data/RF_DATA/HP

there's lots more there... poke around and find out for yourself

You can also get to lancedude through my www home page at rpi,
there's an FTP link to lancedude there (addr is in my sig).

73 and good luck,
de WS2B

--
Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @ Rensselaer
FINALLY, A WWW PAGE -> http://www.rpi.edu/~lascal/
Mount Greylock Expeditionairy Farce Secret agent #52,342

293. Re: 2 meter all mode rx performance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 15:57:45 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan24.155745.14477@ke4zv.atl.ga.us>
Source record: 114591

In article <9501231529.AA6007@smtp.UB.com> David_Bourque@UB.com (David Bourque/UB Networks) writes:
>Ok, So the VHF contest was lots of fun except for Sunday evening when lots of
>the BIG local signals came on at the same time for several hours. Now I know
>how bad the dynamic range is on my receiver. Splash everywhere. Useless.
>Anyone got any tips on how to improve things? I run an older Icom 271A. I've
>known about the poor dynamic range for some time but until last night I was
>always able to find a spot on the band to work the crowd during the contest.
>With one or two bigs signals I can null them out with carefull beam headings
>and carefull timing of when to answer calls. Last night was the one
>exception. So, has anyone got any suggestions for what I should look at
>changing in the receiver chain that will help things out? I know the first
>logical choice is the first amplifier stage but what is the major factor in
>determining dynamic range? Any suggestions at all will be appreciated. Thanks
>post here or directly to me via email.

Well the thing that worked for me was the Mutek front end replacement board. It gave a remarkably better noise figure and 3rd order intercept than the stock unit. It has a reed relay TR replacing the stock PIN diodes, the RF stage, a SBL-1 diode ring first mixer, and a post mixer amplifier on it. This board is no longer produced, but the fact that it solves most of the problems of the radio, aside from the phase noise of the LO, should point you in the right direction. I suspect that the relay is the key to the better noise figure and that the first mixer is the key to reduced IMD. Certainly the new RF stage is nothing fancy, just a bipolar amplifier. I didn't have the option to try changing one circuit at a time with the Mutek board swap.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

294. Re: HAMCALC9.ZIP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 16:15:28 UTC
From: wasmir@dlep1.itg.ti.com
Message-ID: <wasmir.46.011C6760@dlep1.itg.ti.com>
Source record: 114585
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,alt.radio.pirate

In article <RaPeZc2w165w@voxbox.norden1.com> jgrubs@voxbox.norden1.com (Jim Grubs, W8GRT) writes:
>From: jgrubs@voxbox.norden1.com (Jim Grubs, W8GRT)
>Subject: HAMCALC9.ZIP
>Date: Mon, 23 Jan 95 19:16:50 EST

>-----BEGIN PGP SIGNED MESSAGE-----

>Some have expressed interest in having the VE3ERP HAMCALC9 programs unpack
>with PKUNZIP -D and still be located in and work from elsewhere than the root
>directory. I have reworked the files so they work off \HAMCALC. If I missed a
>program, please let me know.

>I didn't change anything else. It's too good the way it is.

>I called the revised zip HAMCALC0.ZIP.

>I'll send it uuencoded by e-mail to anyone who asks. Free, of course, but
>donations to MDA are urged or the Canadian charity VE3ERP requested.

>-----BEGIN PGP SIGNATURE-----
>Version: 2.6.2

>iQCVAwUBLyRHmN74r4kaz3mVAQFI3QP9FWC3VQgYLqc04g9/uu0AMljLE4M3WLX5
>UkNlqiwamS1sFvg/PnFWhU/YjerZqvh1fXT1LIRPha2Vv8kidkCIULFLd9Dar+mx
>SuOZQmfIinO49eod7PCxGEar+2chyCXpiJutrRxbW703mWDJ++XUrDHMqL+kwvFH
>kROVu3JEcz4=
>=o0KE
>-----END PGP SIGNATURE-----

Hi Jim...can I try this program? Please send me the uuencoded program HAMCALS9.

73

295. Re: 468MHz tx on FT530 Possible?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 17:00:50 UTC
From: muehlber@badlands.NoDak.edu
Message-ID: <D2x5xE.Lys@ns1.nodak.edu>
Source record: 114593
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Rob Knauerhase (knauer@ibeam.jf.intel.com) wrote:
: In <3euo7f$e93@nntp.interaccess.com> vuckovic@flowbee.interaccess.com (George Vuckovic) writes:
: >I've acquired a Yaesu FT530, which came with the extended tx/rx mods
: >already performed. It says that it should be able to tx up to 470MHz,
: >but it fails at 467. What happens is that I push the ptt, the TX light
: >comes on, (no signal present on other radio), and then the TX goes off,
: >with me still pressing the ptt. Anyone else have such a problem?

Actually Rob, this is not a problem. The VCO will not lock at that frequency. Although whoever sold you the radio said it would transmit up there, I'm sure Yaseu would never admit that. I did mods on many FT-530's and got so many questions about the TX range, I finally tested one and found that it will indeed transmit to 470 mhz, but the power output drops to milliwatts. The transmitter has a tight passband for the amateur band, and power drops off exponentially outside the band. I should add my discalimer that the radio is not type accepted for operation outside the amateur band. Since I no longer work for Radio City,(quit to go to college) though, I say... Knock yourself out!

Jim N0WMR x - amateur radio tech.
: Make sure you don't have any repeater offset turned on. A little
: experimentation with an FT-530 around here shows that it does transmit,
: unless you have positive repeater offset which causes the TX freq to be
: over 470MHz.

: Rob
: --
: Rob Knauerhase [knauer@ibeam.jf.intel.com] Intel Mobile Technology Lab
: "It would be quite possible to control a distant computer by means of
: a telephone line." -- Alan Turing, 1947

--

GGGGGG OOOOOOO N N A V V Y Y Jim Muehlberg
G O O NN N A A V V Y Y muehlber@badlands
G GGG O O N N N AAAAAAA V V Y Y Y .nodak.edu
G G O O N NN A A V V Y "Support our
GGGGGG OOOOOOO N N A A V Y military personnel"

296. Re: **VFO DRIFT in HEATH HW-99***

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 17:19:49 UTC
From: smiller@motown.ge.com
Message-ID: <3g3crl$qr1@cnn.MOTOWN.GE.COM>
Source record: 114590

There was an article in QEX about 4 years ago on improvements to the HW-9 which was basically a low power cousin to the HW-99. I ahve the article. if you want it let me know via e-mail.

297. Re: QEX--any good

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 17:42:48 UTC
From: tnichols@bmers29c.bnr.ca
Message-ID: <3g3e6o$kfh@bmerhc5e.bnr.ca>
Source record: 114616

Add my opinion to the pot - QEX is WELL worth the $12 a year to subscribe. Unfortunately, sending the thing over the border doubles the cost. So, if you are living in the US, I wouldn't be griping too much about the extra cost. Just remember, it could be worse!

Todd

Todd Nichols Bell Northern Research, Ottawa, Ontario (613) 765-3560
tnichols@bnr.ca
KB0HQU/VE3 BNR didn't say it; I did

298. Re: Is QEX any good

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 18:28:08 UTC
From: jbloom@arrl.org
Message-ID: <1995Jan24.182808.3415@arrl.org>
Source record: 114592

Ted Kell (kell@mpac.jsc.nasa.gov) wrote:
: In article <9500187904.AA790453670@mails.imed.com>, mack@mails.imed.COM wrote:

: > In my opinion you should call them immediately. If you are TECHNICALLY
: oriented
: > you cannot live without this publication!
: >
: > Ray Mack
: > WD5IFS
: > mack@mails.imed.com

: Ok, who should we call and how much does it cost??

QEX is published by the American Radio Relay League, Inc. You can
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225 Main Street
Newington, CT 06111
203-666-1541

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$48/year (ARRL member)
$60/year (nonmember)

Jon, KE3Z (Editor, QEX)
--
Jon Bloom KE3Z jbloom@arrl.org

299. Re: printed pc-boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 19:51:24 UTC
From: Dan.Freeberg@commctr.com
Message-ID: <798_9501242025@commctr.com>
Source record: 114602

-=> Quoting richeych@iastate.edu to All <=-

ri> From: richeych@iastate.edu (Carlton H Richey)
ri> Newsgroups: rec.radio.amateur.homebrew
ri> Subject: printed pc-boards
ri> Date: 21 Jan 1995 20:20:51 GMT
ri> Organization: Iowa State University, Ames, Iowa (USA)

ri> Hello. I am a student in Industrial Education and Technology at
Iowa
ri> State University. Currently I am enrolled in an industrial
printing
ri> class and I am planning on doing a project on printed pc-boards.
I
ri> have never had any practrical experiance with printed pc-boards
and
ri> would apreciate any hints that you could give me. For example,
process
ri> considerations, favorite methods, supply sources, any tricks that
you
ri> may know... Generally, Anything.

There is a program called PCTRACE5.ZIP or PCTRACES.ZIP. It is shareware, but I don't know if it is still supported. The support BBS listed in the documentation no longer exsist. This copy is over two years old but works great. It will create double sided printed circuit board traces. You identify the parts and connections.

Not all parts have board layouts but the program has the ability to allow you to create new parts layouts (i.e. I had to create a three point trace layout for a transistor, was not a big problem)
You also place the parts in a layout on the board and it draws the connections. By moving the parts around the board you can change the level of success with all of the connections being done on the circuit board and not having to wire any connections. It will print out the layout on several printers. I had to use the HP lazerjet 2 setting and it printed fine on my HP lazerjet 4.

All Electronics Corp. catalog (800-826-5432) sells "Press-N-Peel" by Technick or "Toner Transfer System" by DyanArt Designs. I have not gotten to this point yet because I just discovered PCTRACE. It appears that you can use Lazerjet or copier to transfer the design to a special paper in one of these kits. The paper is attached to the copper clad board and then etched. The only thing left is to drill holes and solder.

Good Luck.

... Catch the Blue Wave!
--
|Fidonet: Dan Freeberg 1:128/168
|Internet: Dan.Freeberg@commctr.com

300. Re: CD changer FM transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 20:37:35 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <3g3odu$t7p@cat.cis.Brown.EDU>
Source record: 114595

Hi,
Look at the February issue of Popular Electronics: The FM-10A
kit from Ramsey. People say it sounds fine close up. $34.

john

301. Re: HELP- IDENTIFY THIS LINEAR AMPLIFIER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 20:49:38 UTC
From: sorgatz@avatar.tti.com
Message-ID: <1995Jan24.204938.6758@ttinews.tti.com>
Source record: 114596

In article <3fsjhr$ob9@news.ecn.bgu.edu> uiahmed@uxa.ecn.bgu.edu (Iftkhar Ahmed) writes:
>Subject: HELP- IDENTIFY THIS LINEAR AMPLIFIER
>Newsgroups: rec.radio.amateur.misc,
>rec.radio.amateur.homebrew,rec.radio.amateur.equipment Summary:
>Keywords:
>
>Few months back somebody gave me a linear amplifier for 10m. It is a solid
>state unit. I accidentily applied high power input signal to it then

Oh...you mean a CB linear! ;-)

>recommended. As a result of which the input circuit of the amplifier was
>destroyed. Some of the pcb connections were also burnt. I don't have any
>technical information about this amplifier. There is no company name on
>it but the guy who gave it to me, told that it is a USA made amplifier.
>The only inormation about the amplifier on its box is its model which
>says TX500. It contains four Toshiba power transistors. I was wondering

uhuh...I bet..the "TX500" identifies it as a "Texas Star 500", this is a
cheap brand of transistorized linear that some bunch of Criminal-Banders
makes in a garage somewhere...supposidly in Texas. The transistors are
similar to the Motorola MRF455-454 types and the literal output RMS is
seldom over 250 watts. The "500" probably means input, or "CB-good-buddy
watts" or something.

Forget returning it to 'the Factory' for service...they move every weekend
or so Im told! The amp isnt worth much. A matched set of MRF455's is $90
so it might cost you $180 to fix it in parts....and then there's the small
matter of it's spectral purity...heh heh...do us all a favor OM, throw the
bastard in the junk box and BUILD yourself a good amp...one with some real
tuned circuits so it dosent splatter and distort. It's easy to do, just look
at the design that the ARRL Handbook pubs...or get one of the kits from
the dealers in QST. A transistor amp *CAN* be clean...but the TX500, like
99% of the CB amps isnt and cant be made clean easily.

>if some body out there can provide me with more information about this
>unit. Even if you know about the company that will work for me.
>Appreciate any replies in this regard.
>
>73s
>
>Khan (N7OLJ / AP2CW)
>

You're welcome, c u on 10m!

73!

-Avatar-> (aka: Erik K. Sorgatz) KB6LUY +------------------------------+
TTI(es@soldev.tti.com)or: sorgatz@avatar.tti.com *Eliminate net-spam & cascades!*
3100 Ocean Park Blvd. Santa Monica, CA 90405 +------------------------------+
(THE OPINIONS EXPRESSED DO NOT REFLECT THE VIEWS OF CITICORP OR ITS MANAGEMENT!)

302. Stepper Motor: Useful?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-24 21:08:09 UTC
From: R0264@info.onet.edu
Message-ID: <17330E2E9S86.R0264@info.onet.edu>
Source record: 114597

I have 3 or 4 (I think) little stepper motors that came out of Teac floppy disk drives -- the motors used for head positioning. I wonder if they might work to remotely turn an air variable capacitor in a tuning circuit at the feedpoint of an antenna. I don't know how to use them though, and wonder if anyone does. There are 6 wires: brown, brown, yellow, red, blue, and white. The shaft seems to be about 1/8" or 3/16" (probably metric). The motors are nearly cubical in shape, about 1.75" x 1.75" x 1.75". The label on one says Teac 3Z13B, and another one says Teac 5X03.

I also have 4 bigger ones with worm gear shafts that came out of old 8" floppy drives, also for head positioning, I think. These are cylindrical, about 2" in diameter and 3" long. The worm shaft is about 3/8 to 1/2" diameter and about 5" long. These have 4 wires: black, brown, red, and orange, not necessarily in that order. The label says Warner Electic No. SM-024-0045-AS, then RES/0 19 Ohm, then RATED 1.26 AMP- 24VDC, and some other numbers that I can report if they mean anything to anyone. I don't know how to use these either.

I'd appreciate any info on these, how to use them, and ideas on how they might be used for amateur radio operations. TIA.
---Phil Emerson, AA8JO.

303. Re: Ramsey Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 00:24:55 UTC
From: dcurtis@mipos2.intel.com
Message-ID: <3g45on$9ip@inews.sc.intel.com>
Source record: 114598
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <cjs9.206.000C7C73@cornell.edu> cjs9@cornell.edu (Carl Steckler) writes:
>
>>I have built a few Ramsey kits, and I would recommend avoiding them.
>>/mike
>
>>Mike; I don't wish to disparage your electronics skills, but I have had
>more that moderate sucess with Ramsey kits. Their price is reasonable and I
>have found for the most part the instructions clear. Unlike some that are
>translated into english by the illiterate. "adjust until meter quivers most
>rightly"? Gine me and Ramsey a break. Heathkit had it's share of problems as
>well.
>Carl KB2SGX (ex-jarhead) Semper Fi
>"To those who fought for it, freedom has a flavor
>the protected will never know"
>unknown Marine; Khe Sahn, Viet Nam

Well Carl, I'm glad you had a good experience with Ramsey. Having built several Heathkits in my day, and two Ramsey kits, I'd say there is a big difference between what *was* at Heath and what *is* at Ramsey. Granted, Heath wasn't perfect, but I had 'high manufacturing yield' with Heaths, and received good post-sales service. The designs were mostly pretty reasonable and reliable. The two Ramsey kits I built were supplied with bottom-of-the-line components, and both had missing parts that I had to scrounge from the local parts emporiums. (It wasn't worth the hassle and the stamps to nag Ramsey). The designs (for the kits I built) are marginal, and though I got them to work, I suspect less experience builders might run a high risk of being disappointed. Kit designers face a big challenge in the area of manufacturing yield, since they have zero control over the 'factory'. Heath took pains to address the issue. Ramsey, in my limited experience of two inexpensive kits, does not.

Don't get me wrong, I don't mean this to be a 'trash Ramsey' post. They were low cost kits, and I did enjoy building them. But I would not have been a happy camper (or solderer) if I had paid any more for what I got.

73, Dave NG0X

P.S. Regarding English translations: ooooooohhh what a hot button of mine you just hit! It pi**es me off to no end to spend $1800 for a new radio and see things like "moduration input" and the like in dozens of places in the manual. There is absolutely NO EXCUSE (rude shouting intended) for that stuff from a multi-national manufacturer. I'd love to build up enough frequent flyer miles that I could go over to Japan and personally slap someone silly over the stupid errors in their documentation. Unfortunatly, that would probably also be considered rude. :-)

304. How to get 1:1 SWR on 5/8 antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 01:24:20 UTC
From: copeland@fohnix.metronet.com
Message-ID: <3g4984$cdm@fohnix.metronet.com>
Source record: 114601

I want to make a homemade 5/8 vertical antenna for 2m.
I've heard that the SWR is 1:3 without compensation.

What type/value of coil is neccessary to make the SWR correct?

I've made a coat hanger 1/4 wave ground plane that works well.
What is the SWR of 1/4 wave ground plane?
What can one do to make it better?
--

| There are two types of people in this world, those who separate |
| people into groups,and those who don't. KC5LWF copeland@metronet.com|
---

305. Re: 2M SSB TX performance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 01:28:33 UTC
From: lascal@rebecca.its.rpi.edu
Message-ID: <3g49g1$5qo@usenet.rpi.edu>
Source record: 114607

Zack Lau (KH6CP) (zlau@arrl.org) wrote:

[stuff deleted]

: the 3rd order IMD, it is really the high order stuff. Mark Wilson,
: AA2Z, got excellent results running a 28 volt FET driver between his
: transverter and the tube final. I think W2SZ/1 now does this as well.

Yep, we do. The IPA consists of an MRF-148 driving an MRF-150 (then
driving the 8877). This lineup easily does >100 watts, but we run it
between 40-60 watts. The bias was optimized for good 3rd and 5th
order IMD (I forgot the numbers). This seems to agree with what zack
was saying.... run the lineup below the limits... and you're bound to
get good IMD performance (of course FETs are better in some ways to
start with).

73
-L,the guy who built the w2sz/1 2m transverter

--
Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @ Rensselaer
http://www.rpi.edu/~lascal/
Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342

306. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 01:49:00 UTC
From: amsoft@epix.net
Message-ID: <3g4amc$16t@grape.epix.net>
Source record: 114599
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <3ftupi$plu@cactus.texas.net>, bob@texas.net says...
>
>In article <NEWTNews.18260.790755434.amsoft@amsoft.epix.net>,
AMSOFT@EPIX.NET says:
>>
>>
>>The Jan 95 "[deleted]" CD-ROM newsletter is now
>>available. This CD-ROM offers more ham programs than any of the
>>others out there! blah blah blah bullcrap
>
>/\/\/\/\/\/\/\ Chainsaw inserted here /\/\/\/\/\/\/\/\/\/\
>
>I, for one, do not wish to see the internet become a medium which
>presents a non-hostile environment for those who wish to use it to
>spew forth electronic junk mail. Many other would-be advertisers
>have had their mailers crashed by angry replies to such electronic
>fecal matter. I wish the same on the hoseheads at AMSOFT.
>___
>Bob | Roses are red, Violets are blue
>bob@texas.net | I'm schizophrenic, And so am I

What we offer on the Internet is "A FREE HAM NEWSLETTER" and nothing
more. The purpose of the newsletter is to inform the interested
Amateur Radio public that our product will provide them with useful
information about the hobby of Amateur Radio. The decision for
another individual on the Internet to receive a NEWSLETTER is the
readers decision, not yours. My post gives the reader the choice
if they wish to continue by requesting our newsletter. In the case
of yourself, you did not need to respond.

The ease of posting Usenet News articles causes many inappropriate
articles to be sent to the network.
An article can be inappropriate if it:

-- Is devoid of useful information or ideas.
-- Is sent to inappropriate newsgroup(s).
-- Is really intended for a particular individual,
rather than the entire Usenet community.
-- Contains rude or insulting remarks.

Articles should be composed thoughtfully. Consider sending an
electronic mail message rather than posting an article, if
appropriate. Be aware of the fact that many sites must pay long-
distance telephone charges to receive your article. Also be aware

of the fact that some of the popular newsgroups have tens of thousands of readers. 10,000 people each reading your article for 20 seconds spend a total of 55 hours reading your article. At the end of most articles there is usually a small blurb called a signature or sig. This usually comes from a file in the person's login directory and is appended automatically to the message by the news reader. Some people get carried away with their signature and place complex ASCII drawings or cute sayings at the bottom of their messages. These signatures bother most people and it is considered poor "netiquette" to ave signatures larger than about 4 lines. Please remember to save your signature file as plain ASCII text, since vendor dependent binary files (such as Microsoft Word files) are not portable across the entire Internet community.

Many new users wish to test their ability to post before they actually say anything of any interest to anyone. Don't post test type messages to an active newsgroup. This will interrupt quite a number of people and is considered poor "netiquette". There are usually a number of "Test" newsgroups (they usually have the word "TEST" in their name) that can be used to verify that posting from your host will be successful. Some test newsgroups (like ALT.TEST) have automatic E-Mail responding software. A post to those groups will cause electronic mail from all over the world to be sent back to you as your post gets forwarded from site to site.

The "Newsgroups:" line in a news header isn't limited to just one group. If a note makes sense to more than one area you can cross-post it to other newsgroups by just separating the newsgroups with a comma on the Newsgroups line. It is considered poor "netiquette" to cross-post to more than several newsgroups.

When posting new articles to News, please remember that News runs on many different hosts and operating systems. The majority of posts from the Usenet are viewed by people running non-DOS/Windows operating systems. Inserting graphics or non ASCII text (such as different fonts, underlining, color changes etc.) in an article will appear as unintelligible garbage to almost everyone else. When responding to articles, use the Follow-up Article option instead of the New Post option. This will maintain a reference link between your message and the article you were reading at the time of your posting. People reading your message from other "thread based" news readers, will be able to understand how your message fits into the rest of the conversation. Intersperse your comments between the quoted text and delete any large quoted sections that do not pertain to your response. Someone can always find the original text by clicking on the unique Message ID. Also, use Message ID's when referring to other articles and never refer to another article by it's article number. Article Numbers are never the same from system to system so only people reading news on your own local system will know to which article you are referring.

Try to keep your text in a generic format. Many (if not most) of the people reading Usenet do so from 80 column terminals or from work-stations with 80 column terminal windows. Try to keep your lines of text to less than 80 characters for optimal readability. If people quote part of your article in a follow-up, each line gets indented a few characters and gets proceeded with a ">". Thus, standard lines of 75 characters or less are best for later readability. Be careful when using proportional style fonts since they allow you to place more characters per line than fixed style fonts.

Last but not least BOB, your suggestion that persons should be asked to CRASH MAILERS WITH ELECTRONIC FECAL MATTER will be met with a strong challenge here at EPIX.NET!
Should such an occourence happen we will refer the matter directly to your commander, you are under the Uniform Code of Military Justice!
Furthermore any damages caused by your suggestion will be dealt with in a court of Civil Law.

307. CB to 6 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 02:54:54 UTC
From: hduff@humnet.westonia.com
Message-ID: <7736-207736401@humnet.westonia.com>
Source record: 114603

```
Ig>
Ig>
Ig> Hello, All!
Ig>
Ig> Not too sure if this question belongs here or, perhaps, in t
Ig> equipment group, but I'll try here first and see what happens...
Ig>
Ig> Anyway, I have heard a little lately about converting old AM/SSB
Ig> gear to 6m. Note that I said six meters and _not_ ten meters. While I ha
Ig> not put much thought into this yet, I would think that there would be so
Ig> serious problems to overcome in this radical of a change in frequency.
Ig>
Ig> If this could be done, it would be a cheap way to get on 6m, at lea
Ig> around these parts, since a 40 channel AM/SSB mobile CB can be had f
Ig> well under $50!
Ig>
Ig> Anyone have any information and/or comments?
Ig>
Ig>
Ig> Take Care & 73 de Marty KC6UFM
Ig>
Ig> KC6UFM@KC6UFM.#SEMO.MO.USA.NOAM
Ig> kc6ufm@kc6ufm.ampr.org. [44.46.96.1]
Ig>
```

Hi Marty... This CAN be done on only 1 model of 40 channel SSB chassis
(that I'm aware of) ..the Cybernet using the PLL02A phase locked loop.
There were many marketed models using this chassis including Colt,
Citizen, Hygain... I have done it to 2 radios and it DOES work !

The mixing scheme used in this chassis is what lends itself to the
possibility of conversion to 6 meters... the difference of 37 Mhz and
10 Mhz (rounded off) puts you into the CB band around 27 Mhz.
By using the SUM instead of the difference of the mixer by changing the
filtering on the output of the mixer, you'll end up on roughly 47ish
Mhz. A crystal change will bump you up into the 6 meter (50 Mhz) band.
The mixing goes on at the first mixer of the receiver and final mixer in
the transmitter stage, therefore, the front-end of the RX and the PA strip
of the TX beyond the mixer must be changed to work at 50 Mhz.
This involves removing, modifying and replacing coils, transformers and
capacitors.
I would caution anyone without a pretty thorough knowledge of electronics
and full understanding of the mod notes NOT to attempt this it.
Removal of the coils for the mixing filter, front-end and TX strip
and reworking them can be a frustrating endeavor. Then comes the

substitution of capacitors and tuning of the reworked coils and
transformers...and removal if more turns are required to be taken off or
rewinding the coils if you had taken too many turns off ...ughh !
I think you get the picture ! If you don't have the experience or the
patience, you WILL end up with a basket case CB radio.
There are some idiosyncrasies about the mod even once it's done...
some of the channels get mixed up depending on what mode you are
using...ie.. channel 10 on USB will not be channel 10 on AM or LSB.
This is due to the change in the mixing (sum instead of the difference).
Give it a try if you have confidence and time and don't mind the
possibility of getting frustrated halfway through...All you will be out
is $50 for an old CB and a bit of your time.
As I said, I did it twice and it DOES work.

73 de Hugh Duff VA3TO (formerly VE3OYH) Toronto

• NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---

308. Re: Stepper Motor: Useful?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 08:54:05 UTC
From: etxcjog@eos.ericsson.se
Message-ID: <3g53jd$4ui@erinews.ericsson.se>
Source record: 114605

In article <17330E2E9S86.R0264@info.onet.edu>, R0264@info.onet.edu writes:
> I have 3 or 4 (I think) little stepper motors that came out of Teac
> floppy disk drives -- the motors used for head positioning. I wonder
> if they might work to remotely turn an air variable capacitor in
> a tuning circuit at the feedpoint of an antenna.

> I'd appreciate any info on these, how to use them, and ideas on
> how they might be used for amateur radio operations. TIA.
> ---Phil Emerson, AA8JO.

You could use them in an ATU turning the capacitors and coil.
-however a application where DC motors with reduction (200-500:1)
in an ATU is used will be cheaper and a much simple design/control unit.

Our Swedish ham.magz - QTC, had two articles recently on both stepper and
DC motors. They where both homebrewed designs.
/Christer sm0ncl

309. HELP !! Schematics needed !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 10:50:29 UTC
From: pferreir@mat.mat.uc.pt
Message-ID: <3g5adl$7b2@gnu.mat.uc.pt>
Source record: 114608

Hi, everyone !!

I'm Paulo, from Portugal. I wanted to know if someone
could help me...

I want to be ham, and all it takes to it is to take
an exam. But I also want to build my own equipment !

So, I'm asking you if you could tell me (or send me, if
it is possible) where I can find some schematics (with
PCB drawings included, if possible) of xmtrs and receivers
for the 2m band .

If you can help me, please e-mail me !!

Thanks for everything and I hope to ear from
you soon

Paulo Ferreira

--

---
* *
* Paulo Jorge Gomes Ferreira *
* CCG - Computer Graphics Center *
* Coimbra - Portugal *
* *
* e-mail : pferreir@ccg.uc.pt *
* *
---

310. Help for Novice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 11:55:53 UTC
From: uu482@freenet.Victoria.BC.CA
Message-ID: <1995Jan25.115553.10793@freenet.victoria.bc.ca>
Source record: 114617

Hello,

Here is a remarkably simple (and probably dumb) question from a total neophyte
who is just getting his feet wet in building a QRP CW transmitter:

When you use a Dip meter to tune an L-C circuit, does RF energy have to be
present for the needle to 'dip'??

Embarrassingly yours,
Andy, VE7 HIP (quiet as hell)

uu482@freenet.victoria.bc.ca
--

311. NEW QSL Info server on Internet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 13:28:35 UTC
From: Gianluca Mazzini <gmazzini@deis.unibo.it>
Message-ID: <3g5jm3$lu@sirio.cineca.it>
Source record: 114609
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc, rec.radio.amateur.antenna

Today I start to run a QSL information database on Internet
with update possibility from the users. The service is on:

http://promet12.cineca.it/htlzh/qsl.html

Now, more than 20000 info are recorded but everybody
can improve this number and help me to build an
interesting, simple to use, worldwide QSL info server.

Please, when you access the system for the first time read
the Info/Help item.

73 & DX de IK4LZH John

312. Re: TALENT SEARCH 2000

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 14:41:53 UTC
From: Claude Mundy <cmundy@blkbox.com>
Message-ID: <Pine.SCO.3.90.950125084006.7697A-100000@blkbox.blkbox.COM>
Source record: 114611

Talent categories include stupid suckers, and "Yes, I'm giving
depositions in this fraud case."

On Wed, 18 Jan 1995, Julia S. Butler wrote:

> $Show your talent on TV world-wide on the TALENT SEARCH 2000 Telvision Show.
> Everyone is accepted, no one is rejected. Cash prizes awarded quarterly. For
> only $50.00, your talent will be aired internationally on major TV NETWORKS.
> Here's how:
>
>
>
> 2. There are 3 methods of payment. You can charge your appearance on VISA, MASTERCARD,
AMERICAN EXPRESS, or DISCOVER card by calling 1-800-822-7498 or 1-708-389-1692. Your card
will be charged $50.00. E-mail us at the following addresses:
>
> jsb@pop.interaccess.com
> jodyw@pop.interaccess.com
>
> Checks or money orders can be sent to:
>
> TALENT SEARCH 2000, INC.
> P.O. BOX 8027
> CHICAGO, IL 60643-8027
>
> Payment arrangements are available.
>
> If you don't have a tape available and need a professional tape to be produced for you,
we have fadcilities around the country to provide this service. Call 1-708-389-1588 for
pricing and scheduling.
>
> DON'T WAIT: ACT NOW to get your chance to display your talent all over the world on
TALENT SEARCH 2000!!
>
> ==========
>
> TALENT SEARCH 2000
> P.O. Box 8027
> Chicago, IL 60406
>
> ==========
> APPLICATION FOR APPEARANCE
> $50.00
> ==========
>

>
> NAME: _____
>
> ADDRESS: _____
>
> CITY: _____ STATE: _____ ZIP: _____
>
> HOME PHONE: _____ BEST TIME TO CALL: _____
>
> METHOD OF PAYMENT: VISA____ MC_____ AM EXP_____ DISC_____
>
> CARD NUMBER: _____ EXPIRATION DATE: _____
>
> VHS TAPE AVAILABLE? YES____ NO_____
>
>
>
>
>
>
>
>
> Send completed apps to:
> jsb@pop.interaccess.com
>
>
>

313. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 15:11:36 UTC
From: mack@mails.imed.COM
Message-ID: <9500257910.AA791054488@mails.imed.com>
Source record: 114615

****

Subject: Stepper Motor: Useful?

I have 3 or 4 (I think) little stepper motors that came out of Teac
floppy disk drives -- the motors used for head positioning. I wonder
if they might work to remotely turn an air variable capacitor in
a tuning circuit at the feedpoint of an antenna. I don't know
how to use them though, and wonder if anyone does. There are 6
wires: brown, brown, yellow, red, blue, and white. The shaft seems
to be about 1/8" or 3/16" (probably metric). The motors are
nearly cubical in shape, about 1.75" x 1.75" x 1.75". The label
on one says Teac 3Z13B, and another one says Teac 5X03.

I also have 4 bigger ones with worm gear shafts that came out of
old 8" floppy drives, also for head positioning, I think. These
are cylindrical, about 2" in diameter and 3" long. The worm
shaft is about 3/8 to 1/2" diameter and about 5" long. These have
4 wires: black, brown, red, and orange, not necessarily in that
order. The label says Warner Electic No. SM-024-0045-AS, then
RES/0 19 Ohm, then RATED 1.26 AMP- 24VDC, and some other numbers
that I can report if they mean anything to anyone. I don't know
how to use these either.

I'd appreciate any info on these, how to use them, and ideas on
how they might be used for amateur radio operations. TIA.
---Phil Emerson, AA8JO.
****

Phil:

In the case of the Teac motors, they sound like they came from old 5 1/4
inch disk drives. These SHOULD work for fairly low torque applications driving
capacitors. You need to generate a 90 degree DIGITAL waveform (at 12 volts
however!) to drive the 2 coils inside of them. When I get a chance, I may be
able to scan in the schematic used by the IBM PC (remember the original with a
cassete port and no hard drive) for their floppy drive. The circuit is
basically the same in all floppy drives.

In order to get more torque, you could couple the motor to a small gear
train. The nice thing about stepper motors is that you can drive them REALLY
slowly. They have an upper speed limit but there is no limit to how slow they
will go. Another useful feature is that if you hold the digital phase constant
with power applied they make really good brakes.

The ones out of the 8 inch drives sound like you ought to be able to
rotate a battleship (or at least a small sloop) with them. They were designed

to run off 24 volts just as the label says.

One additional VERY important piece of information is that they should NOT be driven directly by the rated voltage from a low impedance source at low speeds. Low-tech drivers for steppers usually have a series current limiting resistor so you don't burn out the windings at low speeds.

If you need more info, send me an e-mail.

Ray Mack
WD5IFS
mack@mails.imed.com

314. HW-99 drift

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 15:18:55 UTC
From: mack@mails.imed.COM
Message-ID: <9500257910.AA791054795@mails.imed.com>
Source record: 114610

Robert A. Ross (rar3h@uvacs.cs.Virginia.EDU) wrote:
: I have a Heath HW-99 and its VFO drifts very badly with
: temperature changes. Has anyone encountered this problem
: and if so, what was thr solution?

I am not familiar with this particular radio, but one additional way to improve temperature stability is to regulate the temperature around the VFO. Use a small heater just like they do in crystal ovens. Build the circuit to regulate the temperature around 100 degrees F. It may STILL go out of control when the ambient goes above 90 degrees or so, but it will be a lot less drift than starting from room temperature. An additional benefit is that it should stabilize more quickly, since you are intentionally adding more heat at the beginning. The down side is that running it hotter will make the VFO have slightly more noise. I'm not sure what effect that might have in this radio. Maybe Zack has some thoughts on this.

Ray Mack
WD5IFS
mack@mails.imed.com

315. Re: RCA NuVistor sub-min valve 6-52

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 15:53:41 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-2501951053410001@k4dii.ksc.nasa.gov>
Source record: 114612

In article <3g224s$77t@cat.cis.Brown.EDU>, CC015012@brownvm.brown.edu () wrote:
> >probably not so good. However, I would guess the pentodes would have
> >superior intermodulation characteristics, due to the high operating
> >voltages involved.
> Would you explain this ? Are we talking a large linear range or
> is there some nitty-gritty trickery here ?

john-

Yes, I was referring to the linear range compared to that of a device working off of a lower voltage (12 volts) power supply.

You might guess I don't really know what I'm talking about! A signal of the same power level, but in a different impedance, would be equivalent. I don't know how the intermodulation characteristics of a Nuvistor's higher voltage/lower current compare to those of a solid state device with lower voltage/higher current. Then, how do noise figures compare for such devices with equivalent intermodulation characteristics?

73, Fred, K4DII

316. Re: convert 15-meter upwards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 15:59:31 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-2501951059310001@k4dii.ksc.nasa.gov>
Source record: 114613

In article <D2G2ov.LF7@wang.com>, dbushong@wang.com (Dave Bushong) wrote:
> I seem to remember that a company called International Circuits (?)
> had some building blocks that could be used to build something like
> you are talking about. I don't know if they are still in business.

Dave-

Would that happen to be International Crystal? At one time they had some
kind of modules/blocks.

73, Fred, K4DII

317. Re: TALENT SEARCH 2000

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 15:59:40 UTC
From: jtesta@freenet.columbus.oh.us
Message-ID: <3g5shc$adn@acme.freenet.columbus.oh.us>
Source record: 114614

What in the world does this have to do with amateur.homebrew?

Julia get a grip, move your crap to some other group, amateurs if they want
to be on TV can do it for free and do it WORLDWIDE. SO don't expect
any $$$.

Julia S. Butler (jsb@interaccess.com) wrote:
: $Show your talent on TV world-wide on the TALENT SEARCH 2000 Telvision Show.
: Everyone is accepted, no one is rejected. Cash prizes awarded quarterly. For
: only $50.00, your talent will be aired internationally on major TV NETWORKS.
: Here's how:

: 2. There are 3 methods of payment. You can charge your appearance on VISA, MASTERCARD, AMERICAN EXPRESS, or DISCOVER card by calling 1-800-822-7498 or 1-708-389-1692. Your card will be charged $50.00. E-mail us at the following addresses:

: jsb@pop.interaccess.com
: jodyw@pop.interaccess.com

: Checks or money orders can be sent to:

: TALENT SEARCH 2000, INC.
: P.O. BOX 8027
: CHICAGO, IL 60643-8027

: Payment arrangements are available.

: If you don't have a tape available and need a professional tape to be produced for you, we have fadcilities around the country to provide this service. Call 1-708-389-1588 for pricing and scheduling.

: DON'T WAIT: ACT NOW to get your chance to display your talent all over the world on TALENT SEARCH 2000!!

: ==========

: TALENT SEARCH 2000
: P.O. Box 8027
: Chicago, IL 60406

: ==========
: APPLICATION FOR APPEARANCE
: $50.00
: ==========

: NAME: _____

: ADDRESS: _____

: CITY: _____ STATE: _____ ZIP: _____

: HOME PHONE: _____ BEST TIME TO CALL: _____

: METHOD OF PAYMENT: VISA____ MC_____ AM EXP_____ DISC_____

: CARD NUMBER: _____ EXPIRATION DATE: _____

: VHS TAPE AVAILABLE? YES____ NO_____

: Send completed apps to:
: jsb@pop.interaccess.com

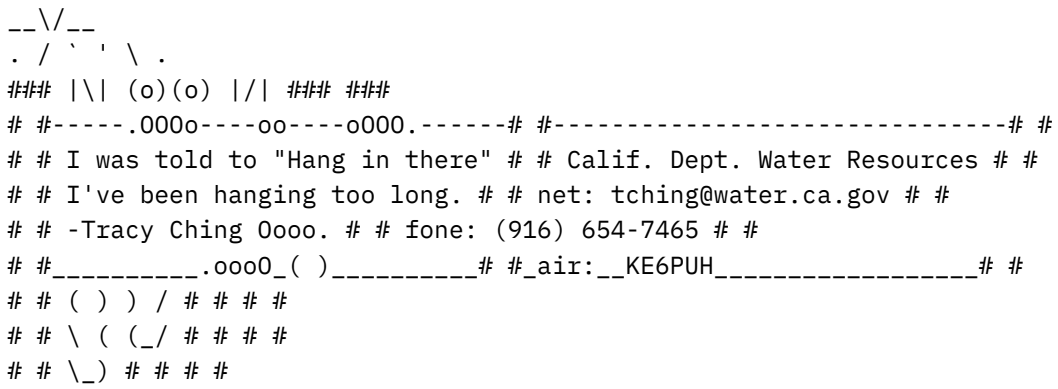
--
Joseph S. Testa, Database Administrator, Computer People Consulting
N8XCT, Emergency Coordinator (EC) & Local Govt Liaison (LGL)
Pickaway County, OH and Official Relay Station (ORS) (yes I'm busy),
Fond reader of Part 97, studying code and hope to pass 5WPM soon.....

318. Re: Stepper Motor: Useful?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 18:31:28 UTC
From: tching@bilge.water.ca.gov
Message-ID: <3g65e0$e81@news.csus.edu>
Source record: 114519

In article <17330E2E9S86.R0264@info.onet.edu>, <R0264@info.onet.edu> wrote:
>There are 6
>wires: brown, brown, yellow, red, blue, and white. The shaft seems
>to be about 1/8" or 3/16" (probably metric). The motors are
Best place to start looking is Allegro Semiconductor.
They make UCN-5804 drivers for the 6 wire steppers. I also
have an app-note in Signetics 8051 microcontroller data book
using steppers.

>shaft is about 3/8 to 1/2" diameter and about 5" long. These have
>4 wires: black, brown, red, and orange, not necessarily in that
4 wire steppers are a little trickier since I believe
there are no 1-chip solutions for driving them. I believe 2 chips
will drive 'em tho'. Once again, Allegro has the chips. It used
to be called Sprague Semi but they were bought out.


__\/__
. / ` ' \ .
|\| (o)(o) |/| ###
#-----.OOOo----oo----oOOO.------# #--------------------------------#
I was told to "Hang in there" # # Calif. Dept. Water Resources #
I've been hanging too long. # # net: tching@water.ca.gov #
-Tracy Ching Oooo. # # fone: (916) 654-7465 #
#__________.oooO_( )__________# #_air:__KE6PUH_________________#
( )) / # # #
\ ((_/ # # #
_) # # #

319. BP Filter Manufacturer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 19:04:20 UTC
From: bdy5049@tntech.edu
Message-ID: <1995Jan25.130420.7317@atlas.tntech.edu>
Source record: 114518
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

Can anyone point me in the direction of a good filter manufacturer?
Specifically, I'm looking for bandpass filters for use at a center
frequency of about 40 MHz or above. Please email me any responses.

Bryan, KD4IIC

Bryan D. Young, KD4IIC AT&T Net: (615)372-4699
TTU Box 9312 Internet: bdy5049@tntech.edu
Cookeville, TN 38505 Packet: kd4iic@wa4uce.#midtn.tn.usa
EE Graduatiing May 6, 1995 DWMCC Helpdesk Expert
---

320. Re: Help for Novice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 21:15:55 UTC
From: mjsilva@ix.netcom.com
Message-ID: <3g6f2b$7ki@ixnews3.ix.netcom.com>
Source record: 114520

In <1995Jan25.115553.10793@freenet.victoria.bc.ca>
uu482@freenet.Victoria.BC.CA (Andy Bordon) writes:

>
>
>Hello,
>
>Here is a remarkably simple (and probably dumb) question from a total
neophyte
>who is just getting his feet wet in building a QRP CW transmitter:
>
>When you use a Dip meter to tune an L-C circuit, does RF energy have to
be
>present for the needle to 'dip'??

You can use a dip meter in two ways. On an unenergized circuit the dip meter itself generates the RF (just a simple oscillator) and the "dip" of the meter happens as you tune either circuit (DM oscillator or circuit under test) to the frequency of the other and the CUT absorbs some of the oscillator output. You can do the reverse also, with an energized circuit and the DM oscillator off, allowing the DM circuit to absorb some of the CUT energy, in which case the meter will peak on resonance instead of dip. In either case you have to have the two circuits close enough to couple the energy, but if you get them too close the reading becomes unnecessarily broad from too much loading.
>
>Embarrassingly yours,

No need for that at all. Some days you learn, some days you teach :)

(I hope you've joined the QRP mailing list. "subscribe qrp-l" to "listserv@netcom.com" is the incantation.)

Mike, KK6GM

321. QEX ---- back issues on a CD ROM ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-25 21:28:22 UTC
From: SPIKE@EESTAFF.watstar.uwaterloo.ca
Message-ID: <SPIKE.924.0010792B@EESTAFF.watstar.uwaterloo.ca>
Source record: 114522

It would be nice to have back issues available on a CD Rom !

My shelf is bending now with years of magazines piled on them.

de VE3TCK
Yours and for the future ----- de EDward Spike

322. Re: CD changer FM transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 00:37:10 UTC
From: mgarrett@prairienet.org
Message-ID: <3g6qrm$b3s@vixen.cso.uiuc.edu>
Source record: 114523

In a previous article, dyeske@st6000.sct.edu (David Paul Yeske) says:

>I have seen car CD changers that had a many FM stereo transmitter so that
>you could keep your CD changer safe in your trunk while tuning in to your
>CD's. I have a car radio (no tape) and a portable CD player. I am sure
>I could build or buy a small FM stereo transmitter to hook up to the
>earphone jack of the CD player so I can hear it through the car's
>speakers. Is there a basic schematic to build this or do I need to order
>a kit? If so what would be the best kit for this situation?
>
>
David:
You can try building the Ramsey Stereo transmitter. They have a crystal
controled pilot that has really cleaned up the unit. I have built two of
these units and they do work well. You will probably have to add aditional
filtering on the power supply leads to the transmitter to filter out any
aditional vehicle induced noise but should be stable enough for this effort.
Note:
I have seen some of the CD players going for less than the Ramsey kit price.
You may be ahead if you consider one of these units as far as price goes.
I have also seen a design for a fm transmitter using a BA 1404 (which is what
the Ramsey uses) in a past issue of Radio Electronics but cannot remember the
month and year of the issue, comments anyone??
--
Mark Garrett mgarrett@prairienet.org
KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM

323. is there a program for macintosh for antenna design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 01:33:13 UTC
From: Mike Lyon <mlyon@rahul.net>
Message-ID: <3g6u4p$4s8@hustle.rahul.net>
Source record: 114525

i was wondering if there was a program out there for macintosh that would
give out the antenna radiation pattern if you put the dimensions in to
the computer.

thank you,
mlyon@rahul.net

--
//////////////////////
| Mike Lyon |
| KE6MRE |
| mlyon@rahul.net |

324. High Voltage (30kV) Switching with Tubes ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 02:16:50 UTC
From: dugan@ginger.biophys.upenn.edu
Message-ID: <3g70mi$iqo@netnews.upenn.edu>
Source record: 114527

Can anyone offer pointers about using vacuum tubes to switch very high voltages? I have a possible application to switch 30kV on and off at a 500 Hz rate, with a 20mA load.
I have looked into using relays for this, but they have several limitations (lifetime and switching speed being foremost).

I'm looking for either tips or suggestions for good references on the subject.

Thanks.

Ben Dugan (dugan@ginger.biophys.upenn.edu)

325. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 02:35:57 UTC
From: gbrown@unlinfo.unl.edu
Message-ID: <3g71qe$hc5@crcnis3.unl.edu>
Source record: 114524
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

I find your (AMSOFT) reply as innappropriate, perhaps more innappropriate, than Bob's comments, and a substantial waste of "bandwidth".

Perhaps what Bob should have said is that it is contrary to Internet's policy for Internet to be used as a vehicle for commercial advertisement. That is a fact. While I can not say that the policy is a legally binding one (that is for others to say), it certainly is followed by the vast majority of commercial enterprises, and for good reason. They realize that they run the risk of alienating potential customers who may not appreciate such a blatant disregard for net etiquette and policy. Like Bob. And like me. Mind you, it is no big deal to me personally. But I don't like advertising here either, and there are plenty of alternatives to AMSOFT.

You seem to be aware of some internet policy judging from your long quoted (though not attributed) "lesson" to Bob. Perhaps you would find a more complete review of policy personally enlightening as well as commercially "prudent".

Greg Brown

326. Need help with oscilloscope!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 03:40:41 UTC
From: N3MXG <Chris@RADIO.ptd.net>
Message-ID: <NEWTNews.9502.791096700.Postmaster@RADIO.ptd.net>
Source record: 114526

I enjoy working 80 meters AM with a Hallicrafters HT-37, going through a Globe LH-1 linear amp. I am pushing about 120 watts. Unfortunately although I am being told I have a good strong carrier, at times I have very little modulation. I own an older model oscilloscope (Hickok Wide Band Model 677) and would like to monitor my transmission with it to check my modulation. Can someone pass on some instructions on how to do this. By the way I'm using a MFJ-901B antenna tuner after the Globe linear to an 80 metter dipole. My E-Mail address is Radio@postoffice.ptd.net . Any help would be greatly appreciated.

327. Re: a little fantasy, QRP from Mt. Logan

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 07:38:59 UTC
From: lord@mind.net
Message-ID: <lord.1.0007A69C@mind.net>
Source record: 114528

In article <3g12kv$jic@engnews2.Eng.Sun.COM> kbn@Eng.Sun.COM (Kevin Normoyle) writes:
>Path:
>one.mind.net!infoserv.illinois.net!news.cic.net!newsxfer.itd.umich.edu!gatech!ho
>wland.reston.ans.net!news.moneng.mei.com!uwm.edu!lll-winken.llnl.gov!koriel!male
>.EBay.Sun.COM!news2me.EBay.Sun.COM!engnews2.Eng.Sun.COM!usenet
>From: kbn@Eng.Sun.COM (Kevin Normoyle)
>Newsgroups: rec.radio.amateur.homebrew
>Subject: a little fantasy, QRP from Mt. Logan
>Date: 23 Jan 1995 20:13:19 GMT
>Organization: Sun Microsystems Inc., Mountain View, CA
>Lines: 37
>Message-ID: <3g12kv$jic@engnews2.Eng.Sun.COM>
>Reply-To: kbn@Eng.Sun.COM
>NNTP-Posting-Host: gluon.eng.sun.com

Ok Ill send more later, I am located in Southern Oregon
call is Kb7grb
Fred Lord
>When I was a novice in high school, I had an old 2 watt xcvr for CW on 80m.
>I used to be psyched to get a contact from NY to Maine.

>I used to wonder about how far I could get if I was really high up.

>Well, over time, I dropped the ham thing, but pursued the climbing thing.

>Turns out I'm heading to Mt Logan in May with some friends.
>It's just under 20,000'. 2nd highest in NA, highest in Canada.
>(in the area of SE Alaska). Mass-wise, it's a huge mountain.
>(and it'll be cold!)
>
>It doesn't see as many people as Mt McKinley.

>I was thinking about what radios to bring (CB and weather), and I got
>to thinking about my old ham days, and the possiblity of transmitting
>from the mtn. (the summit)

>I was wondering if anyone would be interested in a project like this.
>I don't really have the gear to put together a small, lite QRP cw xcvr,
>but maybe someone else would?

>The coolest thing would be a mod to an existing
>CB unit that could allow it to send/rcv cw on 80 meters.

>If someone would be interesting in working together on this,
>I'd foot the bill for parts, etc.

>The payback? Well, I could send some cool contact cards with a picture
>of Logan etc. (sure to be unique?)

>ps. In any case, I'm also interested in sources/prices for small solar cells
>that could be used to recharge batteries.

328. Re: CD changer FM transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 09:18:52 UTC
From: adb@bryant.com
Message-ID: <adb.40.053CE204@bryant.com>
Source record: 114535

In article <3fvp2p$6lr@news-feed-1.PeachNet.EDU> dyeske@st6000.sct.edu (David Paul Yeske) writes:

>I have seen car CD changers that had a many FM stereo transmitter so that
>you could keep your CD changer safe in your trunk while tuning in to your
>CD's. I have a car radio (no tape) and a portable CD player. I am sure
>I could build or buy a small FM stereo transmitter to hook up to the
>earphone jack of the CD player so I can hear it through the car's
>speakers. Is there a basic schematic to build this or do I need to order
>a kit? If so what would be the best kit for this situation?

Ramsey's FM-10 kit is probably what you're looking for. I've built two of them, one for myself and one for a non-techie friend, and they are pretty decent little transmitters. They're stereo, have reasonably good audio when run from batteries or a good DC supply, and they're easy to build.

JDR Microdevices sells another FM stereo transmitter, but I'm not familiar with it. They also sell the Ramsey kit (though they don't identify it as such in the catalog). You can order them, or get their "Electronic Components" catalog, by calling (800) 538-5000.

Alan D. Bryant - President - Bryant Software
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---
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Fax: (303) 777-2876 E-Mail: sales@bryant.com

329. Re: Help for Novice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 14:52:04 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan26.145204.5707@ke4zv.atl.ga.us>
Source record: 114529

In article <1995Jan25.115553.10793@freenet.victoria.bc.ca> uu482@freenet.Victoria.BC.CA (Andy Bordon) writes:
>Here is a remarkably simple (and probably dumb) question from a total neophyte
>who is just getting his feet wet in building a QRP CW transmitter:
>
>When you use a Dip meter to tune an L-C circuit, does RF energy have to be
>present for the needle to 'dip'??

Yes, the RF energy generated by the *dip meter* has to be present. The circuit under test should be "cold", IE no power applied. A "dip meter" (they used to be called "grid dip meters" when tubes were used) is a tunable oscillator. Some of the power of the oscillator is coupled to the circuit being "dipped". What the meter is measuring is a change in the current of the intrument's oscillator when it's coupled to a resonant circuit. The looser the coupling, the sharper the dip. A close coupling will "load" the LC circuit and broaden the dip.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

330. Re: Need help with oscilloscope!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 15:28:58 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan26.152858.5867@ke4zv.atl.ga.us>
Source record: 114530

In article <NEWTNews.9502.791096700.Postmaster@RADIO.ptd.net> N3MXG <Chris@RADIO.ptd.net>
writes:
>
>I enjoy working 80 meters AM with a Hallicrafters HT-37, going through a Globe
>LH-1 linear amp. I am pushing about 120 watts. Unfortunately although I am
>being told I have a good strong carrier, at times I have very little
>modulation. I own an older model oscilloscope (Hickok Wide Band Model 677) and
>would like to monitor my transmission with it to check my modulation. Can
>someone pass on some instructions on how to do this. By the way I'm using a
>MFJ-901B antenna tuner after the Globe linear to an 80 metter dipole.

Ok, to measure modulation, you want to set the scope up to display
a trapezoidal pattern. To do that, you need to couple the vertical
display to a sample of your RF output, and the horizontal display
to a sample of the audio modulation, IE the scope needs to be able
to do a XY display. What you'll see under modulation (with a test
tone) is a trapezoid that's tending toward a point as the waveform
goes to the right of the scope. You're at 100% modulation when the
trapezoid's right edge just comes to a point, forming a triangle.

With speech input, the trapezoid will "dance" back and forth with
the amplitude of the speech. Again, if the trapezoid just comes to
a point on speech peaks, you're at 100% peak modulation. You don't
want the trapezoid to come to a point before it reaches the right
edge of the horizontal sweep. If it does, you're overmodulating.
The setup looks roughly like this.

```
.001 uf
RF sample<-----||---------->scope vertical

1.0 uf
AF sample<-----||---------->scope horizontal
```

If you just want to look at your modulation envelope in the time
domain, just insert a sampling diode in the sample line from the
transmitter RF output, use a RC low pass filter on the diode output,
and observe the speech waveform with the horizontal timebase set
to an appropriate sweep rate. You want to see a clean envelope with
no clipping. A suitable sampler circuit is shown below.

```
001uf 1N34 10k
RF sample<-||----->|---x--/\/\/\/-------> to scope vertical
|
= .01 uf
|
GND
```

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

331. Re: CD changer FM transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 17:00:13 UTC
From: brunelli_pc@delphi.com
Message-ID: <xg-a6G1.brunelli_pc@delphi.com>
Source record: 114531

David Paul Yeske <dyeske@st6000.sct.edu> writes:

>CD's. I have a car radio (no tape) and a portable CD player. I am sure
>I could build or buy a small FM stereo transmitter to hook up to the
>earphone jack of the CD player so I can hear it through the car's
>speakers. Is there a basic schematic to build this or do I need to order
>a kit? If so what would be the best kit for this situation?

Rat Shack sells this thing for about 35 bux that does
exactly this. It kinda works ok too! i thought the signal could have
been stronger.

pete
n1qdq

332. CMOS KEYER from Idiom Press

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 17:09:21 UTC
From: jho@xilinx.COM
Message-ID: <199501261709.AA11443@clemenza.xilinx.com>
Source record: 114533

Dear Netter,

Has anybody tried this KEYER? Any like Dislike?
I am thinking about building one but found that
the part supplier (IDIOM PRESS, PO BOX 1025,Geyserville,
CA 95441) does not relase any ph# for technical/
sales inquires.

Tnx

Jonathan/ab6ls

333. Re: CD changer FM transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 18:41:26 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <3g8qc5$78t@cat.cis.Brown.EDU>
Source record: 114532

>In article <3fvp2p$6lr@news-feed-1.PeachNet.EDU> dyeske@st6000.sct.edu
>(David Paul Yeske) writes:

Also, if you know enough to solder you might take a look inside your
car radio and see if you can't just put a switch in front of the volume
control. With an input jack for the CD somewhere on the front panel
you can then flip of the switch to pick between radio and CD. I've
done this but it took a while to figure out what wires I had to
interupt. Some attention must be pays to DC blocking (AC levels?).
I was lucky but sometimes noise can be a problem, especially with
groundloops.

john 015

334. Re: QEX ---- back issues on a CD ROM ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 19:27:59 UTC
From: faunt@netcom5.netcom.com
Message-ID: <FAUNT.95Jan26112759@netcom5.netcom.com>
Source record: 114534

I'd settle for microfiche, but CDROM would be great. BTW, if you send in multiples of $12 (or whatever your rate is), you'll get QEX for multiple years.
73, doug

335. Re: Stepper Motor: Useful?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-26 21:33:25 UTC
From: cwtech@infinet.com
Message-ID: <3g94f5$r0b@rigel.infinet.com>
Source record: 114536

In article <3g65e0$e81@news.csus.edu>,
Rice Cube <tching@bilge.water.ca.gov> wrote:
>In article <17330E2E9S86.R0264@info.onet.edu>, <R0264@info.onet.edu> wrote:
>>There are 6
>>wires: brown, brown, yellow, red, blue, and white. The shaft seems
>>to be about 1/8" or 3/16" (probably metric). The motors are
> Best place to start looking is Allegro Semiconductor.
>They make UCN-5804 drivers for the 6 wire steppers. I also
>have an app-note in Signetics 8051 microcontroller data book
>using steppers.
>

The UCN5804 is nice for unipolar (6-wire) motors. See my optoisolated
driver (pc_stepr.tar.Z) and 3 axis controller (3axis.tar.Z) on the circuit
cookbook site. PCB layouts, schematics, and instructions are included.

>>shaft is about 3/8 to 1/2" diameter and about 5" long. These have
>>4 wires: black, brown, red, and orange, not necessarily in that
> 4 wire steppers are a little trickier since I believe
>there are no 1-chip solutions for driving them. I believe 2 chips
>will drive 'em tho'. Once again, Allegro has the chips. It used
>to be called Sprague Semi but they were bought out.
>

SGS-Thomsen makes the L297 which does bipolar (4-wire) steppers. I think
up to 600 ma. Paired with the L298, it becomes a chopper drive capable of
up to 2A. I've got a 90% finished design for these.

--

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336. Homebrew multi-mode HF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-27 01:14:27 UTC
From: negaard@draagen.graceland.edu
Message-ID: <NEGAARD.95Jan26191427@draagen.graceland.edu>
Source record: 114537

I'm a brand-new, over-enthusiastic amateur, with lots of desire and
almost (!) no money. What I'm interested in is a project that will
allow me to build a modular multi-mode transceiver. Does anyone know
of a design, or even just a starting point?

I've eleven years of experience as an electronic technician, and took
the 2M (miniature and micro-miniature repair) class while in the Navy,
so I'm confident of my ability to build, and maybe even design (with
modern solid-state, it's almost black-box, anyway!)

What I really need to know is, "where should I be looking?"

Any response would be appreciated.
--
o David Negaard o negaard@graceland.edu
o Help Desk Technician o http://www.graceland.edu/~negaard
o 700 College Avenue o linux-phile
o Lamoni, IA 50140 o 73 de KB0PXK
--
o David Negaard o negaard@graceland.edu
o Help Desk Technician o http://www.graceland.edu/~negaard
o 700 College Avenue o linux-phile
o Lamoni, IA 50140 o 73 de KB0PXK

337. Re: High Voltage (30kV) Switching with Tubes ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-27 08:14:30 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3gaa16$td@tierra.santafe.edu>
Source record: 114538

dugan@ginger.biophys.upenn.edu (Ben Dugan) wrote:

> Can anyone offer pointers about using vacuum tubes to switch very
> high voltages? I have a possible application to switch 30kV on and
> off at a 500 Hz rate, with a 20mA load.

There is a triode HV regulator that used to be used in color television sets.
The tube type escapes me but it should easily handle 30 kV and 20 mA.
You need a tube data book to look it up. Maybe someone else can remember
better than I.

338. Re: a little fantasy, QRP from Mt. Logan

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-27 11:56:21 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3gan15$1bac@info4.rus.uni-stuttgart.de>
Source record: 114541

Hi Kevin,

I like you idea, so a few thoughts. I am not quite sure that
the high mountain will be of much advantage on 80.
Maybe you should still think how to get the ant well off the
ground. I am currently also working on the idea of low band
portable operation. Look int kites.

>The coolest thing would be a mod to an existing
>CB unit that could allow it to send/rcv cw on 80 meters.

Does not sound a good idea to me. You would have to rebuild most of it.

>ps. In any case, I'm also interested in sources/prices for small solar cells
>that could be used to recharge batteries.

On this I can give you the following advice:
The panel should have a higher power rating than the radio.
so a 10 W with an output voltage of 18V might be OK to
charge a 12 V battery.

Get it from a reputed manufacturer or dealer, there are lots of dodgy
solar panels around, which might deliver only 1/10 or so of their
rated output.

73, good luck, Moritz DL5UH

339. Re: Where can I find info on building Remote controls

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-27 15:15:35 UTC
From: cmlong@mtu.edu
Message-ID: <3gb2mn$6ch@techsrv1.tech>
Source record: 114539

(Dean Whitter) (Unknown) wrote:
: Does anyone have any info on remote control tran/rec or were I can goto to build them.
:
:
Dean,

I think I have a couple of different plans for remotes laying around.
If you want I could send you a copy for the price of the stamp and
copying fee (probably only about 50 cents).

Mike - KB8WPE

--
/\
\ Michael Long || Public Relations Manager /
/ Callsign: KB8WPE || for HARC (W8YY) \
\ Email: cmlong@mtu.edu || Email: harc-l@mtu.edu /
/ Phone: (906)487-0204 || Majors: EET and EMT \
\/

340. Q: Curious circuitry inside a Radio Shack antenna preamp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-27 18:11:53 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <3gbd0q$26b@cat.cis.Brown.EDU>
Source record: 114540

Hi,

I have an antenna preamp that I got for cheap long time ago at
Radio Shack. It might have been broken. I've just started
looking at it. It's a two transistor thing with 14dB gain it
says.

I'm treating this project first and foremost as an educational
endeavour.

I haven't found any info on the two bjt's: BFT97 and BFA96.
I wonder if anyone has the NF on these.

I think the first one is fine but I am worried about the second.
As it is, Radio Shack runs it with near 90mA current and close
to 8 volts accross it (at Vcc = 12 V). It gets unbearably hot.
With Vcc equal to 9 Volts things cool down a bit.

The first stage is biased by a 10k/10k voltage divider, feeding the
base of of the grounded emitter bjt. Output is taken at the
collector/RFC_1 and AC coupled to the next stage. Now there is
what I assume to be a negative feedback around the cb junction:
a 1000pF in series with 820 ohms. My shaky analysis tells me that
with a 75 ohms source impedance this stage is capable of a gain of
820/75 or in excess of 20dB which doesn't rhyme with the stated
14dB *overall* gain as the next stage has gain too:

Stage two has a 1k/1k divider to bias the base of bjt_2 to Vcc/2.
The transistor is in a common emitter configuration
with a emitter degeneration resistor of 47 ohms bypassed with
what appears to be a 2pF chip capacitor.
But there is a 1000pF capacitor from the base of bjt_2
to Vcc. This must be in error as it grounds the input to the
second stage.
I tried unsoldering it even with a tuner I couldn't tell things
changed for the "better" (I could be overloading the tuner -
I don't know yet) .

Gain is developed over another RFC, RFC_2 from Vcc to the collector
of the 2nd bjt. It is puzzling to me however that the circuit
which I speculate do a bit of negative feedback (an RC accross the base
-collector terminals) here consists of 1000pF but now with a resistor
of only 75 ohms. See, if my thinking is correct that with this negative
feedback the gain of the stage is R_feedback/R_source, then the
gain of the second stage approximates 75/Z_rfc_1 which could
be very small. I just realized that I probably look at

this using Spice but I'm not sure about how to set the bjt parameters for RF devices.

So, my final question is, why didn't Radio Shack just use the last bjt as an emitter follower ?

thanks,
john 015

341. Crowbars for 3kV supplies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 00:16:46 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <829089796wnr@ifwtech.demon.co.uk>
Source record: 114542

I'm planning to build a 'crowbar' switch that will dump the charge
from a 30uF 3kV capacitor in the event of a flashover in the PA.

This is required by the spec for certain Siemens transmitting tubes.
To safeguard the tube, the HV power supply must be capable of being
short-circuited by about an inch of 0.12mm wire (yes, 36 AWG) without
blowing the wire!

How do they do that, in commercial transmitters?

OE5JFL has published a circuit that is triggered from the fast rising
edge and does two things: turns off a solid-state relay in the AC
power feed; and it 'crowbars' a string of thyristors across
the HV rail.

It does work - I've seen it in OE5JFL's shack and others have
reproduced it. As an alternative to opto-triggering three or four
1200V thyristors in series, is there a source of relatively
inexpensive thyristors rated to 3-4kV? The device only needs to be
rated to handle about 10A continuous, because there's a series
inductor to limit dI/dt and take the 'sting' out of the current
transient.

In days of old it would no doubt have been done by a large glass
something-tron, but I'd prefer a compact solid-state solution.

Any ideas, please?

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

342. Re: CMOS KEYER from Idiom Press

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 02:49:10 UTC
From: pauls1234@aol.com
Message-ID: <3gcbb6$5nm@newsbf02.news.aol.com>
Source record: 114543

I've got the original version and am very happy with it. The feature of using CW commands to control it is unique and makes operation fairly simple. I'm not an avid contester, but the ability to create custom messages (into which you can insert characters on the fly) and to generate serial numbers makes it well worth the price. It was about $50 originally for just the board and uP.

Paul - W9JTO

343. Power MOSFET failure Modes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 08:46:19 UTC
From: ianc@werple.mira.net.au
Message-ID: <3gd08r$7do@werple.mira.net.au>
Source record: 114544

I am currently playing around with building a transmitter using
a pair of BUZ-71s in push pull in the output. So far I have popped
a couple for different reasons. Both went short circuit drain to
source.
Are there different conditions that will make a power MOSFET
go open or short? I think my failures were due to
1) excessive current (MOSFET turned on and only DC resistance
primary of output transformer)
2)excessive Drain - source voltage (lead to dummy load fell off
with resulting odd impedance reflected back through lo pass filter)

Will execessive gate voltage, for instance, cause a failure that is
a permananet O/C or are all power MOSFET failures S/C?

--

Ian C VK3KRI At School ic@deakin.edu.au
At Home ianc@werple.mira.net.au

344. Broadband transformers in power amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 08:51:10 UTC
From: ianc@werple.mira.net.au
Message-ID: <3gd0hu$7mc@werple.mira.net.au>
Source record: 114545

I am building a transmitter using a pair of BUZ71 Power MOSFETS in
push pull into a 'conventoinal' broadband transformer.
Initially I was using 4 Amidon FT-50B-43 Toroids for the transformer
but some calculations show that these cores may not be up to
100 Watts CW at 1.8Mhz.
Has anyone used powdered iron toroids for broadband output
transformers?
The extra number of turns required to achchive minimum inductance
will reduce the flux density and improve the loss of the transformer
core, but will they increase losses due to their own extra resistance?
My rough calculations show I would need about 35 turns on the 50 ohm
side of a transformer using T-106-2 core.

Is this is worth persuing or should I stick to increasing the size of
the ferrite core?

--

Ian C VK3KRI At School ic@deakin.edu.au
At Home ianc@werple.mira.net.au

345. Book on unusual kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 10:28:07 UTC
From: Ornery.ol.Ron@f1.n328.z1.fidonet.org
Message-ID: <9d9_9502010132@trisoft.com>
Source record: 114546

From: rsharp@paul.spu.edu (Ornery ol Ron)
Date: 28 Jan 1995 05:28:07 GMT
Message-Id: <3gckl7$qme@adam.spu.edu>

I'm looking for a book that explains how to make unusual (or not sold)
electronic gadgets.

Any titles suggested?

346. Re: CMOS KEYER from Idiom Press

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 10:36:58 UTC
From: Gary.Schwartz@f1.n328.z1.fidonet.org
Message-ID: <a15_9502010132@trisoft.com>
Source record: 114547

From: garyk9gs@solaria.mil.wi.us (Gary Schwartz)
Date: 28 Jan 1995 05:36:58 GMT
Message-Id: <3gcl5q$pb1@hummin.sol.net>

Jonathan Ho (jho@xilinx.COM) wrote:
: Dear Netter,

: Has anybody tried this KEYER? Any like Dislike?
: I am thinking about building one but found that
: the part supplier (IDIOM PRESS, PO BOX 1025,Geyserville,
: CA 95441) does not relase any ph# for technical/
: sales inquires.

: Tnx

: Jonathan/ab6ls

A great keyer! You won't be disappointed!
73
Gary
--
****
FROM THE "HOLE": THE RF DIODE / / /
/ / /
GARY SCHWARTZ K9GS / / /
INTERNET: garyk9gs@solaria.sol.net /======/=======/
PACKET: K9GS@WA9KEC.WI.USA.NOAM / /| /
SNAIL MAIL:W328 S8072 HICKORY NUT LN. / / | /
MUKWONAGO, WI 53149 / / | /
USA |
73 and keep your stick on the ice
#**********#

347. Sources for RF Parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 12:07:29 UTC
From: system@hale.cts.com
Message-ID: <7u1mZc2w165w@hale.cts.com>
Source record: 114548

I get RF Parts Co. catalog, butthey don't stock alot of things I'm after for my projects. Does anyone else have information on similar companies or a source that (i) will sell in single quanity; (ii) carries a good slection of parts, especially Phillips and Motorola power modules [my most immediate need]?

I'm most interested in high power, wideband VHF/UHF modules (30 watts+) for use as a base for a linear amplifier, along the lines of the older Motorola (90?) mobile docking stations, where the HT docks into a unit that allows the HT to be charged, and hooks it up to an audio amplifier, PTT hand mike and the linear.

--- --- --- --- Soft Judges Make Hardened Criminals --- --- --- ---
System@hale.cts.com I believed what I was told, I thought it was a
Hale Telecommunications Inc. good life, I thought I was happy. Then I found
619/280-7775 V.32bis something that changed it all. (Anonymous, 2112)

348. Re: High Voltage (30kV) Switching with Tubes ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 15:38:01 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan28.153801.3245@ke4zv.atl.ga.us>
Source record: 114549

In article <3gaa16$td@tierra.santafe.edu> Jim Potter <jpawi@roadrunner.com> writes:
>dugan@ginger.biophys.upenn.edu (Ben Dugan) wrote:
>
>> Can anyone offer pointers about using vacuum tubes to switch very
>> high voltages? I have a possible application to switch 30kV on and
>> off at a 500 Hz rate, with a 20mA load.
>
>There is a triode HV regulator that used to be used in color television sets.
>The tube type escapes me but it should easily handle 30 kV and 20 mA.
>You need a tube data book to look it up. Maybe someone else can remember
>better than I.

6BK4. It was commonly used in tube type color TV sets. It's a sharp
cutoff beam triode with a maximum plate voltage of 27 kV and a maximum
power rating of 30 watts. It was used in HV shunt regulator service
at regulator input voltages up to 55 kV. These tubes were notorious
X-ray emitters and should be well shielded in operation. Note: 30 kV
at 20 ma is 600 watts. The 6BK4 is only rated to handle a continous
1.5 ma in a shunt circuit. I don't know how long it would last switching
30 ma.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us

349. Re: RCA NuVistor sub-min valve 6-52

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 16:11:37 UTC
From: oddjob@cix.compulink.co.uk
Message-ID: <D34IBD.LAy@cix.compulink.co.uk>
Source record: 114550

I guess that Nuvistors would be ok on HF where more noise is QRM than internally generated. I am not INTO building high voltage (so what amI doing with tube/valves?? I hear you ask!) so I'm hoping to run them on 12-50 using a DC supply or stacked batteries.

an comments????

oddjob@cix.compulink.co.uk

350. FREE HAM NEWSLETTER!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 17:56:12 UTC
From: AMSOFT@EPIX.NET
Message-ID: <NEWTNews.19038.791320464.amsoft@amsoft.epix.net>
Source record: 114551
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

A Free newsletter from AmSoft, a leader in Amateur Radio CD-ROM's is available by sending your E-Mail address to amsoft@epix.net. The newsletter contains the entire listing of the January 95 CD-ROM software library, and a one page description of the Amsoft CD-ROM. Please respond via E-Mail only.

This message is cross-posted in the rec.radio.amateur.* usenets, please do not respond to this message on the usenet. A response to this message gets cross-posted to all 7 rec.radio.amateur.* usenets automatically

Note: Recent usenet message streams regarding our newsletter has drawn some unfavorable response. For those who are offended by our decision to offer a newsletter via the Internet I am sincerely sorry they are offended. My position on Newsletters is that the end reader has a choice to receive a private newsletter by sending private E-Mail. Likewise, if a reader is offended by the offering of a private newsletter I would expect their response via Private E-mail as well. Future postings for this newsletter will only contain the top 2 paragraphs.

351. Re: Down East Microwave stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 18:12:25 UTC
From: pauls90212@aol.com
Message-ID: <3ge1e9$1j4@newsbf02.news.aol.com>
Source record: 114552

I ordered their 1296 transverter with everything. When it arrived I found that it was beyond my ability to assemble the strange stuff with the documentation provided. I returned it and paid them to assemble the converter. I just used it for the first time in last weekends VHF test and it was absolutely great! It only put out 10 mw but using both ssb and fm we made contacts in four grids at distances of up to about 50 miles. I was using a 24 element loop yagi, also from Down East. I am a very experienced kit builder but I wouldn't tangle with their microwave products unless I had particular knowledge of microwave components. You can't even identify the stuff. Now that I have one microwave tranverter that I can easily open and examine I am considering ordering one for another band and putting it together myself.

Good luck - there stuff has all gotten good reviews. See the most recent 73 - I think it review the product you are looking at. Also - I bet the 2 meter stuff has parts that you would easily recognize, unlike the microwave stuff.

73 - Paul, N6DN

352. Re: ICOM 735 232 interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 18:26:22 UTC
From: gfiber@halcyon.com
Message-ID: <3ge28e$4bp@news.halcyon.com>
Source record: 114553

In article <3fohmh$olo@newsbf02.news.aol.com>, dabloodgod@aol.com (DABLOODGOD) says:
>
>Id be interested in the schematic and the communications protocol /
>message formats - I can write the required code, once I know what it has
>to do.
>
>Thanks de Dave, kd6pro.

Icom will send you a print of their CT-17. Also Icom sells the
CI-V Reference Manual for about $15.00. The IC-735 uses 4 bit data
at 1200 baud, 8, N, 1 You can increase the speed to 9600 baud by
placing some jumpers in the right place. TenTec likes the Icom method on
computer interface they copied it for their radio's too. Also
Optoelectronics uses a variation with their frequency counters and they
sell a CT-17 device.

73' Gary Fiber

353. Re: 6M SSB/CW radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 18:38:50 UTC
From: pauls90212@aol.com
Message-ID: <3ge2vq$1rb@newsbf02.news.aol.com>
Source record: 114554

If you can get an old Icom Ic 502 they are great. Nice small box. Otherwise you might want a new Yaesu FT690RII. I got an FT290RII last summer and it is great. The advantage of the Yaesus is that you can either operate battery or with an attachable amp and all modes. The IC 502 only does SSB and cw and has a rather tight bandspread.

Good luck! 73 - Paul, N6DN

354. Re: Need help with oscilloscope!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 18:42:57 UTC
From: hadleyv@et.byu.edu
Message-ID: <3ge37h$bp4@bones.et.byu.edu>
Source record: 114555

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>In article <NEWTNews.9502.791096700.Postmaster@RADIO.ptd.net> N3MXG <Chris@RADIO.ptd.net>
writes:
>>
>>I enjoy working 80 meters AM with a Hallicrafters HT-37, going through a Globe
>>LH-1 linear amp. I am pushing about 120 watts. Unfortunately although I am
>>being told I have a good strong carrier, at times I have very little
>>modulation. I own an older model oscilloscope (Hickok Wide Band Model 677) and
>>would like to monitor my transmission with it to check my modulation. Can
>>someone pass on some instructions on how to do this. By the way I'm using a
>>MFJ-901B antenna tuner after the Globe linear to an 80 metter dipole.
>
>Ok, to measure modulation, you want to set the scope up to display
>a trapezoidal pattern. To do that, you need to couple the vertical

<<Snip Snip>>

>Gary
>--
>Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
>Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
>
> ... blah blah blah ...

I just want to say that I REALLY appreciate what Gary took the time to explain here...he is a REAL asset to the Group(s).

I would like to extend the question a little further about using an o'scope with a rig. I currently have a TS-850S/AT. Also, have a real nice tektronix o'scope. (quad trace, 300 MHz). My kenwood has a 8.83MHz IF output on the back of the rig to hook up to their "station monitor." Kenwood's station monitor uses the IF for a "pan" display where it displays the signals up and down the band centered about where you are on your radio dial. The Station Monitor gives you the options of picking the bandwidth of the display by selecting scan widths of +/-25 KHZ, +/-100 KHz, and +/- 250 KHz with different scan speeds of slow, fast, and auto, as options.

Q. How can I duplicate or even improve upon what Kenwood is doing and save myself a $1000?

I have a function Generator that can output sin, tri, and sq. waves between 2Hz to 2MHz with adjustable duty cycle. Would that help? I am thinking I just need a ramp (sawtooth?) signal or two. But how to apply them? I don't know a great deal about IF circuits (yet!) so I am somewhat unfamiliar with what would be coming out that external IF to work with it. After I prototype up something with my bench equipment, I would like to build a "box" to do this "pan" display

along with the station monitor Gary described and output this to my scope (when I'm not using it for something else) and duplicate kenwoods' overpriced product (it's functions anyhow). Thanks.

73,

--
Vince Hadley |
KA7GVQ |
vhadley@ee.utah.edu |

355. Re: FREE HAM NEWSLETTER!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 19:34:54 UTC
From: bob@texas.net
Message-ID: <3ge68u$gqi@empire.texas.net>
Source record: 114556
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <NEWTNews.19038.791320464.amsoft@amsoft.epix.net>, AMSOFT@EPIX.NET says:

/\/\/\/\/\/\ Chainsaw Inserted Here /\/\/\/\/\/\/\/\/\/\/\

>Note: Recent usenet message streams regarding our newsletter has drawn some
>unfavorable response. For those who are offended by our decision to offer a
>newsletter via the Internet I am sincerely sorry they are offended.
>My position on Newsletters is that the end reader has a choice to receive a
>private newsletter by sending private E-Mail. Likewise, if a reader is
>offended by the offering of a private newsletter I would expect their response
>via Private E-mail as well. Future postings for this newsletter will only
>contain the top 2 paragraphs.
>

This is an offer for a private newsletter which is an advertisement, right?
An offer to subscribe to advertising is, IMHO, an advertisement in its
own right. The real crux here is the motive behind your postings--it's to
market a product, plain and simple. As far as responding via private e-mail,
well, I hope that my postings will prompt others to complain about what you
are trying to do here. If we let you get started, then we may as well open
the floodgates net-wide. Wouldn't that be a pretty sight--junk e-mail by
the megabyte...

Bob Scott WY7O | Roses are red, Violets are blue
bob@texas.net | I'm schizophrenic, And so am I

356. Re: FREE HAM NEWSLETTER!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-28 22:57:52 UTC
From: djmullen@facstaff.wisc.edu
Message-ID: <3gei5g$9os@news.doit.wisc.edu>
Source record: 114557
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

I recently posted a reply to the AMSOFT spam telling them that
instead of asking for a copy of their thinly disguised advertisement
for their CD-ROM, I was sending a copy of their message to their
system administrator.

I sent that message to all the newsgroups AMsoft spammed because most
everywhere their original message went, there are people talking about
burying the instigators under a deluge of email. This will clog the
network and may well cause the people doing it to lose their access.

As I said in the message, the thing to do is to send a message
to their system administrator, which I did, with a copy to AMSOFT.
(The ALL CAPS warning not to send me their ad was to prevent them
from sending me more of their junk mail because of that copy.)

I presume that most people already know this, but a cursory review of the
responses to their luncheon meat attack shows that a lot of people don't.

To repeat (and clarify), the proper response to any kind of spamming
and especially to a _commercial_ spam is to send a copy of the
message to the miscreant's system administrator along with a note
describing the problems they're causing. This is almost always
effective, whereas a reply to the newsgroup just wastes bandwidth and
an email attack will just get the sender in trouble.

Dave Mullenix, N9LTD

357. Re: BP Filter Manufacturer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 00:19:00 UTC
From: Mike Franks <70712.1222@CompuServe.COM>
Message-ID: <3gemtk$rm7$1@mhade.production.compuserve.com>
Source record: 114558
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

Try FOX electronics-----they have some 45 Mhz filters which are used in cellular radio receivers. TOKO and MURATA also have a large selection of filters. I suggest you request catalogues from all three manufacturers--they have lots of useful information. 73 de Mike WB9EZB

358. CMOS KEYER from Idiom

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 00:29:00 UTC
From: tom.hammond@woodybbs.com
Message-ID: <93.4821.7584.0NFB8FB8@woodybbs.com>
Source record: 114559

>Has anybody tried this KEYER? Any like Dislike?
>I am thinking about building one but found that
>the part supplier (IDIOM PRESS, PO BOX 1025, Geyserville,
>CA 95441) does not release any ph# for technical/sales
>inquires.

I've used both the original and most recent versions of the keyer software... in fact, I was fortunate enough to have a hand in beta testing version 2 of the software for the keyer.

The Super CMOS Keyer II is very well designed, quite worth the price (for either the kit or the assembled version). It's very easy to learn and use. The designers have included many very useful and versatile features both the for beginner and the confirmed CW operator.

I consider this keyer to be second only to the KC Keyer (which was designed by the same fellows, but which was marketed by another source).

The keyer includes a feature known as ACS (Automatic character spacing). This feature 'helps' the operator to ensure that he/she does not tend to run succeeding characters together into one long jumble. The problem is that new operators, just learning to send, tend to inadvertently not get their fingers from one paddle to the other in time to properly complete a single character. For instance, the character 'Q' (--.-) is often mis-sent by new operators as 'MA' (-- .-) solely because they don't quite get their finger back to the DIT paddle in time to get it started as soon as (actually, just slightly BEFORE) the preceding DAH completes, thus leaving a slight amount of 'dead time' between elements of the same character. This problem is worsened by ACS, because it wants to 'force' a character space (3-bauds) between character elements if it sees more than a 1-baud space between the elements, regardless of whether they're making up a single character or meant as a 'real' character space.

Fortunately, ACS can be disabled while you are learning to send, and then turned back on once you develop a 'feel' for the keying characteristics of the keyer. Do it recommend ACS? ABSOLUTELY(!), but only after you have a chance to get your sending down correctly. ACS is a BIG assistance in sending CW!

The Super CMOS Keyer II kit is about $42, if I recall, and you'll probably spend another $25-$35 on the remaining parts. If you can, use the Radio Shack pushbuttons recommendsd in the original QST article! They're BIG, easy to press, and seem to be very consistent in their ability to make contact 'cleanly'.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--- Alexi/Mail 2.02b (#83)
* Origin: Distant Winds BBS * Jefferson City, Mo * [314] 635-7868 (1:289/67)

359. Re: Ray Johnson Marine radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 04:10:53 UTC
From: md_hill@cam.org
Message-ID: <md_hill.1.00170D38@cam.org>
Source record: 114492

In article <3gf8nl$qpp@linet01.li.net> pyro@li.net (Sy) writes:
>From: pyro@li.net (Sy)
>Subject: Ray Johnson Marine radio
>Date: 29 Jan 1995 00:23:01 -0500

>Hi!
>Has anyone heard of a Ray Johnson marine radio? It has 12 crystal
>controlled channels. The receiver and transmitter boards are seperate
>inside ths case. There are no identifing numbers or marks (serial # etc.)
>I would like to re-tune this radio to 2 meters for use in my foxbox. A 25
>watt transmitter (switchable) would make my t-hunting compatriots tremble
>with fear (or exaustion, after traipsing 3 miles into the woods looking
>for an ammo case!).
>An address for the manufacturer (if they're still in buisness) would be
>great. Schematics would be better. A Sams Photofacts would make me
>indescribably happy.
>73 de Sy

Ray Jefferson is (happily) out of business. IMHO their stuff was (is) LOW
quality

360. Ray Johnson Marine radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 05:23:01 UTC
From: pyro@li.net
Message-ID: <3gf8nl$qpp@linet01.li.net>
Source record: 114560

Hi!
Has anyone heard of a Ray Johnson marine radio? It has 12 crystal controlled channels. The receiver and transmitter boards are seperate inside ths case. There are no identifing numbers or marks (serial # etc.)
I would like to re-tune this radio to 2 meters for use in my foxbox. A 25 watt transmitter (switchable) would make my t-hunting compatriots tremble with fear (or exaustion, after traipsing 3 miles into the woods looking for an ammo case!).
An address for the manufacturer (if they're still in buisness) would be great. Schematics would be better. A Sams Photofacts would make me indescribably happy.
73 de Sy

361. Homebrew VOX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 06:44:56 UTC
From: gregl@iglou.com
Message-ID: <D35Mqw.L28@iglou.com>
Source record: 114561

I'm currently using a Realistic HTX-100 on 10 meters (until I save enough nickels to get a general-coverage HF rig) and would like to put together a VOX circuit for it. Although it comes with a hand mic, I've scraped together a boom mic using a Realistic 33-1071 cardioid mic (one I bought *years* ago) and some flexible gooseneck. Overall this mic seems to work much better than the hand mic supplied with the rig. Anyway, anyone have any designs for a VOX circuit, or know where a kit or assembled unit might be purchased?

--
==========
73 de Greg AMPRNet - ke4dpx@ke4dpx.ampr.org [44.106.56.35]
AX.25 - ke4dpx@wi9p.#ncky.ky.usa.noam
Internet - gregl@iglou.com
==========

362. PLEASE READ : What is/are the _BEST_ book(s) for _LEARNING_ electronics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 07:51:06 UTC
From: fischer1@student.msu.edu
Message-ID: <fischer1-280195234824@via-annex4-35.cl.msu.edu>
Source record: 114562
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,ieee.general

I am interested in learning what is necessary so that I can
design/build/understand electronics, particularly RF circuits.

I ask only a few simple questions, wishing to find some concensus among
those on here :

1) What is the _BEST_ overall book for learning how to build and
UNDERSTAND electronics?

2) What is the _BEST_ overall book for learning how to build and
UNDERSTAND RF circuits?

I am anxious to learn ee stuff, and build my own transmitters, devices,
etc...

PLEASE HELP me out if you can, and point me to the BEST sources for
LEARNING this stuff...

Sincerely,

Michael Fischer
fischer1@student.msu.edu
818-449-4532

363. Where to find crystal manufacturers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 08:10:30 UTC
From: scw1118@hertz.njit.edu
Message-ID: <1995Jan29.081030.12792@njitgw.njit.edu>
Source record: 114563

Hello. Steve here in New Jersey. After attending some hamfests this past year, I ran across quite a few pieces of older VHF/UHF gear from the mid to late 70's. Items like Wilson HT's, Clegg mobiles and the old Icom 22 were among some of the tempting pieces of equipment I found. However I didn't acquire any of it. I was wondering if anyone had has any recent dealings with trying to find good quality, inexpensive crystals for older VHF/UHF gear. If so who did you use, what information did you need to give them (I guess requirements differ from rig to rig), what price range did you pay, and what the quality of crystals are. Any information would be greatly appreciated. I'm thinking of resurrecting some gear this spring!!

73 DE KF2TN Steve New Jersey

364. sticking core disolvent ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 09:04:35 UTC
From: wautelet@innet.be
Message-ID: <AB5118B49668269BE@wautelet.innet.be>
Source record: 114564

Hi All,
I'm using "old" commercial transceiver on the ham band (2m / 70 cm)
however I found out that some core in coils are "glued" and very
difficult to turn without breaking the core.
I'm looking for a solvent but it should'nt dissolve the plastic
of the coil.
Any idea ?
Thanks for help,
73's Thierry

Internet : wautelet@innet.be A Mac User !
CIS : 76334,337
Ham : ON7KL@ON7RC.#BT.BE.EU

365. Ray Jefferson Marine radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 10:54:16 UTC
From: pyro@li.net
Message-ID: <3gfs4o$3bl@linet01.li.net>
Source record: 114565

Ok So it's not a Ray Johnson, but a Ray Jefferson, Model #1025. I would still appreciate any and all info on this rig.
Thanks for pointing out my mistake, Doug.
73 de Sy

366. Re: Thanks from Novice!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 11:08:33 UTC
From: uu482@freenet.Victoria.BC.CA
Message-ID: <1995Jan29.110833.15637@freenet.victoria.bc.ca>
Source record: 114566

To all of those who read my post and took the time to reply:

A hearty THANK YOU!

With any luck, I'll be QRP'ing sometime soon! :-)

7373737373's Andy VE7HIP
uu482@freenet.victoria.bc.ca
--

367. Re: BP Filter Manufacturer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 17:40:00 UTC
From: tom.alldread@kbsbbs.com
Message-ID: <9501291820533370@kbsbbs.com>
Source record: 114567

MF>Try FOX electronics-----they have some 45 Mhz filters which are used in
>cellular radio receivers. TOKO and MURATA also have a large selection of fi
> 73 de Mike WB9EZB

Greetings Mike:
Can you tell me where I can go to get a catalog of Murata
filters and where one can purchase them in single unit quantities?

---
* QMPro 1.53 * Very Best Regards, tom.alldread@kbsbbs.com

368. Re: a little fantasy, QRP from Mt. Logan

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 18:19:38 UTC
From: mack@ncifcrf.gov
Message-ID: <D36Iwq.Dn7@ncifcrf.gov>
Source record: 114418

In article <3gan15$1bac@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:

>>ps. In any case, I'm also interested in sources/prices for small solar cells
>>that could be used to recharge batteries.

I bought a 1 ft square solar panel and mounted it on the roof of my car. In
Maryland it could just keep my 1w HT trickle charged. I don't use
it anymore (you can have it for $40 and I'll pay the shipping).

Joe Mack NA3T

369. Battery Pack

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 19:37:32 UTC
From: wbean@ix.netcom.com
Message-ID: <3ggqps$cac@ixnews1.ix.netcom.com>
Source record: 114419

Yesterday, I bought a portable battery pack (that I expect will have a variety of uses) at what I think is a good price.

Price Costco is selling a Handy Power System, MVP Model I-6001, for 19.99. Outputs provide 3, 6, 9, or 12 volts DC. It must be charged (and recharged) to be used but it does not come with an AC adaptor; although, it does come with an adaptor to use for charging in your car. Nevertheless, I found that a 12 volt adaptor that I already had sitting around the house worked just fine to initially charge the battery pack. LEDs tell you the state of charge.

I took the battery pack apart and found that it contains two 6 volt, 4.0 AHr, sealed lead acid batteries in series.

Now I have one question: Does anyone know where to buy the cheapest, but readily available, solar panels that will recharge this thing?

Bill

370. Re: FREE HAM NEWSLETTER!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 20:13:03 UTC
From: alanb@sr.hp.com
Message-ID: <3ggssf$al8@canyon.sr.hp.com>
Source record: 114420
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

Dave Mullenix (djmullen@facstaff.wisc.edu) wrote:
: I recently posted a reply to the AMSOFT spam telling them that
: instead of asking for a copy of their thinly disguised advertisement
: for their CD-ROM, I was sending a copy of their message to their
: system administrator.
...
: To repeat (and clarify), the proper response to any kind of spamming
: and especially to a _commercial_ spam is to send a copy of the
: message to the miscreant's system administrator along with a note
: describing the problems they're causing.

So for us Usenet novices, how do you find out the address of their
system administrator?

AL N1AL

371. Re: Ramsey Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 20:31:13 UTC
From: adb@bryant.com
Message-ID: <adb.56.00D1F1D4@bryant.com>
Source record: 114471

In article <3g9j2i$85i@newsbf02.news.aol.com> johnc41934@aol.com (JohnC41934) writes:

>For what it's worth..... If you buy a Ramsey kit,
>check the parts you get against the parts list before you leave the
>store!

Better yet, just buy the kits directly from Ramsey and deal with Ramsey directly on any problems. You should have called them directly about it anyway; every time I've had any problem like this (it's been once) with their kits, they have quickly resolved the situation.

While I'll agree that Ramsey's kits vary widely in their desirability, I must say that as a company, I've had nothing but good experiences in dealing with them.

Alan D. Bryant - Bryant Software - Products for TBBS/TDBS

Voice: (303) 733-3116 WWW: http://www.bryant.com/
BBS: (303) 733-0773 Telnet: bryant.com
Fax: (303) 777-2876 E-Mail: sales@bryant.com

372. Noise Blankes ICs. Who makes the ULM 3854A?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 20:48:16 UTC
From: tgxydis@aol.com
Message-ID: <3gguug$gh0@newsbf02.news.aol.com>
Source record: 114421

I am building a receiver. In working on the noise blanker I found that some
modern comercial receivers use some sort of controller IC. For example,
the Drake R8 uses an IC marked ULM 3854A. I have looked in IC Master and
not been able to find out any data on this part. Does anyone know who makes
this chip? I would also be interested in any other noise blanker IC
suggestions.

I am also interested in what advantage these parts have over a simple
discrete implementation.

73

Thomas Xydis KC9DM
tgxydis@aol.com

373. Re: BP Filter Manufacture

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 21:12:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.404.546@acenet.com>
Source record: 114422

Newsgroups: sci.electronics,rec.radio.amateur.homebrew
From: brian.carling@acenet.com

MF>Try FOX electronics-----they have some 45 Mhz filters which are used in
MF>cellular radio receivers. TOKO and MURATA also have a large selection of
MF>filters. I suggest you request catalogues from all three manufacturers--th
MF>have lots of useful information.
MF> 73 de Mike WB9EZB

Hey, great info, but how about an address or phone number for these
three outfits, Mike????

73 de AF4K
brian.carling@acenet.com

~ SLMR 2.1a ~ And tonight's forecast: DARK!

374. Schem/pcb On the net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 21:13:25 UTC
From: Jay.Craswell%f100.n282.z1@hamlink.hamlink.mn.org
Message-ID: <791415194.AA00386@hamlink.hamlink.mn.org>
Source record: 114425

I was reading a series of messages discussing various formats for posting schematics on the Net. I would like to suggest using Circad for the format. By using this program schematics are more than a drawing with symbols. The format allows us to extract netlists as well as B.ill O.f M.aterials and so on. Even better the same program has the ability to create PCB files! Now then, why Circad vrs OrCAD? OrCAD for one is very expensive. Most Hams would be killed by the XYL if they went out and bought it for homebrewing. Circad has a free demo version that everyone can use to read schematics and print them out. The demo also lets you create files (although they have to be fairly small) The commercial version is expensive $995.00 BUT NOT IF YOU ARE A HAM! They get the full version for $299.00 which I think is much more reasonable. Hams who buy it don't get the free phone support but.... I do it myself (for what thats worth <grin>) on my own. I wonder what everyone out in the Net thinks about this? Send E-Mail or Call me during the Day (612) 492-3913. If you want the program call me also! Its part of my very large Site License. BTW its all OK with CIRCADs owner Holophase. 73 de Jay Craswell WB0VNE

375. <none>

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-29 22:53:24 UTC
From: Driver Jerrel L <GT83STU@SEMOVM.SEMO.EDU>
Message-ID: <29JAN95.18241205.0013@SEMOVM.SEMO.EDU>
Source record: 114423

Would appreciate any information pertaining to verifiable references related to reception of radio frequency signals by persons wearing dental fillings, orthodontial equipment, etc. Would appreciate verifiable references and personal ancedotes if also verifiable. References from any source such as ham mags, scientific journals etc. are fine. Personal ancedotes also appreciated. Thanks in advance.

376. Ten-Tec 6m Xvrtr ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 01:09:54 UTC
From: hduff@humnet.westonia.com
Message-ID: <7741-242612501@humnet.westonia.com>
Source record: 114424

I'm considering the purchase of the $95 (<---amazing) Ten-Tec
6M transverter kit. I'd like to get some feedback from others who have
built and used it.
I'm also curious as to why they chose 20 meters as the IF frequency
rather than the typical 10 meter IF as used by most other designs !?
I can only think that it has something to do with the IMD
figures...maybe they couldn't be met using this design at 28 Mhz ??
Also wonder what the active devices are and what they are using for
mixers (active or passive) ?
Nevertheless, it sounds like a deal for $95 !

All comments welcome and appreciated.

Thanks...Hugh Duff VA3TO (VE3OYH), Toronto

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---

377. BEST books for LEARNING electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 07:57:51 UTC
From: "Mark G.Forbes"
Message-ID: <3gi6cj$mkl@jadzia.PEAK.ORG>
Source record: 114429
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,ieee.general

>1) What is the _BEST_ overall book for learning how to build and
>UNDERSTAND electronics?

The Art of Electronics, 2nd Ed., Paul Horowitz & Winfield Hill,
Cambridge University Press. ISBN 0-521-37095-7 This is *the*
authoritative reference that I know of. It's *readable*, the sort
of book I leave on the toilet tank. My wife is using it to learn
about electronics. It explains things in sensible ways, without
a lot of heavy-duty math to get in the way. It can take you from
the "What is a resistor?" level to the "How do I build a state
machine using HC logic?" level.

As a side benefit, Winfield Hill lurks here frequently and
posts occasionally too. hill@rowland.org

For your non-technical relatives who'd like to know, sorta, how
the stuff you're doing works.... There Are No Electrons, Kenn Amdahl,
Clearwater Publishing Co. ISBN 0-9627815-9-2 A very light,
humorous book about basic electronics. A plot, too! Really! It
sounds silly (and it is, a bit), but the weird analogies he uses
tend to stick in your mind, and they do make a certain amount
of sense.

Imagine if you will a basketball court, with a long red carpet
stretched across at mid-court. On both sides of the carpet, hordes
of chickens are break-dancing in a frenzy. This is not the *usual*
way of explaining minority-carrier distribution in an NPN
transistor.....but it works! Read the book. It's cheap and a good
laugh.

To order either of these, I'd use Bookstacks Inc. I've used them
before to order both fiction and non-fiction, and they're fast,
easy and Internet-accessible. To browse the stacks and place an
order, telnet to

books.com (IP address 192.148.240.9)

and follow the instructions.

>
>2) What is the _BEST_ overall book for learning how to build and
>UNDERSTAND RF circuits?

You couldn't go far wrong with the ARRL handbook. I don't have the
details, but a local ham will no doubt have a copy, or you can check
books.com for further details. Another place to try is Powell's

Technical bookstore in Portland, Oregon. They also ship anywhere and have on-line ordering capability. Send mail to

ping@technical.powells.portland.or.us

for an automated email reply that will get you started. They are one of the largest bookstores in the world, and certainly the best stocked technical bookstore I've ever seen. And yes, I've been in Stacey's down in Silicon Valley. Powell's is better.

--
forbesm@csos.orst.edu
Mark G. Forbes
"Never ascribe to malice that which can be blamed on the engineer."

378. Re: Direct Digital Syntesizer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 14:40:49 UTC
From: mrzit@aol.com
Message-ID: <3gitph$pbc@newsbf02.news.aol.com>
Source record: 114426

The August 1993 issue of "73 Amateur Radio Today" has an article on h

379. Needed: Ultra Sonic Modeling Pgm, etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 15:04:40 UTC
From: talisman@crl.com
Message-ID: <3giv68$7dv@crl3.crl.com>
Source record: 114427
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

[Article crossposted from sci.electronics.cad]
[Author was Jim Huber (talisman@crl.com)]
[Posted on 30 Jan 1995 06:54:32 -0800]

[Article crossposted from sci.physics.electromag]
[Author was Jim Huber (talisman@crl.com)]
[Posted on 27 Jan 1995 08:07:36 -0800]

I am interested in using a 486-PC to analyze/compute the intensity levels within a room for a 40 kHz ultra sonic transducer source mounted within a medium to large office area containing furniture. For simplicity, the furniture will be modeled using rectangles, etc., and the walls are assumed perfect reflectors.

Are there any programs that will accomplish the above? Can NEC or miniNEC antenna analysis programs be used for this task? What theory applies for ultra sonic analysis? What are the recommended texts covering this topic?

Thanks in advance for the advice and help.

Jim
talisman@crl.com

380. Re: printed pc-boards 2/2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 15:09:05 UTC
From: copeland@fohnix.metronet.com
Message-ID: <3giveh$smg@fohnix.metronet.com>
Source record: 114428

In article <93.4746.7584.0NFB8F19@woodybbs.com>,
Tom Hammond <tom.hammond@woodybbs.com> wrote:

> 4) FeCl _can_ be disposed of down the drain IF very well diluted
> with water. Dispose of properly.

If my chemistry serves me right, you can neutralize the acid by adding
a buffer (AKA salt water). But with as little chemistry I have, it
just might also cause an explosion, 8-|

FeCl is extremely toxic. The first time I used it, I didn't know where
to get rid of it. I dumped 1/2 cup on the ground, it killed a tree.

--

| There are two types of people in this world, those who separate |
| people into groups,and those who don't. KC5LWF copeland@metronet.com|
----

381. Re: Solid State replacements for tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 16:28:58 UTC
From: hbrown@nadir.resd
Message-ID: <1995Jan30.162858.7661@knight.vf.ge.com>
Source record: 114430

Sometime back in the 70's, ham radio magazine had a complete article on replacing all of the tubes in a receiver with transistors. At that time, you could get a minature tube "breadboard" that would plug into a tube socket and it had terminals for mounting components to make up a complete replacement circuit. I doubt that they are still available. I beleive that the article used them.

73, Harry, W3IIT
hbrown@resd.vf.ge.com

382. Re: Schem/pcb On the net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 18:00:19 UTC
From: riyadth@boi.hp.com
Message-ID: <D38CoK.2rn@boi.hp.com>
Source record: 114431

Hello,

In article <791415194.AA00386@hamlink.hamlink.mn.org>,
Jay Craswell <Jay.Craswell%f100.n282.z1@hamlink.hamlink.mn.org> wrote:
> OrCAD for one is very expensive. Most Hams would be killed by the XYL
> if they went out and bought it for homebrewing. Circad has a free demo
> version that everyone can use to read schematics and print them out.
> The demo also lets you create files (although they have to be fairly
> small) The commercial version is expensive $995.00 BUT NOT IF YOU ARE
> A HAM! They get the full version for $299.00 which I think is much more
> reasonable. Hams who buy it don't get the free phone support but....
> I do it myself (for what thats worth <grin>) on my own. I wonder what
> everyone out in the Net thinks about this? Send E-Mail or Call me
> during the Day (612) 492-3913. If you want the program call me also!
> Its part of my very large Site License. BTW its all OK with CIRCADs
> owner Holophase. 73 de Jay Craswell WB0VNE

I have been using the Circad demo version for some time now, and have had occasion to talk to Jay about many features of the program, and I can recommend it highly to anyone looking for such a system. I find the tool extremely powerful, and once you get the hang of it, it is very easy to use. And Jay has been very helpful and informative.

However, I must say to Jay that at $299 (which I agree is a much better deal than $995) is still hard for the XYL to grasp. It even has me thinking (I haven't purchased (yet)). In fact, from what I've seen of Amateur radio in the year and a half that I've been a member, there are a lot of us out here who just don't have the funds that our hobby seems to constantly demand :-)

Still, I would recommend that everyone looking for a schematic/PC-board cad program contact Jay and get the demo version (also available on CompuServe), and spend some time using the demo (it is fully functional except it cannot save drawings larger than a certain size). I have successfully built a new part, entered a schematic, and routed a board for a lead-acid battery charger (from the ARRL handbook). The project definitely taught me what I want in a cad package.

Who knows, maybe Holophase could be convinced to come out with a $99 'Circad-lite' (say for schools/students and Hams?).

-Riyadth Al-Kazily
riyadth@boi.hp.com
--
-- Riyadth Al-Kazily Hewlett-Packard Advanced LaserJet Operation --
-- riyadth@boi.hp.com (208) 396-4987 Boise, Idaho KB7YWE DoD #295 --

383. Re: HW-99 drift

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 18:10:09 UTC
From: zlau@arrl.org
Message-ID: <1995Jan30.181009.11522@arrl.org>
Source record: 114432

WD5IFS mack@mails.imed.COM wrote:

: beginning. The down side is that running it hotter will make the VFO have
: slightly more noise. I'm not sure what effect that might have in this radio.
: Maybe Zack has some thoughts on this.

I don't see this is an issue. You might expect kTB noise to increase by
0.2 dB going from room temperature to 100 degrees Fahrenheit.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

384. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 18:41:32 UTC
From: hanko@wv.mentorg.com
Message-ID: <3gjbss$3l9@hpbab.wv>
Source record: 114433
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <3g71qe$hc5@crcnis3.unl.edu>, gbrown@unlinfo.unl.edu (gregory brown) writes:
|> I find your (AMSOFT) reply as innappropriate, perhaps more
|> innappropriate, than Bob's comments, and a substantial waste of
|> "bandwidth".
|>
|> Perhaps what Bob should have said is that it is contrary to Internet's
|> policy for Internet to be used as a vehicle for commercial
|> advertisement. That is a fact. While I can not say that the policy is
|> a legally binding one (that is for others to say), it certainly is
|> followed by the vast majority of commercial enterprises, and for good
|> reason. They realize that they run the risk of alienating potential
|> customers who may not appreciate such a blatant disregard for net
|> etiquette and policy. Like Bob. And like me. Mind you, it is no big
|> deal to me personally. But I don't like advertising here either, and
|> there are plenty of alternatives to AMSOFT.

I'm very curious where you discovered the information that indicates
it "... contrary to Internet's policy ...". As far as I know, there
IS no such entity as "Internet" to have a policy. Could you be a bit
more specific where you located this policy information? Any sort of
reference will do: ftp, email, http, whatever. I'd like to review
the policy you are talking about before making any further comments.

... Hank

--

Hank Oredson @ Mentor Graphics Library Operations
Internet : hank_oredson@mentorg.com "Parts 'R Us!"
Amateur Radio: W0RLI@W0RLI.OR.USA.NOAM

385. Re: sticking core disolvent ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 21:22:06 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-3001951622060001@k4dii.ksc.nasa.gov>
Source record: 114434

In article <AB5118B49668269BE@wautelet.innet.be>, wautelet@innet.be (Thierry Wautelet) wrote:
> I'm using "old" commercial transceiver on the ham band (2m / 70 cm)
> however I found out that some core in coils are "glued" and very
> difficult to turn without breaking the core.

Thierry-

Often, the slugs are hard to turn because they are ALREADY broken! Sharp edges bite into the inside of the coil form, making it hard to turn.

One possibility, is to use a fine-tipped soldering iron, to melt the material that is used to hold the slug in position. It is often some kind of wax, like bees wax. While things are still hot, it may be possible to turn the slug. Use plastic, NEVER use a metal tool on powdered iron cores.

73, Fred, K4DII

386. Re: Noise Blankes ICs. Who makes the ULM 3854A?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 21:27:03 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-3001951627030001@k4dii.ksc.nasa.gov>
Source record: 114435

In article <3gguug$gh0@newsbf02.news.aol.com>, tgxydis@aol.com (TGXydis) wrote:
> modern comercial receivers use some sort of controller IC. For example,
> the Drake R8 uses an IC marked ULM 3854A. I have looked in IC Master and
> not been able to find out any data on this part. Does anyone know who
> makes
> this chip?

Thomas-

That sounds like a Sprague part number. However, I couldn't find it in a
1987 catalog. It could be a proprietary part, that can only be obtained
from the equipment manufacturer. If so, the IC manufacturer may not tell
you any more than who bought it from them.

73, Fred, K4DII

387. FM radio on a chip for project

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 22:23:58 UTC
From: jrl2@crux1.cit.cornell.edu
Message-ID: <3gjotv$o2s@tuba.cit.cornell.edu>
Source record: 114436

Hi all,
I'm looking for a FM broadcast band radio receiver on
a chip for use in a serial line controled project. I think
Phillips has one but I haven't been able to find out any more
then that.
Requirements:
cheap
ability to be interfaced with a serial line

Thanks,
-Jeff N2TIQ

388. Icom IC4IE 70cms tranciever and HM-55A tone dial speaker-mike

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 23:23:07 UTC
From: oddjob@cix.compulink.co.uk
Message-ID: <D38rMJ.EJA@cix.compulink.co.uk>
Source record: 114437

Icom IC4IE 70cms tranciever and HM-55A tone dial speaker-mike
this is Tiny, perfectly formed 70cms/435MHz FM hand held, about this size
of fags.

I am selling the radio (RRP 299ukp), tone dial speaker mike (RRP 74ukp?),
additional 13.8/12v flylead (RRP 5ukp), all manuals and boxed as new.

The unit has extended TX and RX and would be perfect packet station in
your pocket. Sophisticated Power control on RX AND TX as is the ability
to adjust output power from 5w (requires 12v battery pack) down to
20milli-watt.

An ideal first radio for a new licensee.

A mere SNIP at 225ukp ONO. Best offer secures. Buyer Collects from
London, NW6 or pays postage.

oddjob@cix.compulink.co.uk/Steve 0956-544202

oddjob@cix.compulink.co.uk

389. Re: High Voltage (30kV) Switching with Tubes ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 23:31:55 UTC
From: mrbaker@hodcs.ho.att.com
Message-ID: <D38s18.5p1@nntpa.cb.att.com>
Source record: 114442

>In article <3gaa16$td@tierra.santafe.edu> Jim Potter <jpawi@roadrunner.com> writes:
>>dugan@ginger.biophys.upenn.edu (Ben Dugan) wrote:
>>
>>> Can anyone offer pointers about using vacuum tubes to switch very
>>> high voltages? I have a possible application to switch 30kV on and
>>> off at a 500 Hz rate, with a 20mA load.
>>

You may also want to check some of the literature on mod-anode pulsers used
with UHF-TV klystron amplifiers. Not a perfect fit to your situation, but
there are some similarities.

Check back issues of IEEE Transactions on Broadcasting, or perhaps the
Jerry Whitaker (sp) book on High Power Vacuum Tubes [or a title like that],
NAB Engineering Handbook, etc.

WA3ZXO
"It's not a real transmitter if it's not water cooled"

390. Re: FREE HAM NEWSLETTER!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-30 23:51:58 UTC
From: amsoft@epix.net
Message-ID: <3gju2u$eep@grape.epix.net>
Source record: 114438
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

>So for us Usenet novices, how do you find out the address of their
>system administrator?
>
The AmSoft system administrator of Ais postmaster@epix.net.

Epix is an open and uncensored system.

==========
A F R E E H A M N E W S L E T T E R A V A I L A B L E !!!
==========
A free newsletter from AmSoft, a leader in Amateur Radio CD-ROM's
is available by sending your E-Mail address to amsoft@epix.net.
The newsletter contains the entire listing of the January 95 CD-ROM
software library, and a one page description of the Amsoft CD-ROM.
==========

391. Re: FREE HAM NEWSLETTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 01:08:20 UTC
From: johnl@world.std.com
Message-ID: <D38wHw.AC7@world.std.com>
Source record: 114439
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <3g9gr8$8hh@news.doit.wisc.edu>,
Dave Mullenix <djmullen@facstaff.wisc.edu> wrote:
>In article <NEWTNews.18260.790755434.amsoft@amsoft.epix.net>, AMSOFT@EPIX.NET says:
>>
>>If you would like to get a FREE newsletter about the JAN 1995 AmSoft
>>CD-ROM please send your Internet E-mail address to: amsoft@epix.net
>>
>I felt a letter to your system administrator was a better use of my
>time. I sent you a copy too. DON'T MAIL ME YOUR THINLY DISGUISED
>ADVERTISEMENT! Any chance you ever had of selling me anything vanished
>when you decided to spam the newsgroups with your commercial ads.
>
>Dave Mullenix, N9LTD

In my humble opinion, I think the AmSoft posting was appropriate.
It told me a new version of the product was available and where
to get more information. It was brief, didn't mention prices, and
was posted ONLY to appropriate (ham radio) groups. This is useful
information.

A few facts:

1. Years ago the Internet backbone was government funded and was only
supposed to be used for non-commercial purposes. That changed about
3 or 4 years ago. It is now commercial with no restrictions on
commercial use. I was the Internet contact for our site at the time
so I got all the official info and saw the significant jump in the
monthly bill.

2. Netiquite (sp?) is not law or a contract between network service
providers and users. It is only generally accepted guidelines
of the culture of the newsgroups. There are many newsgroups dedicated
to particular commercial products used for communication between
manufacturers and customers.

3. There are only a few big companies in the ham radio market. The
transceiver manufacturers, AEA, MFJ, and very few others are big
companies that can afford full page ads. Most of the others are
just one person at-home "basement" operations persued nights and
weekends in addition to regular full time jobs. Don't be fooled
by the fancy names like "XYZ Technologies" or "XYZ Research".
I know several people personally who fit into this category. Most
people feel more comfortable dealing with a big company instead
of a basement operation so it really is necessary to give the

the impression of being bigger.
We should thank and encourage these people for bringing us interesting products that larger companies wouldn't want to be bothered with due to tiny market and low margins.

If some one is truly abusive of the communication channel we should scold him and even ask the site administrator to revoke access. However this was not terrible abuse.

73,
John WB2OSZ

392. Re: CMOS KEYER from Idiom

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 01:31:00 UTC
From: tom.hammond@woodybbs.com
Message-ID: <93.4926.7584.0NFB90A5@woodybbs.com>
Source record: 114440

PE>If it's the same guy, he sort of runs the thing out of his house.

IDIOM Press _was_ owned (I'm pretty certain) by Bob Locher, W9KNI, of Bencher Paddle fame. He also owns LogicKey (the distributor of the assembled Super CMOS Keyer II). However, It would appear the Bob may have sold Idiom Press to someone else.. or is running it from a different (CA) location now.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--- Alexi/Mail 2.02b (#83)
* Origin: Distant Winds BBS * Jefferson City, Mo * [314] 635-7868 (1:289/67)

393. Looking for toroid cores in Dallas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 03:14:31 UTC
From: drice@ponder.csci.unt.edu
Message-ID: <3gk9un$hlf@hermes.unt.edu>
Source record: 114441

Does anyone know of a good supplier of toroid cores in the Dallas/Fort Worth area?

73, Keith, KC5FCK

--
|o| Keith Rice, KC5FCK -- Computer Operator, City of Denton, Texas |o|
|o| Internet: drice@ponder.csci.unt.edu |o|
|o| Amateur Packet Radio: KC5FCK @ WO5H.#DFW.TX.USA.NOAM |o|
|o| "Visualize Whirled Peas!" |o|

394. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 05:24:10 UTC
From: gbrown@unlinfo.unl.edu
Message-ID: <3gkhhq$2nc@crcnis3.unl.edu>
Source record: 114443
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

Hank Oredson (hanko@wv.mentorg.com) wrote:

: I'm very curious where you discovered the information that indicates
: it "... contrary to Internet's policy ...". As far as I know, there
: IS no such entity as "Internet" to have a policy. Could you be a bit
: more specific where you located this policy information? Any sort of
: reference will do: ftp, email, http, whatever. I'd like to review
: the policy you are talking about before making any further comments.

Any of a number of books at your local library or bookstore can fill you in on the history and evolution of what we now call the "Internet". It's original purpose was to connect Universities and other educational institutions for educational purposes. Major advances in this regard were made by the National Science Foundation. Commercial participation was once excluded or severely restricted. The intended purpose of the "creators" was educational advancement (much of it at taxpayers expense), not providing commercial enterprises with new ways to make money. Commercial connections are now common, the limitations on use much more flexible. There are no laws that I know of which prohibit advertising on the net, however the vast majority of commercial enterprises connected to the net honor the traditional "ban" on overt advertising and limit their use to their own research and development purposes and for business communications. They understand and respect the original purpose and intent of what has become the "Internet", and respect the wishes of the majority of users, as well as the wishes of those who have made "Internet" possible.

Virtually every major business from IBM to Intel to General Motors has Internet access. When was the last time you saw a commercial here from one of them?

Again, there are dozens of books that discuss Internet history and purpose. I've not done it, but I imagine you could also come up with lots of similar info if you do a Gopher search on some key relevant topics.

Feel free to let me know what you discover in your research.

Greg

395. Re: FREE HAM NEWSLETTER!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 12:46:15 UTC
From: md@pstc3.pstc.brown.edu
Message-ID: <3glben$rg5@cat.cis.Brown.EDU>
Source record: 114444
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <3gju2u$eep@grape.epix.net>, Pete deVolpi <amsoft@epix.net> wrote:

>Epix is an open and uncensored system.

So, it would be okay for me to use epix.net to distribute
pornographic material. Or use it for net drug trade. Perhaps
post mass quantities of skin-head propaganda.

Nah, didn't think so. Epix.net is only uncensored to those views
you happen to agree with.

MD
--
-- Who needs looks when you have taste?
--
-- Your blood pressure just went up.

396. Re: Ramsey Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 13:03:52 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D39tMH.B6x@hpqmoea.sqf.hp.com>
Source record: 114445

JohnC41934 (johnc41934@aol.com) wrote:
: I recently bought a Ramsey kit for a 30M QRT transmitter from a local
: outfit near Dallas.

OK, I know it was a typo, but if bits were missing and wrong in the
kit, maybe it really was a *QRT* transmitter.

With kits, the error rate in packing the bits is very high, also
many kits are of designs that are marginal and may need the skills of
someone who could have designed it properly just to get it going....

Heathkits weren't perfect, but they were pretty good and they knew
how important accuracy, checking, and superb instructions are for novice
constructors.

Cheers
David

397. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 13:37:00 UTC
From: kdh@cimtek.on.CA
Message-ID: <199501311337.IAA04599@apollo.cimtek.on.ca>
Source record: 114446

```
subscribe
```

398. Re: QEX ---- back issues on a CD ROM ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 13:41:42 UTC
From: M.Willis@ee.surrey.ac.uk
Message-ID: <1995Jan31.134142.26376@ee.surrey.ac.uk>
Source record: 114447

In article <FAUNT.95Jan26112759@netcom5.netcom.com>, faunt@netcom5.netcom.com (Doug Faunt N6TQS 510-655-8604) writes:
|> I'd settle for microfiche, but CDROM would be great. BTW, if you send
|> in multiples of $12 (or whatever your rate is), you'll get QEX for
|> multiple years.
|> 73, doug
|>
The problem with QEX is it is so expensive for us in Europe. The Same goes for QST unless one uses surface mail, which is very slow. Back issues on CD ROM sounds good. Current issues on the network sounds even better. Is QEX Profit or non-profit? i.e. would there be a problem with Electronic distribution assuming it was sent as postscript with all the adverts included? (I actually want to see the adverts)

Mike

399. Mixers.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 13:48:45 UTC
From: jmaas@aston.baan.nl
Message-ID: <D39vp9.IyL@baan.nl>
Source record: 114448

Hello brewers,

I am working on a 2 meter SSB transceiver.
MF = 9Mc and fVCO = 135 - 137 Mc (Synthesizered controlled; Works great).

Now i want to mix the 9MC and fvco signal with a diode mixer the SBL-1.

The problem is now that when the MF is transmitting with a Low frequency input of 1Khz(So there
is output) and the vco on 136MC i never see on 145Mc an output signal on the output of the SBL-1. On 9MC its working great.
How works an SBL-1 ; whats the connecting(internal circuit scheme) and how many signals do i need (amplitude). Is het possible to connect the vco signal to the SBL-1 with a capacity!!

HELP !!!

73 PA3GSB the Johan

Thanks in advance!!!! BYE.

400. Re:Homebrew VOX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 15:11:22 UTC
From: mack@mails.imed.COM
Message-ID: <9500317915.AA791572721@mails.imed.com>
Source record: 114449

Greg Law wrote:
****
From: gregl@iglou.com (Greg Law)
Subject: Homebrew VOX

I'm currently using a Realistic HTX-100 on 10 meters (until I save enough nickels to get a general-coverage HF rig) and would like to put together a VOX circuit for it. Although it comes with a hand mic, I've scraped together a boom mic using a Realistic 33-1071 cardioid mic (one I bought *years* ago) and some flexible gooseneck. Overall this mic seems to work much better than the hand mic supplied with the rig. Anyway, anyone have any designs for a VOX circuit, or know where a kit or assembled unit might be purchased?
****
Greg:

Look in an OLD ARRL Handbook (I found a circuit in the 1977 version).
To build an outboard VOX you will need to put the VOX between you mic input to the rig and also put your speaker through the VOX as well. The circuit in the '77 handbook looks pretty good. All of the parts are still quite readily available. The only tricky part is to get the anti-vox control adjusted so that your speaker doesn't turn on the transmitter.

Be sure to shield it VERY WELL. You need to keep RF out of your VOX circuit. I recommend a die-cast box with lots of filtering on the cables in and out of the box. One change you might make from the circuit in the handbook is to use a power FET (IRF 511 is cheap!) instead of the relay for the PTT circuit. This would allow it to be battery operated and have the battery last longer than one evening.

I was REALLY surprised that sometime around 1985 they dropped VOX circuits from the handbook. I guess they figure everyone could figure out how to build one from the description of how they work.

Ray
WD5IFS
mack@mails.imed.com

401. Re: Ten-Tec 6m Xvrtr ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 15:32:49 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan31.153249.16096@ke4zv.atl.ga.us>
Source record: 114450

In article <7741-242612501@humnet.westonia.com> hduff@humnet.westonia.com writes:
>
>
>I'm considering the purchase of the $95 (<---amazing) Ten-Tec
>6M transverter kit. I'd like to get some feedback from others who have
>built and used it.
>I'm also curious as to why they chose 20 meters as the IF frequency
>rather than the typical 10 meter IF as used by most other designs !?
>I can only think that it has something to do with the IMD
>figures...maybe they couldn't be met using this design at 28 Mhz ??

Think where the LO frequency, and it's second harmonic, appear when
using low side injection for 28 MHz->50 MHz (22 MHz and 44 MHz).
That's too close to in-band on both ends (6 MHz) to make filtering
cheap. It's easier with a 14 MHz IF. That displaces the LO fundamental
and second harmonic (36 and 72 MHz) well away from both ends of the
conversion (8 MHz and 22 MHz respectively).

They could have used high side injection to get away from those
problems, but that adds to the cost of the LO string, and does
sideband inversion and backwards tuning. That's Ok in a microproccesor
controlled transceiver where the appropriate sideband switching is
automatically handled and the controls and display made to work any
way you want. It's an awkward pain in a separate transverter/transceiver
combination.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

402. Re:Noise Blanker IC's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 15:36:37 UTC
From: mack@mails.imed.COM
Message-ID: <9500317915.AA791574214@mails.imed.com>
Source record: 114451

Thomas Xydis wrote:
****
Subject: Noise Blankes ICs. Who makes the ULM 3854A?

I am building a receiver. In working on the noise blanker I found that some
modern comercial receivers use some sort of controller IC. For example, the Drake R8 uses an IC marked ULM 3854A. I have looked in IC Master and not been able to find out any data on this part. Does anyone know who makes
this chip? I would also be interested in any other noise blanker IC suggestions.

I am also interested in what advantage these parts have over a simple discrete implementation.
****

Thomas:

The "ULM" would seem to indicate that it is a part made by Sprague Semiconductor. Sprague sold their semi business to someone else and neither I nor our components engineer can remember who bought them. I don't recall any other manufacturer using numbers like the one you mention. At any rate, it is VERY unlikely that you could find one new. The R8 is a fairly old design. It seems to me it was introduced in the mid 70's. A lot has changed in what constitutes a high performance receiver since then.

For IC implementations you should try to track down old issues of "Ham Radio" and "QST" from the late 70's and early 80's. There were a couple of articles back then on IC implementations.

I remember seeing an article in a ham magazine (I think) quite some time ago that was sort of theoretical. It may have even been written by Dr. Rohde. I seem to recall that whoever it was did some research and found that the impulse energy that did the most harm had a significant amount of energy in the 40 MHz range. He used an auxilliary antenna just for the noise blanker and a small "receiver" whose job was just to detect the noise pulses. This then generated REALLY sharp pulses which were applied to an analog switch of some sort in the IF of the receiver. It was a very good article. I wish I had a copy of it.

Maybe Zack or someone else at ARRL remembers the article I am thinking of.

Ray
WD5IFS
mack@mails.imed.com

403. Re:High Voltage Switching

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 15:43:38 UTC
From: mack@mails.imed.COM
Message-ID: <9500317915.AA791574818@mails.imed.com>
Source record: 114452

>In article <3gaa16$td@tierra.santafe.edu> Jim Potter <jpawi@roadrunner.com>
writes:
>>dugan@ginger.biophys.upenn.edu (Ben Dugan) wrote:
>>
>>> Can anyone offer pointers about using vacuum tubes to switch very
>>> high voltages? I have a possible application to switch 30kV on and
>>> off at a 500 Hz rate, with a 20mA load.
>>
Ben:

500 Hz is very slow in the switching world. Have you considered
switching the low voltage side? You probably don't have that much capacitance
on the high voltage side, so it would decay pretty rapidly.

If you are using the AC mains (60 Hz or 50 Hz) that might be a problem.
If you changed your power supply to a switching circuit at 10 KHz or higher it
would definately be easier to just turn the low voltage side on and off.

Ray
WD5IFS
mack@mails.imed.com

404. Re: Need help with oscilloscope!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 16:34:32 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jan31.163432.16377@ke4zv.atl.ga.us>
Source record: 114455

In article <3ge37h$bp4@bones.et.byu.edu> hadleyv@bones.et.byu.edu writes:
>gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>> ... blah blah blah ...
>
>I just want to say that I REALLY appreciate what Gary took the time to explain
>here...he is a REAL asset to the Group(s).

Thanks.

>I would like to extend the question a little further about using an o'scope
>with a rig. I currently have a TS-850S/AT. Also, have a real nice tektronix
>o'scope. (quad trace, 300 MHz). My kenwood has a 8.83MHz IF output on the
>back of the rig to hook up to their "station monitor." Kenwood's station
>monitor uses the IF for a "pan" display where it displays the signals up and
>down the band centered about where you are on your radio dial. The Station
>Monitor gives you the options of picking the bandwidth of the display by
>selecting scan widths of +/-25 KHZ, +/-100 KHz, and +/- 250 KHz with different
>scan speeds of slow, fast, and auto, as options.
>
>Q. How can I duplicate or even improve upon what Kenwood is doing and save
>myself a $1000?
>
> I have a function Generator that can output sin, tri, and sq. waves between
>2Hz to 2MHz with adjustable duty cycle. Would that help? I am thinking I just
>need a ramp (sawtooth?) signal or two. But how to apply them? I don't know a
>great deal about IF circuits (yet!) so I am somewhat unfamiliar with what would
>be coming out that external IF to work with it. After I prototype up something
>with my bench equipment, I would like to build a "box" to do this "pan" display
>along with the station monitor Gary described and output this to my scope (when
>I'm not using it for something else) and duplicate kenwoods' overpriced product
>(it's functions anyhow). Thanks.

Ok, Vince, you can build your own panadaptor and save some money, but
it's not a trivial project. What a panadaptor is, is a limited spectrum
analyser. It samples the spectrum around the IF frequency of the receiver
before the narrow filters, feeds that to a mixer driven by a swept LO,
filters and amplifies the output of the mixer, and envelope detects the
signals. The detected envelope is then run through a log amp which feeds
the vertical plates of the scope. The horizontal sweep of the scope is
driven by the tuning ramp voltage for the panadaptor's LO.

So, you need a mixer, a SBL-1 will do, and you need a ramp to drive
the LO tuning, your function generator will do. You'll need a LO
that can be voltage swept from 7.775 to 7.975 to see the signals
+/- 100 kHz from the receiver's frequency. That's not too hard,

though it can be tricky to get good repeatability, tuning linearity, and stability from such an oscillator. It might be better to sweep a higher frequency VXO and hetrodyne it down to the 7.775 MHz range. Or alternately, you can *predistort* the ramp voltage so that you get a linear frequency change per unit time. You may need to do both to get an accurate linear frequency display.

You'll need an IF amp and filters (455 kHz) you can switch for different resolutions. At minimum you'll want 3, a CW filter for high resolution, a SSB filter for medium resolution, and an AM filter for coarse resolution. Different resolutions will be wanted at different spans, and for different sweep rates. The higher the frequency resolution you want, the narrower the filter you need. With narrow filters, you have to slow the sweep. For wide spans, you can't slow the sweep too much or you'll get horrible flicker on a non-persistant display tube. So you need all the combinations, coarse resolution with a fast sweep for wide spans, and finer resolutions with slower sweeps for narrower spans.

Now you need an envelope detector, this is trivial, just a precision rectifier. And you'll need a logarithmic response amplifier to boost the envelope for display. This is not trivial if you want accuracy. A good log response amplifier will take a bit of doing. Of course you can just use the linear response vertical amplifier in the scope, but it's dynamic display range will be so limited as to be useless most of the time. About all you could usefully use it for is signals that vary by no more than about 10 db across the span. Since you'll typically be seeing signals with level variations of at least 60 db, you need a log response amplifier. If you want to view signals from the receiver MDS up to its blocking limit, you're going to need better than 120 db log response.

So you see, a panadaptor has most of the circuits of a full receiver, plus a few. Its one saving is in not having to have a true front end, that's supplied by the Kenwood. Fortunately, there are single chip receiver subsystems that can come to your rescue if you can tolerate some performance loss. The MC13135 is one such chip. While nominally a FM receiver chip, it has a log response RSSI output with a 65 db range that can be directly applied to the scope's vertical input. You can use a selection of 455 kHz filters with it, and you can VCO it's first LO, feeding that back into the second mixer which will be used as the input for the device. It's a bit crude and rude, but it'll work. With what you've got already, parts cost, not including filters, should be under $20. Still, a panadaptor isn't what I'd call a novice project. To become a useful instrument, it'll need considerable understanding and skill to build it.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary

534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

405. Re: Looking for toroid cores in Dallas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 17:38:43 UTC
From: bcis@msg.ti.com
Message-ID: <3glsj3$ga5@tilde.csc.ti.com>
Source record: 114453

In <3gk9un$hlf@hermes.unt.edu>, drice@ponder.csci.unt.edu (Keith Rice/KC5FCK) writes:
>Does anyone know of a good supplier of toroid cores in the Dallas/Fort
>Worth area?
>
>73, Keith, KC5FCK
>
>--

Keith,

I don't know if these places have toroid cores per se, but you might
give them a try:

1) Tanner Electronics in Carrollton (I-35 & Beltline)
2) Tucker Electronics in Garland (Miller & Reserve St.)

MItchell

<==>
MM MM CCCCCC <-> Texas Instruments
MM M M MM CC <-> QA Systems
MM M MM itchell CC arson <->
MM M MM CC <->
MM MM CCCCCC <-> bcis@msg.ti.com
<==>
Standard disclaimer -- I speak only for myself and not my employer.

406. Re: QEX ---- back issues on a CD ROM ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 17:48:40 UTC
From: agodwin@acorn.co.uk
Message-ID: <3glt5o$j4r@acorn.acorn.co.uk>
Source record: 114454

In article <1995Jan31.134142.26376@ee.surrey.ac.uk>,
Mike Willis <M.Willis@ee.surrey.ac.uk> wrote:
>|>
>The problem with QEX is it is so expensive for us in Europe. The Same goes for
>QST unless one uses surface mail, which is very slow. Back issues on CD ROM

Poole Logic sell QST at many major rallies. Every time I see them I nag them
about getting QEX, but they don't think there are enough buyers to make
it worth their while (they're likely to end up with a reasonable number
of unsold copies each issue).

If a few other people nag them too, perhaps they'll feel it's worth the
risk ..

-adrian

407. Re: sticking core disolvent ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 20:59:14 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <791585954snz@lfheller.demon.co.uk>
Source record: 114456

In article <AB5118B49668269BE@wautelet.innet.be>
wautelet@innet.be "Thierry Wautelet" writes:

> Hi All,
> I'm using "old" commercial transceiver on the ham band (2m / 70 cm)
> however I found out that some core in coils are "glued" and very
> difficult to turn without breaking the core.
> I'm looking for a solvent but it should'nt dissolve the plastic
> of the coil.
> Any idea ?
> Thanks for help,
> 73's Thierry

A dodge I remember reading somewhere is to heat the core up carefully
with a soldering iron. This softens the wax, or whatever it is. Probably
worth trying before using solvents.

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

408. Re: FM radio on a chip for project

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 21:08:20 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <791586500snz@lfheller.demon.co.uk>
Source record: 114457

In article <3gjotv$o2s@tuba.cit.cornell.edu>
jrl2@crux1.cit.cornell.edu "Jeffrey R. Luszcz" writes:

> Hi all,
> I'm looking for a FM broadcast band radio receiver on
> a chip for use in a serial line controled project. I think
> Phillips has one but I haven't been able to find out any more
> then that.
> Requirements:
> cheap
> ability to be interfaced with a serial line

The Philips TDA7000 is what you are probably looking for. They work
quite well, and some people have used them successfully for packet reception
on the 2 m band.

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

409. Linear Power MosFet FAILURES...my experience

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 22:00:57 UTC
From: gene@eagle.csl.uiuc.edu
Message-ID: <gene.791589657@eagle.csl.uiuc.edu>
Source record: 114458

>> Ian Clark Power MOSFET failure Modes?

I'm glad to see more people are beginning to explore the possibilities of low-cost Power MosFets for High-Power linear amplifiers. It's an interesting frontier and, like investing in the stock-market, you need to accept the risk-factor that inevitably goes with it. I posted some of my experiences about a year ago...full-wave rectifying the 240 AC line, for a D.C. output of 165 volts at 10 or 15 amps capability. Actually, at reduced power, I found that half-wave rectifying 120 AC was satisfactory with my 18,000 ufd of filter (two 36,000 ufd @ 75 vdc in series..with shunt 1K-10W equalizing resistors across them). 'A little over-voltage, but with no apparent problem. I ran AC-neutral to an isolated common inside the case, so that the case and RF-in and Ant-out (which were both isolated from internal circuity) could be at case & earth ground. Large computer-grade capacitors of that type show up frequently at Hamfests.. I paid $2 each for mine. About a year ago I had used 8 IRF-722 (400v) in push-pull parallel. I used a tuned broadly-resonant push-pull tank-circuit in the output (about 60 ohms drain-to-drain impedance at 900W out). It worked well on 160M but required post-filtering on 80M.
Recently, I rebuilt the amplifier using sixteen IRF-710 MosFets....again in push-pull parallel. These were only rated at 20W instead of 40W, but had less than 1/3 the input capacitance per unit. Mounting sixteen is not as awsome as it sounds...drains are not insulated from the heat-sink, and half of them can be mounted on the underside of the same heat-sink, using a commom bolt and nut. (be sure to scrape some of the non-conducting anodized surface off of one side to insure electrical contact). Stray capacity of the isolated mounting of two separate heat-sinks will be insignificant because the tuning capacitance on 80M will be 0.016 ufd (six 0.0027 ufd 500v micas in parallel for the high-current required, from each heat-sink to common.....and twice that much on 160M for an Xc of about 5 ohms and a loaded Q of about 10).
Since I have posted some circuit details in previous months, I will summarize here by saying that it was performing beautifully on 80M using a resonant tank circuit inductor of "one-turn" of 1/4" tubing about 4 1/2" diameter (which resonates with the afore-mentioned pair of 0.016 ufd in series) and very clean carrier sine-wave, or very faithful two-tone test pattern....with no post-filtering required. As previously mentioned, the output to the 50-ohm antenna is simply an insulated wire inside the 1/4" tubing going to the case-grounded (also earth-grounded) 50-ohm antenna coax. The input is isolated via a broad-band toroid 1:1 transformer, and requires only 15 or 20 watts...most of which is dissipated in lossy series 25 ohm, and shunt 12 ohm to each half of the push pull input. All gate biases are common to the same bus, although each of the sixteen MosFet source-pin is individually biased with a 3.3-1W carbon-comp resistor (un-bypassed).
.......And now for the bad news....I was so pleased with the beautiful performance that I was about to start writing it up for submission to

"Worldradio" magazine (since they have been receptive other articles I have submitted)....when POW...I apparently left the two-tone pattern on a little too long and one group (eight IRF-710's) all shorted. Surprisingly, when I disconnected this group and operated the remaining eight in single-ended fashion, the nice undistorted pattern still remained, though of course at only half the previous power. I had previously tested it for a few hours using a little two-tone test generator that I had built which plugs into the ICOM transceiver microphone input (and gets +8v power from there). It was gated for about 1 second ON followed by 3 seconds OFF which the amplifier seemed to tolerate OK for several hours (good heat-sinks and muffin-fan airflow).
Incidentally, this is a good device to run your transmitter while you run next door to check and/or help solve Radio-Interference (returning every 10 minutes to station-identify).
Another feature that I would recommend....use slow turn-on Power MosFet such as an IRF-640 to gradually short out a 100 ohm In-rush current limiter between the rectifiers and the 18,000 ufd capacitor. I happily found that when the BIG Short occurred, it opened very fast (blew out), but performed as a very fast-blow fuse. This protects the rectifiers, the power-on toggle switch, the line fuses (or house fuse), and the 3.3-1W source resistors....i.e the remaining 100 surge resistor limits current to 1.5 amps. Of course, the +9v bias supply to provide the RC-timed turn-on voltage for the gate, must be isolated since it rides on the +165 vdc supply. I used a 9v Duracell which has a shelf life of 5 yrs. I use a SPDT relay to discharge gate on power-down while disconnecting the battery.....virtually no drain on the battery at any time.
ANYWAY, MY PRESENT TENTATIVE THINKING CONCERNING FAILURES of MosFets...
based only on my experience, is that we can be very naive concerning the ratings listed in the Data sheets. I believe they probably are mostly concerned with DC (remember, these are not touted as RF MosFets...they are only low-cost ($1.47 each for IRF-710's from Newark Catalog). I believe that when operating at 4 MHz we seriously underestimate how quickly internal dielectric heating can become intense in such a small plastic package...even though it's well heat-sunk. I plan to scale back my expectations to 600W PEP on 80M, and 900W PEP on 160M..(ssb voice except for very quick tune-up spurts. Note that 900W is about the limit with this 165 vdc supply because each drain max swing will be between about +10 to +310 (due to fly-wheel of the resonant tank). This provided 600v p-p across the 50 ohm antenna which is about 900W out. Note that this is only about 1.3db down from the legal max of 1500W.
I now have very nice efficient heat-sinks with one muffin-fan pulling air out of the cabinet. I believe I will add an additional one to push the air in the intake opening. The MosFets requires remarkably low quiescent current...about 1/2 amp for the total sixteen, and this should keep the MosFets cooled well enough to tolerate reasonable bursts of output power.
A final note...when I went to order more IRF-710's from Newark, they were out with no prospect for several months, so I ordered second-best IRF-712's (same price and specs except slightly lower I-max..and slightly higher Rds on but that probably won't much effect using it as a linear ampl.

--

Internet, BITNET: gene@csl.uiuc.edu

410. Re: AMSOFT (&other) advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 23:06:48 UTC
From: dtburr@ix.netcom.com
Message-ID: <3gmfq8$k63@ixnews3.ix.netcom.com>
Source record: 114459
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In <3gjbss$3l9@hpbab.wv> hanko@wv.mentorg.com (Hank Oredson) writes:

>I'm very curious where you discovered the information that indicates
>it "... contrary to Internet's policy ...". As far as I know, there
>IS no such entity as "Internet" to have a policy. Could you be a bit
>more specific where you located this policy information? Any sort of
>reference will do: ftp, email, http, whatever. I'd like to review
>the policy you are talking about before making any further comments.
>
> ... Hank
>
I agree that people shouldn't throw the "policy" terminology around,
especially because the attarction of the NET is that there are really no
hard and fast rules....things happen or do not happen as a result of
"gentlemens' agreements"

Use of the NET for commercial purposes is tempting, but my opinion is
that the best thing to do is for "advertisers" to voluntarily restriuct
their postings to areas set up for it. Otherwise, can you imagine what
some "enterprising" commercial entities would do to these USENET groups?

I use the word "enterprising" in quotes...these people are the same ones
who believe that they are "clever" when they park in a handicapped
parking space and get away with it, and that the rest of us "saps" were
not thinking or not willing to take a risk. We could legislate against
boorish behavior on the NET, but lets hope it never goes that far.

And in case you are wondering, Hank, I'm not some fresh-faced college
kid cooped up in my dorm room pecking away at my computer
at 2:30am philosophizing about how the world SHOULD be (not that there
is anything wrong with that). I'm a professional marketer with a real
soft spot for advertisng and business.

DB

411. Re: Ten-Tec 6m Xvrtr ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-01-31 23:32:31 UTC
From: <>
Message-ID: <3gmhaf$62t@lucy.infi.net>
Source record: 114460

In <1995Jan31.153249.16096@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>In article <7741-242612501@humnet.westonia.com> hduff@humnet.westonia.com writes:
>>
>>
>>I'm considering the purchase of the $95 (<---amazing) Ten-Tec
>>6M transverter kit. I'd like to get some feedback from others who have
>>built and used it.

Does anyone have the number for Ten-Tec's kit information. I remember seeing an ad
for them but couldn't find one in any of my recent magazines.

Peter W. Borders - WB4TKA
Network CCIA
Tidewater Community College

412. Re: printed pc-boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 00:16:00 UTC
From: tom.hammond@woodybbs.com
Message-ID: <93.4927.7584.0NFB90A6@woodybbs.com>
Source record: 114461

CC>In article <93.4746.7584.0NFB8F19@woodybbs.com>,
>Tom Hammond <tom.hammond@woodybbs.com> wrote:

CC>> 4) FeCl _can_ be disposed of down the drain IF very well diluted
>> with water. Dispose of properly.

CC>FeCl is extremely toxic. The first time I used it, I didn't know where
>to get rid of it. I dumped 1/2 cup on the ground, it killed a tree.

According to the MO Dept of Natural Resources, Hazard Waste section,
FeCl can be disposed of down a drain... WITH A LOT OF WATER... I'm sure
tha, if not diluted, it would do damage to plant life if poured out
directly.

Thanks for your added comments.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--- Alexi/Mail 2.02b (#83)
* Origin: Distant Winds BBS * Jefferson City, Mo * [314] 635-7868 (1:289/67)

413. Re: FREE HAM NEWSLETTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 04:11:24 UTC
From: dmlee@cris.com
Message-ID: <3gn1lc$9j0@deathstar.cris.com>
Source record: 114463
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In <D38wHw.AC7@world.std.com>, johnl@world.std.com (John W Langner) writes:
>In article <3g9gr8$8hh@news.doit.wisc.edu>,
>Dave Mullenix <djmullen@facstaff.wisc.edu> wrote:
>In my humble opinion, I think the AmSoft posting was appropriate.
>It told me a new version of the product was available and where
>to get more information. It was brief, didn't mention prices, and
>was posted ONLY to appropriate (ham radio) groups. This is useful
>information.
>
>If some one is truly abusive of the communication channel we should
>scold him and even ask the site administrator to revoke access. However
>this was not terrible abuse.
>
>
>73,
>John WB2OSZ
****

Congratulations....This is the first LOGICAL and UNEMOTIONAL
response, I've seen to this issue. Actually, if more people
would have taken your attitude, and not started exploding
flame mail (do I get flamed for saying this?) it would have been
over quickly. As it is, AMSOFT has gotten TONS of free
advertising, and more word-of-mouth exposure than they ever
expected.

I kind of liked the touch on the part of one AMSOFT rep
who just recently put the WHOLE AD on each of his replies
as his signature file -- nice touch!

As a HAM who let his ticket expire 20 years ago (when I
got married and then joined the USMC), and is just this next
Tuesday re-taking the exam, I have just one question...

Do you guys behave this way on the air? My experience
has always been that of the courteous HAM. Helping the
Novice and "gently" correcting anothers mistake or
indescretion used to be the rule.

I, for one, would try expressing my opinion directly to
the miscreant, rather than e-mails to admins (which
obviously did nothing). I think the folks at AMSOFT might
have responded more favorably to a reasonably-voiced
complaint than to naked aggression. Also, be aware that

AMSOFT needs the HAMS to purchase their goods, so
I don't believe they'ed intentionally want to annoy us to
point of not buying their product(s).

-73-

****
// David M. Lee dmlee@cris.com
// or David_M._Lee@compuware.com
//
// Bill Gates for Ferringi Grand Nagus in 1996!!
// Rule of acquisition #874 -- "Make 'em pay for the software --
// AND the bug fix"

414. Re: Homebrew multi-mode HF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 04:48:34 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3gn3r2$2pe@hpscit.sc.hp.com>
Source record: 114462

In article <800_9501302139@trisoft.com>,
negaard@draagen.graceland.edu <negaard@draagen.graceland.edu> wrote:
>From: negaard@draagen.graceland.edu
>Date: 27 Jan 1995 01:14:27 GMT
>Message-Id: <NEGAARD.95Jan26191427@draagen.graceland.edu>
>
>I'm a brand-new, over-enthusiastic amateur, with lots of desire and
>almost (!) no money. What I'm interested in is a project that will
>allow me to build a modular multi-mode transceiver. Does anyone know
>of a design, or even just a starting point?
>
>I've eleven years of experience as an electronic technician, and took
>the 2M (miniature and micro-miniature repair) class while in the Navy,
>so I'm confident of my ability to build, and maybe even design (with
>modern solid-state, it's almost black-box, anyway!)

Try reading Wayne Ryder's (W6URH) article in the latest Communications
Quarterly on his homebrew HF transmitter. It has a reference to
a previous article he wrote on a homebrew HF receiver. Wayne, like you,
was a Navy technician. Hence if he can build it, you should be able
to.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

415. Re: FREE HAM NEWSLETTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 05:19:54 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D3B2t6.87z@news.hawaii.edu>
Source record: 114464
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna

johnl@world.std.com (John W Langner) writes:
>
>

Why does world.std.com sound so familiar? Wasn't someone at that
site also posting ads on the rec.radio groups? This might explain
your `humble opinion':

>In my humble opinion, I think the AmSoft posting was appropriate.
>It told me a new version of the product was available and where
>to get more information. It was brief, didn't mention prices, and
>was posted ONLY to appropriate (ham radio) groups. This is useful
>information.

It was posted to *all* the radio groups many times. If only one post
to .swap had been made no one probably would have minded.

>A few facts:
>
>1. Years ago the Internet backbone was government funded and was only
> supposed to be used for non-commercial purposes. That changed about
> 3 or 4 years ago. It is now commercial with no restrictions on
> commercial use. I was the Internet contact for our site at the time
> so I got all the official info and saw the significant jump in the
> monthly bill.

A very large portion of is is still government funded: State taxpayers
foot the bill for the .edu sites (millions of dollars per year here
to run 5 unix mainframes for 45,000 students/faculty and to pay the
long DX telephone bills to all points in the Pacific). Keep in mind
that a good portion of the traffic that has originated at non-.edu
sites gets passed through those sites. If the state government-funded
.edu sites each pulled their plug Internet would probably cease to exist.
Thus, your `fact' isn't quite factual.

73 from warm and sunny Hawaii,
Jeff NH6IL

416. Need source for 39mhz crystals for fm narrowband receiver design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 06:12:00 UTC
From: v064mb9k@ubvms.cc.buffalo.edu
Message-ID: <D3B547.50x@acsu.buffalo.edu>
Source record: 114465

I am currently designing a narrowband receiver based on
a motorolla chip to tune in frequencies of 49.6 mHz. The recommended
circuit diagram calls for a 39mHz crystal, a component that I have not been
able to find after checking many electronic component distributors. Can anyone
direct me to a source. I would appreciate any help.

Neil Gandler

417. Need good VOX circuit with "antivox"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 12:12:02 UTC
From: besancon@rain.org
Message-ID: <3gntqi$dfa@news.rain.org>
Source record: 114477

[No readable article body recovered]

418. Need good VOX circuit with "antivox"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 12:15:17 UTC
From: besancon@rain.org
Message-ID: <3gnu0l$dhj@news.rain.org>
Source record: 114478

Hi Folks,

I need a good VOX circuit with antivox feature. Any help is appreciated.

Thanks in advance,

Fred (NT6T)

419. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 12:24:39 UTC
From: py3ss%py3ss.rs.BRa.sa%lec-bbs.psico.ufrgs.BR%py3ss.bbs@lec-bbs.pu3akm.ampr.ORG
Message-ID: <xxxxx@py3ss.bbs>
Source record: 114479

10GHz 2Mbps datalink parts source ?

I'm looking for 10 GHz GunnPlexers sources to the Handbook project.
Also for the MC13055 fsk receiver IC.
We are a group of hams building the 2Mbps 10GHz data link.
But are finding lots of trouble in locating sources for these critical parts.

Please, any info will be very helpfull !

Best 73 from Marcelo PY3SS @ PY3SS.RS.BRA.SA
or markpuhl @ vortex.ufrgs.br

420. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 13:13:06 UTC
From: ddabay@ruacad.ac.runet.edu
Message-ID: <D3Bopu.Dvt@ruacad.ac.runet.edu>
Source record: 114485
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <3gkhhq$2nc@crcnis3.unl.edu> gbrown@unlinfo.unl.edu (gregory brown) writes:
>Hank Oredson (hanko@wv.mentorg.com) wrote:
>
>: I'm very curious where you discovered the information that indicates
>: it "... contrary to Internet's policy ...". As far as I know, there
>: IS no such entity as "Internet" to have a policy. Could you be a bit
>: more specific where you located this policy information? Any sort of
>: reference will do: ftp, email, http, whatever. I'd like to review
>: the policy you are talking about before making any further comments.

This is the more current thinking, probably closest to fact.

>
>
>Any of a number of books at your local library or bookstore can fill
>you in on the history and evolution of what we now call the
>"Internet". It's original purpose was to connect Universities and
>other educational institutions for educational purposes.

I must disagree herre, don't always believe what you read!! Just because it
is in print does NOT mean that it is in the least bit accurate. In the early
70's the "Internet" as you call it was born out of DARPA, Usenet, and several
other "local" networks. It's original purpose, no matter what is claimed
after the fact, was NOT to connect Universities. It's main purpose was to
allow exchange of information between large gov't agencies and their sub-
contractors, typically universities and such. Don't confuse the facts.

>Major
>advances in this regard were made by the National Science Foundation.
>Commercial participation was once excluded or severely restricted.

I agree with the first inthat the NSF funded research and development along
with others. However commercial participation has always been an important
part of the net...just ask BBN, DEC, etc about this. Ithink the difference
here is that it was better self-controlled... (opinion mine)

>The intended purpose of the "creators" was educational advancement
>(much of it at taxpayers expense), not providing commercial
>enterprises with new ways to make money.

BZZZZTTT! Wrong again read above...it was a gov't funded program...

>Commercial connections are
>now common, the limitations on use much more flexible. There are no
>laws that I know of which prohibit advertising on the net, however the

>vast majority of commercial enterprises connected to the net honor the
>traditional "ban" on overt advertising and limit their use to their
>own research and development purposes and for business communications.

See the above on peer pressure, self control, etc..

>They understand and respect the original purpose and intent of what
>has become the "Internet", and respect the wishes of the majority of
>users, as well as the wishes of those who have made "Internet"
>possible.

Again youmiss the point, read some of teh comp.sys groups and see how well
the big vendors "respect the wishes of the majority". Those companies use
the net as their own....whether you agree or not, that is the fact...

Internet is/was made possible by large donations of money, time and hardware
from big business and the government. Not by some collective of users or
universities. If we waited for academia to decide how to do things we would
still be waiting for an 8bit computer... Keep this inmind as things move
on and we "bite the hand that feeds us" turning the net over to the MCI's,
sprint's etc of the world.

>
>Virtually every major business from IBM to Intel to General Motors has
>Internet access. When was the last time you saw a commercial here
>from one of them?

Read the correct groups and you will see in some way shape or form either
blatant or subtle adverts from them all. They are not going to miss out
on a chance to target their market. How better to beat demographics?? If it
isn't happening in "your" group, IT WILL!

>
>Again, there are dozens of books that discuss Internet history and
>purpose. I've not done it, but I imagine you could also come up with
>lots of similar info if you do a Gopher search on some key relevant
>topics.

Check out your sources!!

>
>Feel free to let me know what you discover in your research.

Me too!!

dave
--
Dave Dabay Telecommunications Engineer Supervisor KD3PC
Radford University Computer Services Internet: ddabay@esprit.runet.edu

421. Re: Homebrew multi-mode HF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 13:34:04 UTC
From: davek9sw@aol.com
Message-ID: <3go2kc$iht@newsbf02.news.aol.com>
Source record: 114486

Dave writes:
..I'm a brand-new, over-enthusiastic amateur, with lots of desire and
..almost (!) no money. What I'm interested in is a project that will
..allow me to build a modular multi-mode transceiver. Does anyone know
..of a design, or even just a starting point?

The ARRL Handbook has a good receiver - the High Performance Communications Receiver - in it. Check Solid State Design for the Radio Amateur by Wes Hayward. The Radio Handbook edited by Bill Orr used to have some very impressive HF multimode transciever projects in it, but I haven't looked through it for a few years. The series about single-signal direct conversion receivers and transmitters that ran in QST two years ago might have possibilities; definitely a multi-mode setup. Let us know what you fine, David.

Dave Moorman
Downers Grove, Illinois
DaveK9SW@aol.com

422. FeCL3 replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 13:47:03 UTC
From: Tony.Komljanec@banyan.dgim.doc.CA
Message-ID: <M1g8+wytBjb@banyan.dgim.doc.ca>
Source record: 114466

A lot of good chemical discussion recently on Ferric Chloride for board etching.

I have some Ammonium Persulphate (?) we used in school, that is in crystaline form. We had to mix with water and heat it to get it to react with the board, but it was certainly a lot cleaner, thinner, and non-staining, compared to Ferric Chloride. Why isn't this stuff sold at Radio Shack, et al? It seems much more convenient to use (and sell) in its powder state. Are there environmental concerns with it? Is it more expensive?

'73

Tony Komljanec,
ai797@torfree.net or VE3PEP@bbs.ve3rpi.ampr.org

423. Re: Crowbars for 3kV supplies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 14:29:08 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D3Bs8L.Awu@hpqmoea.sqf.hp.com>
Source record: 114467

Ian G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:

: It does work - I've seen it in OE5JFL's shack and others have
: reproduced it. As an alternative to opto-triggering three or four
: 1200V thyristors in series, is there a source of relatively
: inexpensive thyristors rated to 3-4kV? The device only needs to be
: rated to handle about 10A continuous, because there's a series
: inductor to limit dI/dt and take the 'sting' out of the current
: transient.

: In days of old it would no doubt have been done by a large glass
: something-tron, but I'd prefer a compact solid-state solution.

: Any ideas, please?

Ian! 3kV 10A continuous! shame on you! what about the 400W
PEP UK limit?

You could well have a visit from nameless government agents asking
searching questions about trigger devices for nuclear weapons :-)
(How many radcom columns have you in the pipeline - so I'll know when
to check if you've disappeared- ?)

More seriously, The OE5JFL approach sounds right. You need about 4
serious thyristors in series. I'd not use opto isolators. Transformer
coupling to the gate-cathode inputs is far easier. You won't need many
turns,and can wind something with thickly insulated wire. Sensing a fast
transient can also be done with a transformer. Your thyristors will need
voltage sharing resistors.

You have 135 joules to dispose of. A bit much for thyristors to
absorb. Series L will not help, it will throttle back the dI/dt, but
will cause a ring with stray C that may well turn your thyristors off.
Methinks you need to have something to dump the energy into for more
leisurely dissipation.

You could use a single gate drive transformer provided you use gate
resistors to share the drive current.

How about a monster size Xenon flash-tube? make photographers
jealous!

Cheers
David

424. Re: Crowbars for 3kV supplies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 14:45:21 UTC
From: w8jitom@aol.com
Message-ID: <3go6q1$j1j@newsbf02.news.aol.com>
Source record: 114468

Boy this brings back memories. I built (and still have) a Ignitron dump system that would turn off a 6 kV supply by firing dump tube and turning off Triacs on primary of supply. Unfortunately it is hybrid with mostly solid state but a dump tube and dump tube driver. It delivers around 6 kV at two amperes, and you can short it with a screwdriver while it's on and it just "tics" and turns off! Have fun during testing, (if it fails to operate) be sure you are wearing goggles and have a fresh pair of under garments.

425. GAMMA or T Match on YAGI: HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 16:56:24 UTC
From: white@julian.uwo.ca
Message-ID: <white.14.00855D09@julian.uwo.ca>
Source record: 114377

I'm trying to build a 3 or 4 element YAGI but I'm having trouble with matching the impedance of the antenna to the line. I don't care how I do it, but the simples ways seem to be using a Gamma or T-Match.

I only do listening, which means I don't have a transmiter to check the SWR of the antenna. (at least I don't think I can with my current equipment) This is the root of all my problems because the ARRL and most other books assumes you can find standing waves on the antenna.

I have read sections of the |ARRL. Section 16-7 talks about T and Gamma matching but there method requires finding SWR. Section 17-17 in figure 37 shows both a Gamma and T match but does not give the spacing between the connectors for either. (how could it as it varies depending on the resonance of the antenna?) Basically what I'm looking for is a good guess as to the distance between the conections, and some more information about the matching systems.

I don't understand the purpose of the Gamma rod or the T rods shown in figure 37, 17-17 of the ARRL. (wait: are they an easy way to keep the distance x (the space between the antena and the line) constant? If so should the rod come to the centre of the antenna? Does the total length of the rod matter? ie. The book refers to the rods as being adjustable, does this mean the length of the rod is adjustable, or the position on the antenna is adjustable?)

Here is what I think I need to know to match the impedance:

- the spacing for the connections

- what lenght the gamma rod, or T rods should be. (maybe answering the previous question answers this one?)

- what range the variabe capacitors should be

Here is some information I think might be relavent to my problem.

I building a 3 or 4 element YAGI (will probably build the 3 element and if it's OK then a 4 element)

75 ohm reciever using coaxial cable as a feeder

I'm using standard copper plumbing tube to as the elements, They will be mounted on wood. The elements will be spaced .20 wavelengths apart.

I will likely produce my first antenna for the one meter band, and later build something larger. If its possible to give estimates in terms of frequencies I would be thankful.

Right now I have no idea what the spacing should be, so if you could give me a clue that would be great (I realize it's propably imposible to get it exact, but I need a starting point. Then I can play to see whats best)

If this is on the FAQ sorry, please direct me to it

If there is a good book with all this stuff in it (for beginners) tell me.

Thanks for your time

Steve

426. Re: Ray Johnson Marine radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 17:43:30 UTC
From: landisj@nad.com
Message-ID: <1995Feb1.124330.238@nad.com>
Source record: 114469

In article <3gf8nl$qpp@linet01.li.net>, pyro@li.net (Sy) writes:
> Hi!
> Has anyone heard of a Ray Johnson marine radio? It has 12 crystal
> controlled channels. The receiver and transmitter boards are seperate
> inside ths case. There are no identifing numbers or marks (serial # etc.)
> I would like to re-tune this radio to 2 meters for use in my foxbox. A 25
> watt transmitter (switchable) would make my t-hunting compatriots tremble
> with fear (or exaustion, after traipsing 3 miles into the woods looking
> for an ammo case!).
> An address for the manufacturer (if they're still in buisness) would be
> great. Schematics would be better. A Sams Photofacts would make me
> indescribably happy.
> 73 de Sy
>
I vaguely remember a co. called Ray Jefferson (?), with a Ray-Jeff brand (?)
in the marine electronics business, at least 10-20 yrs ago. Don't know if
they're still around. Perhaps calling 800 assistance using this name would
help. Or ask around at a marina!
Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com

427. Re: Mixers.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 17:46:04 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3gohcs$16hi@info4.rus.uni-stuttgart.de>
Source record: 114470

In article <D39vp9.IyL@baan.nl>, Johan Maas <jmaas@aston.baan.nl> wrote:
>Hello brewers,
>
>I am working on a 2 meter SSB transceiver.
>
>HELP !!!
>
>73 PA3GSB the Johan

The SBL1 requires 5mW into 50 Ohms, which makes it 1.4V peak-to-peak.
A catch is, that it requires 50 Ohms termination also for the unwanted
mixing products, i.e. so called diplexers.

I found the Minicircuit people very helpful as to data sheets,
so here thier rep in NL:
BFI IBEXSA BV
2130 KA Hoofddorp
31 20 6531350

73, Moritz DL5UH

428. Re: FREE HAM NEWSLETTER!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 20:04:16 UTC
From: gcouger@jsun.okstate.edu
Message-ID: <3gopg0$v73@bubba.ucc.okstate.edu>
Source record: 114472
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

```
>: I recently posted a reply to the AMSOFT spam telling them that
>: instead of asking for a copy of their thinly disguised advertisement
>: for their CD-ROM, I was sending a copy of their message to their
>: system administrator.
>
>So for us Usenet novices, how do you find out the address of their
>system administrator?

Send it to postmaster@the.same.address.as.the.sender.of.the.post.

Gordon AB5DG

Gordon Couger
Biosystems & Agricultural Engineering
Oklahoma State University
114 Ag Hall, Stillwater, OK 74074
gcouger@olesun.agen.okstate.edu 405-744-9763 day 624-2855 evenings
I do not speak for my employer
```

429. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 21:56:22 UTC
From: aranders@kosepc01.delcoelect.com
Message-ID: <3gp026$lqe@kocrsv08.delcoelect.com>
Source record: 114473
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

gbrown@unlinfo.unl.edu (gregory brown) writes:
>Virtually every major business from IBM to Intel to General Motors has
>Internet access. When was the last time you saw a commercial here
>from one of them?

ddabay@ruacad.ac.runet.edu (Dave Dabay) writes:
>Read the correct groups and you will see in some way shape or form either
>blatant or subtle adverts from them all. They are not going to miss out
>on a chance to target their market. How better to beat demographics?? If it
>isn't happening in "your" group, IT WILL!

I think it won't.

Most "major businesses" like IBM and General Motors have a Public
Relations department for such "market targeting." There are usually
specific personnel policies to discourage individual employees from
engaging in "public advertisement" of the company. Ever see a .sig
with a disclaimer about not speaking for one's employer? :-)

"Corporate entities" are usually pretty paranoid about offending
people, and advertising in newsgroups tends to offend many people.

= === === === = = = === === === === = = === = = = === = = === =
Alan Anderson | Ignorance can be fixed,
(I speak AT, not FOR, Delco Electronics) | but stupidity is permanent.

430. Dental Fillings and Radio Frequency Signals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 22:49:56 UTC
From: Driver Jerrel L <GT83STU@SEMOVM.SEMO.EDU>
Message-ID: <01FEB95.18179048.0056@SEMOVM.SEMO.EDU>
Source record: 114474

Would appreciate information, especially published references for persons who have received radio frequency signals from dental fillings. If anyone knows of some keywords for a database search on this subject, please inform. I would also welcome personal ancedotes. Thanks in advance.

431. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 23:07:03 UTC
From: JRHODES@ins.infonet.net
Message-ID: <3gp46n$gvs@insosf1.infonet.net>
Source record: 114493
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <3gjbss$3l9@hpbab.wv>, hanko@wv.mentorg.com says...
>
>In article <3g71qe$hc5@crcnis3.unl.edu>, gbrown@unlinfo.unl.edu (gregory
brown) writes:
>|> I find your (AMSOFT) reply as innappropriate, perhaps more
>|> innappropriate, than Bob's comments, and a substantial waste of
>|> "bandwidth".
>|>
>|> Perhaps what Bob should have said is that it is contrary to
Internet's
>|> policy for Internet to be used as a vehicle for commercial
>|> advertisement. That is a fact. While I can not say that the policy
is
>|> a legally binding one (that is for others to say), it certainly is
>|> followed by the vast majority of commercial enterprises, and for good
>|> reason. They realize that they run the risk of alienating potential
>|> customers who may not appreciate such a blatant disregard for net
>|> etiquette and policy. Like Bob. And like me. Mind you, it is no big
>|> deal to me personally. But I don't like advertising here either, and
>|> there are plenty of alternatives to AMSOFT.
>
>I'm very curious where you discovered the information that indicates
>it "... contrary to Internet's policy ...". As far as I know, there
>IS no such entity as "Internet" to have a policy. Could you be a bit
>more specific where you located this policy information? Any sort of
>reference will do: ftp, email, http, whatever. I'd like to review
>the policy you are talking about before making any further comments.
>
> ... Hank
>
>
It seems to me that where the trouble comes is when the ads are sent to
those
who access the net through educatoinal or other networks that are not
open to
commercial traffic.

kc0xu jrhodes@ins.infonet.net

432. L-band tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-01 23:57:44 UTC
From: Steve Kittelsen <sak1@delphi.com>
Message-ID: <xW85qX4.sak1@delphi.com>
Source record: 114475

I'm looking for a 950-2050 MHz satellite receiver tuner with a 70, 140 or 480 MHz IF output. The tuner does not need baseband output which is common on many tuners today.

```
**********************************************************************
* __/\__/\ Steve Kittelsen _________ *
* / /\ \ Rochester, New York \ / *
* I I I I " sak1@delphi.com " \ / *
* \ __\/__ / OPEN YOUR MIND \/ *
**********************************************************************
```

433. h

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 01:07:45 UTC
From: hmn@i-2000.com
Message-ID: <3gpb91$9m0@i-2000.com>
Source record: 114476

testy

H. Mark Nadel
Internet Address: hmn@i-2000.com
Amateur Radio Station - NK2T
USAF Mars - AFA1FX

434. Re: sticking core disolvent ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 04:41:42 UTC
From: mgarrett@prairienet.org
Message-ID: <3gpnq6$s6f@vixen.cso.uiuc.edu>
Source record: 114480

In a previous article, wautelet@innet.be (Thierry Wautelet) says:

>Hi All,
>I'm using "old" commercial transceiver on the ham band (2m / 70 cm)
>however I found out that some core in coils are "glued" and very
>difficult to turn without breaking the core.
>I'm looking for a solvent but it should'nt dissolve the plastic
>of the coil.
>Any idea ?
>Thanks for help,
>73's Thierry
>
>
>---
>Internet : wautelet@innet.be A Mac User !
>CIS : 76334,337
>Ham : ON7KL@ON7RC.#BT.BE.EU
>
>
If the material is wax it can be melted either with a iron or a hair
dryer, but if it is a pait type, try finger nail polish remover. Use
a cotton swab only on the sealant, giving it several coats as the polish
dries. The point is to keep the sealant moist with remover until it
can be scraped off or loosened up so that you can turn it. Finger nail
polish remover should be mild enough for most coil forms but use it
sparingly in case it does decide to attack the form.
--
Mark Garrett mgarrett@prairienet.org
KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM

435. Lafayette,LA HAMFEST '95

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 05:17:33 UTC
From: pws8157@ucs.usl.edu
Message-ID: <3gpptd$cte@rouge.usl.edu>
Source record: 114481
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.swap,rec.radio.shortwave,rec.radio.swap

35th Lafayette Hamfest
March 10-11-12, 1995
Holidome - Holiday Inn Central
Lafayette, Louisiana

The 35th Annual Acadiana Amateur Radio Association (AARA) Lafayette Hamfest
will be held at the Holidome just south of the intersection of I-10 & I-49.

There will be commercial dealers, a flea market, technical forums, tours for
those interested in the area's attractions, the famous AARA fox hunt, and
plenty of Cajun hospitality.

The Quarter Century Wireless Association (QCWA) Cajun Chapter #189 will host
a dutch treat breakfast buffet at 8:00 a.m. on Sunday, March 12th.

FOR MORE INFORMATION:

If you'd like to find out how you can reserve swap tables, or pre-register,
or attend the V.E. test session, or anything else..... Please contact:

LAFAYETTE HAMFEST '95
Acadiana Amateur Radio Association
P. O. Box 51174
Lafayette, LA 70505-1174

Hope to see ya'll der, cher!

73 de ka5nmn
pat

* *
* Patrick W. Soileau, KA5NMN * packet: ka5nmn@w5ddl.#lft.la.usa.noam *
* 101 Amethyst Lane * Internet: ka5nmn@usl.edu psoileau@usl.edu *
* Lafayette, LA 70506-3844 * pws@usl.edu pat@usl.edu *
* Home Phone: (318) 989-8940 * "These are my own views & comments, not USL's"*
* *

436. Re: ten tec kits 1/2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 06:26:03 UTC
From: bruce3900@delphi.com
Message-ID: <BOy4j2L.bruce3900@delphi.com>
Source record: 114482

Brian -- funny meeting you here while surfing! Please add the following to your list:

MXM Industries
Route 1, Box 156c
Smithville, TX 78957
(512) 237-3906

Owned and operated by Bruce Williams, WA6IVC.

Offers line of QRP kits including single conversion receiver, about $50.00, 3 watt tranxmitter, about $30.00, Receiver/transmitter (the two above on a single board), about $80.00, and a dynamite transceiver, double conversion receiver with crystal filter, 3 watt transmitter, About $130.00. A SASE wile bring a catalog. ALl kits are complete except for cabinet and misc plugs and jacks for antenna, power, phones, and key. All kits come with a "if you can't get it working we will". Getting it working charges run about $15.00, exclusive of customer damages.

I don't work for Bruce, but I once did -- he was my boss in the aerospace industry from 1974 through 1985. He puts a real quality product out there for a reasonable price. His rigs are so much superior to most of the junk that's being sold out there it's a shame he doesn't get more publicity or do more advertising.

Thanks,

W6TOY/3

437. Re: L-band tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 06:43:12 UTC
From: norman@pagesat.net
Message-ID: <3gpuu0$og9@news.pagesat.net>
Source record: 114483

Steve Kittelsen <sak1@delphi.com> writes:

>I'm looking for a 950-2050 MHz satellite receiver tuner with a 70, 140 or
>480 MHz IF output. The tuner does not need baseband output which is common
>on many tuners today.
>
>**
>* __/__/\ Steve Kittelsen __________ *
>* / /\ \ Rochester, New York \ / *
>* I I I I " sak1@delphi.com " \ / *
>* \ __\/__ / OPEN YOUR MIND \/ *
>**
We use a 950-1450 to 70Mhz tuners in some of our products. What project
are you using this for. I might requistion one for you.

Norman
--
For information regarding Pagesat's Satellite delivered usenet news
mail info request to "info@pagesat.net" or call: 415-424-0384
Delivering a near realtime 160+ megabytes of Usenet news plus
email each day via satellite

438. Connection of FET

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 07:28:11 UTC
From: jmaas@aston.baan.nl
Message-ID: <D3D3F0.4wv@baan.nl>
Source record: 114484

Hello all,

Do anyone no the connection of the fet E310.

Thanks in advance

73 the Johan PA3GSB

439. Re: BEST books for LEARNING electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 10:53:12 UTC
From: horowitz@nosc.mil
Message-ID: <1995Feb2.105312.11698@nosc.mil>
Source record: 114390
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,ieee.general

I learned a lot from the WWII numbers of QST. Lots of theory and practice.
I read them at the Geophysics Library at Hanscom AFB in Bedford Mass. There's

440. Re: PLEASE READ : What is/are the _BEST_ book(s) for _LEARNING_ electronics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 12:04:54 UTC
From: amsoft@epix.net
Message-ID: <3gqhp6$oe@grape.epix.net>
Source record: 114490
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,ieee.general

>1) What is the _BEST_ overall book for learning how to build and
>UNDERSTAND electronics?
>2) What is the _BEST_ overall book for learning how to build and
>UNDERSTAND RF circuits?

I think a good place to start is with the ARRL Handbook for Radio Amateurs.
It is packed with many designs, and explains the theory of RF quite well.
Can be ordered from most Ham outlets.

>I am anxious to learn ee stuff, and build my own transmitters, devices,
>etc...

For pure EE information I use the Bushbaum's Complete Handbook of Practical
Electronics Reference Data by Prentice Hall. Can be ordered from most
bookstores.

Pete, KC3TL
amsoft@epix.net

--
########## F R E E H A M N E W S L E T T E R
o)(o --
#C# _> A free newsletter about The World of Ham
\ ___/ / Radio CD-ROM is available by sending your
| / __/ present E-Mail address to amsoft@epix.net
/____\ / // --

441. Re: WTB books on crystal radio building or history

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 12:10:22 UTC
From: amsoft@epix.net
Message-ID: <3gqi3e$oe@grape.epix.net>
Source record: 114487

>In article <c4e_9501302200@trisoft.com>,
>Jeff.Hall@f1.n328.z1.fidonet.org says...
>I am looking for used books on crystal radio set building or it >history
>in radio history...Thanks..Jeff N6MYF

Contact:
XTAL set society
Rebecca Hews
P.O. Box 28241
St. Louis, MO 63132

She provides a NEWSLETTER dedicated to learning/building crystal sets.
$9.95 for a years subscription of Six bi-monthly issues. Ill bet some of
the back issues would be nice to look at also.

Pete, KC3TL
amsoft@epix.net

```
######  ----------------------------------------
########## F R E E H A M N E W S L E T T E R
######  o)(o ----------------------------------------
#C#  _> A free newsletter about The World of Ham
\ \___/ / Radio CD-ROM is available by sending your
| / __/ present E-Mail address to amsoft@epix.net
/____\ / // ----------------------------------------
```

442. Ten Tec Kits Phone No.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 13:20:04 UTC
From: loase@iccgcc.cle.ab.com
Message-ID: <1995Feb2.082004.1@iccgcc.cle.ab.com>
Source record: 114488

The number for T-Kit or Ten Tec is
1 800 833 7373

Best Regards
Jim Loase WD8RPT

443. More on FeCl3 disposal

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 16:32:54 UTC
From: pierre@wcrest.uucp
Message-ID: <D3DsMv.25w@wcrest.uucp>
Source record: 114489

In article <3giveh$smg@fohnix.metronet.com>,
copeland@fohnix.metronet.com (Charles Copeland) wrote:

> In article <93.4746.7584.0NFB8F19@woodybbs.com>,
> Tom Hammond <tom.hammond@woodybbs.com> wrote:
>
> > 4) FeCl _can_ be disposed of down the drain IF very well diluted
> > with water. Dispose of properly.
>
> If my chemistry serves me right, you can neutralize the acid by adding
> a buffer (AKA salt water). But with as little chemistry I have, it
> just might also cause an explosion, 8-|
>
> FeCl is extremely toxic. The first time I used it, I didn't know where
> to get rid of it. I dumped 1/2 cup on the ground, it killed a tree.
>
> --

In my understanding, FeCl3 is not strictly an acid (no H+ ions), but
rather a salt which contains lots of Cl- ions, which latch onto the
copper and form copper chloride. That's why the solution turns green.

The safest way to get rid of your FeCl3 is to use it up etching copper!
The resulting compounds are not nearly so reactive. It may not be the
fastest way to etch boards, but it's the most "ecologically responsible".
When the solution is used up, dump it down the toilet and flush several
times. (and hope you don't have copper drain pipes ;)

---
de KA2QPG | Pierre Thomson | pierre%wcrest@kd3bj.ampr.org

444. TS-820

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 16:39:21 UTC
From: sameer.tiwari@syntex.com
Message-ID: <NEWTNews.3049.791746833.Postmaster@ptwxa3.Syntex.Com>
Source record: 114491

Can someone help me with ckt diag /repair manual of the Kenwood TS-820.

Thanks
Sam
W6/VU2TWX

445. Re: Crowbars for 3kV supplies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 19:01:53 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <390780419wnr@ifwtech.demon.co.uk>
Source record: 114494

In article: <D3Bs8L.Awu@hpqmoea.sqf.hp.com> dstock@hpqmdla.sqf.hp.com (David Stockton) writes:

>
> : It does work - I've seen it in OE5JFL's shack and others have
> : reproduced it. As an alternative to opto-triggering three or four
> : 1200V thyristors in series, is there a source of relatively
> : inexpensive thyristors rated to 3-4kV? The device only needs to be
> : rated to handle about 10A continuous, because there's a series
> : inductor to limit dI/dt and take the 'sting' out of the current
> : transient.
>
> : In days of old it would no doubt have been done by a large glass
> : something-tron, but I'd prefer a compact solid-state solution.
>
> : Any ideas, please?
>
>
> Ian! 3kV 10A continuous! shame on you! what about the 400W
> PEP UK limit?

Nah, 10A is the thyristor rating. The 3kV supply is only 1A continuous...
Actually it's for the EME system and I do have a QRO permit for that,
not to mention a lot of unavoidable cable loss.

> More seriously, The OE5JFL approach sounds right. You need about 4
> serious thyristors in series. I'd not use opto isolators. Transformer
> coupling to the gate-cathode inputs is far easier. You won't need many
> turns,and can wind something with thickly insulated wire. Sensing a fast
> transient can also be done with a transformer. Your thyristors will need
> voltage sharing resistors.

> You have 135 joules to dispose of. A bit much for thyristors to
> absorb. Series L will not help, it will throttle back the dI/dt, but
> will cause a ring with stray C that may well turn your thyristors off.
> Methinks you need to have something to dump the energy into for more
> leisurely dissipation.
>
>
Sorry, I missed something out of the previous description of the
OE5JFL circuit. It is triggered by the voltage drop across a 10R
resistor between ground and the negative terminal of the smoothing
capacitor. That's where most of the energy goes.

```
diodes ---+---L-----+-------B+ output
| | |
```

```
Tfmr C Th
| | |
diodes---<X>--R-----Gnd
```

The inductor is 100-500uH, (10m of enameled copper wire) giving a resonant frequency of about 2kHz and a Q of less than 0.25 when the thyristors fire.

Provided the 10R resistor can handle the peak current, 135J only represents the equivalent of 1A for 13.5 seconds, so anything over 10W rating seems OK.

Current is sensed by the ground-referenced negative voltage at point <X>. This triggers a flip-flop, which turns off the solid-state relay in the AC line to the primary and also fires the string of thyristors via the opto-couplers. The transformer-triggered circuit would probably work, but the trigger points might be dependent on the characteristics of the individual devices... and I would like to be sure that the circuit will work first time.

As Tom, W8JI put it: If it doesn't work, be sure to wear goggles when you short the B+, and have a change of underwear handy.

>
> Cheers
> David
>
Cheers David, and thanks for the 'Oscillators' chapter in the latest ARRL Handbook - like it *a lot*!

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

446. Help restore PBT to IC-275/575 etc.?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 19:15:38 UTC
From: w0uc@aol.com
Message-ID: <3grb0q$6j2@newsbf02.news.aol.com>
Source record: 114495

I am looking for someone who has restored the Pass Band Tuning function to an IC-x75 series transceiver (on later models, the control is used for "data level"). It appears everything is still in place, the control just needs to be rewired. Access from the front panel looks very difficult; re-wiring the Main Board end is another option. Anyone with any experience out there?
-73, Paul W0UC

447. G.E. Delta for 6M. Any hints on getting full 110 watts?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 21:02:36 UTC
From: n1jjj@aol.com
Message-ID: <3grh9c$7g5@newsbf02.news.aol.com>
Source record: 114496

We have a delta here programed for a few 6M freqs. And haven't had much luck getting any more than 70-80 watts out. Any tips would be apreciated.

Thanks
n1jjj@aol.com

448. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 22:03:29 UTC
From: djmullen@facstaff.wisc.edu
Message-ID: <3grkrh$ka3@news.doit.wisc.edu>
Source record: 114497
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <D3Bopu.Dvt@ruacad.ac.runet.edu>, ddabay@ruacad.ac.runet.edu (Dave Dabay) says:
>
>I must disagree herre, don't always believe what you read!! Just
>because it is in print does NOT mean that it is in the least bit
>accurate. In the early 70's the "Internet" as you call it was born
>out of DARPA, Usenet, and several other "local" networks. It's original
>purpose, no matter what is claimed after the fact, was NOT to connect
>Universities. It's main purpose was to allow exchange of information
>between large gov't agencies and their sub-contractors, typically
>universities and such. Don't confuse the facts.

One amplification of something alluded to above: these messages are
part of USENET, which is NOT the INTERNET. It's always been my
understanding that different policies apply to the small part of the
internet that is usenet. I have no problem with IBM or any other
commercial organization sending email or files via the internet or
setting up FTP sites or Webservers or engaging in any other kind of
commercial activity on the internet. Having my tax money pay for
those activities is like having trucks on the Interstate - I can live
with it as long as they stay out of my way.

I _DO_ object to commercial messages on USENET. I don't enjoy having
my tax money used to pay for somebody to send me advertisements that
are mixed in with the legitimate messages in such a way that it's
extremely difficult to avoid them. That puts me in the position of
paying to be annoyed. If it gets bad enough, I'll say to heck with
it and stop reading the messages. Needless to say, if my congressman
then announces that dropping government subsidies to the usenet would
help balance the budget, I won't object very strongly.

After all, why pay good money so somebody can annoy you for their profit?

Perhaps we need rec.radio.commercials?

449. Make TNC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 22:21:45 UTC
From: copeland@fohnix.metronet.com
Message-ID: <3grltp$sub@fohnix.metronet.com>
Source record: 114498

Is it possible to make a TNC with a regular modem and some software?

Packet sounds like regular FSK modem, but are they the same?

Seems a regular modem with "packet software" running would work.

--
```
-------------------------------------------------------------------
| There are two types of people in this world, those who separate |
| people into groups,and those who don't. KC5LWF copeland@metronet.com|
-------------------------------------------------------------------
```

450. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 23:06:57 UTC
From: hanko@wv.mentorg.com
Message-ID: <3groih$lrq@hpbab.wv>
Source record: 114499
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

```
In article <3gkhhq$2nc@crcnis3.unl.edu>, gbrown@unlinfo.unl.edu (gregory brown) writes:
|> Hank Oredson (hanko@wv.mentorg.com) wrote:
|>
|> : I'm very curious where you discovered the information that indicates
|> : it "... contrary to Internet's policy ...". As far as I know, there
|> : IS no such entity as "Internet" to have a policy. Could you be a bit
|> : more specific where you located this policy information? Any sort of
|> : reference will do: ftp, email, http, whatever. I'd like to review
|> : the policy you are talking about before making any further comments.
|>
|>
|> Any of a number of books at your local library or bookstore can fill
|> you in on the history and evolution of what we now call the
|> "Internet". It's original purpose was to connect Universities and
|> other educational institutions for educational purposes. Major
|> advances in this regard were made by the National Science Foundation.
|> Commercial participation was once excluded or severely restricted.
|> The intended purpose of the "creators" was educational advancement
|> (much of it at taxpayers expense), not providing commercial
|> enterprises with new ways to make money. Commercial connections are
|> now common, the limitations on use much more flexible. There are no
|> laws that I know of which prohibit advertising on the net, however the
|> vast majority of commercial enterprises connected to the net honor the
|> traditional "ban" on overt advertising and limit their use to their
|> own research and development purposes and for business communications.
|> They understand and respect the original purpose and intent of what
|> has become the "Internet", and respect the wishes of the majority of
|> users, as well as the wishes of those who have made "Internet"
|> possible.
|>
|> Virtually every major business from IBM to Intel to General Motors has
|> Internet access. When was the last time you saw a commercial here
|> from one of them?
|>
|> Again, there are dozens of books that discuss Internet history and
|> purpose. I've not done it, but I imagine you could also come up with
|> lots of similar info if you do a Gopher search on some key relevant
|> topics.
|>
|> Feel free to let me know what you discover in your research.
|>
|> Greg
```

What I discovered is that there is no longer any restriction on
the use of the net for commercial purposes.

I've been "on the net" since well before ARPA funded the initial
connectivity between commercial (not educational) users. Some of
those users WORKED at universities, but the projects which used
the ARPA backbone and the various ad hoc interconnections that
existed prior to the backbone didn't do it just for fun.

Perhaps you need to look at those books (and papers and other documents)
before you make assertions about history.

... Hank

|>
|>
|>

--

Hank Oredson @ Mentor Graphics Library Operations
Internet : hank_oredson@mentorg.com "Parts 'R Us!"
Amateur Radio: W0RLI@W0RLI.OR.USA.NOAM

451. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-02 23:13:04 UTC
From: tedwards@Glue.umd.edu
Message-ID: <3grou0$i09@thrash.src.umd.edu>
Source record: 114500
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

```
In article <3gkhhq$2nc@crcnis3.unl.edu>,
gregory brown <gbrown@unlinfo.unl.edu> wrote:
>laws that I know of which prohibit advertising on the net, however the
>vast majority of commercial enterprises connected to the net honor the
>traditional "ban" on overt advertising and limit their use to their
>own research and development purposes and for business communications.

I desire overt advertising on Usenet, in the appropriate newsgroups.

-Thomas
```

452. Re: QEX ---- back issues on a CD ROM ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 00:53:27 UTC
From: wnewkirk@bb.iu.net
Message-ID: <D3EFt3.5y@zeno.fit.edu>
Source record: 114501

it would depend if the published data was in electronic format.

i guess something like Adobe's Portable Document Format would do (since there's readers for dos/windows/mac/unix (os/2 supported through windows 8( ) would do for making the data "universal" and still keep it searchable and maintain good resolution (you zoom in on bitmaps and you get blocks - you zoom in on a .pdf and you get larger letters and such since they aren't just bitmaps..)

can't search a bitmap...

and the PDF readers are free...

if things go well, i might get a chance to have some time on the distilling tools used to make pdf files so i'll have some first hand knowledge of the limits in the creation of new documents.

no doubt microsoft has something else, but of course, no support in the areas microsoft doesn't sell to...

--

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio

453. Re: Make TNC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 00:53:34 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <791772814snz@lfheller.demon.co.uk>
Source record: 114502

In article <3grltp$sub@fohnix.metronet.com>
copeland@fohnix.metronet.com "Charles Copeland" writes:

> Is it possible to make a TNC with a regular modem and some software?
>
> Packet sounds like regular FSK modem, but are they the same?
>
> Seems a regular modem with "packet software" running would work.

The Baycom modem and software do this.

--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

454. Re: L-band tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 03:43:13 UTC
From: Steve Kittelsen <sak1@delphi.com>
Message-ID: <p6waLAJ.sak1@delphi.com>
Source record: 114503

Thanks Norman.

I already have a 950-1450 tuner which I use in my spectrum analyzer. I want to expand the frequency range and use it for a downconverter on 1691 and other frequencies in that frequency area.
I think I would have to get the tuner from Europe where they use the 950-2050 MHz range. Today, they are also using a 700-2050 MHz tuner, a nice wide band spectrum analyzer! I would like one :)

****
* __/__/\ Steve Kittelsen _____ *
* / /\ \ Rochester, New York \ / *
* I I I I " sak1@delphi.com " \ / *
* \ __\/__ / OPEN YOUR MIND \/ *
****

455. keypad freq. entry

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 03:48:00 UTC
From: john.abercrombie@rgbcan.com
Message-ID: <8A2C558.0F660002DD.uuout@rgbcan.com>
Source record: 114504

Does anyone have information/sources about devices which would allow
direct entry of frequency via keypad into an older HF rig?
The rig is a Yaesu 757GX.It has a 3-pin "remote " connector on the back
panel, originally designed for control of the rig from a PC.
Thanks in advance.
Regards
John
john.abercrombie@rgbcan.com

---
* CmpQwk 1.40b #442 * A good catchword can obscure analysis for fifty years.

456. Re: L-band tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 05:59:59 UTC
From: norman@pagesat.net
Message-ID: <3gsgov$2k8@news.pagesat.net>
Source record: 114505

Steve Kittelsen <sak1@delphi.com> writes:

>Thanks Norman.
>
>I already have a 950-1450 tuner which I use in my spectrum analyzer. I want
>to expand the frequency range and use it for a downconverter on 1691 and other
>frequencies in that frequency area.
>I think I would have to get the tuner from Europe where they use the 950-2050
>MHz range. Today, they are also using a 700-2050 MHz tuner, a nice wide band
>spectrum analyzer! I would like one :)

Sounds interesting. I remeber that the tuners we have go to 1750Mhz.
It is getting real difficult to find tuners only most have demods built in.

I think microphonics could be an issue. The phase noise is low enough for use
with narrowband FM.

We used a tuner with a 70 mhz IF 6Mhz saw filter. Mixed it to 10.7 and
then to 455Kkz as a beacon receiver. A common referance was used for all
synthesizsers. Three synthesizers were used. This allowed for 1 Khz tuning
with low microphonics across the entire band.

Norman

>
>**
>* __/__/\ Steve Kittelsen __________ *
>* / /\ \ Rochester, New York \ / *
>* I I I I " sak1@delphi.com " \ / *
>* \ __\/__ / OPEN YOUR MIND \/ *
>**
--
For information regarding Pagesat's Satellite delivered usenet news
mail info request to "info@pagesat.net" or call: 415-424-0384
Delivering a near realtime 160+ megabytes of Usenet news plus
email each day via satellite

457. Amiga Ham User Group

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 07:23:04 UTC
From: paul.whatton@posnet.co.uk
Message-ID: <950203113005897@posnet.co.uk>
Source record: 114506

```
* This message forwarded from area 'PACKET' (PACKET)
* Original message dated 03 Feb 95, from Paul Whatton

Some time ago I posted a message about the Amiga Amateur Radio User Group.

Unfortunately shortly afterwards and for reasons outside my control my
E-mail address got cut off! I know several Amiga using amateurs tried to
reply but got bounced E-Mail.

In brief the AARUG is UK based but welcomes members from anywhere in the
world. There are already several hundred members. The AARUG publishes an
occasional newsletter and maintains a radio PD library. Membership is free;
the group runs entirely on voluntary donations.

There's an introductory floppy disk available containing details of how to
join, member lists, old newsletters and the PD list. For more information I
can now be contacted at my Internet address: paul.whatton@posnet.co.uk or
via FidoNet at 2:254/214

73 de Paul G4DCV. Internet: paul.whatton@posnet.co.uk ...
AmigaBee BBS 2:254/214 Tel 081 695 5328 * Amiga Ham radio file area *
--- Spot 1.3a #997
* Origin: Paul's Point off AmigaBee (2:254/214.6)
```

458. Re: Mixers.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 07:57:49 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <3gsnlt$d6n@proffa.cc.tut.fi>
Source record: 114507

Johan Maas, PA3GSB (jmaas@aston.baan.nl) wrote:

> How works an SBL-1 ; whats the connecting(internal circuit scheme)

The SBL-1 is a double balanced diode ring mixer. It is a bit hard to draw the internal schematic in ASCII, so I will try to explain it.

Put a diode ring (4 diodes with the arrows on the diodes pointing in the clockwise direction) in the middle of the schematic. Put two transformers with center tapped secondaries, one to the left and one to the right of the diode ring. The secondaries are connected to each own corner of the diode ring.

The center tap of the left transformer is grounded (and it is available on pins 5 and 6 on the SBL1). The center tap of the right transformer is labelled IF-port (and is available on pins 3 and 4 and please note, pins 3 and 4 must be connected together). As there is a direct connection to the diode ring, the frequency response of the IF port extends from DC to 500 MHz, so this is the only port that can handle audio frequencies in modulator/demodulator applications.

The primaries of the left and right transformers are the LO and RF ports with a 1 MHz to 500 MHz frequency range. The manufacturer (Mini-Circuit) has chosen to call the left port (pins 7 and 8) the LO-port with pin 8 'hot' and pin 7 LO-ground. The right port (pins 1 and 2) is called the RF-port and pin 1 is the 'hot' pin and 2 the RF-ground pin.

> and how many signals do i need (amplitude).

The LO power should be about 5 mW (+7dBm) while the signal power should be well below 1 mW (0 dBm) for low intermodulation.
The MAR-3 MMIC amplifier should be able to generate a sufficient LO drive to the mixer.

> Is het possible to connect the vco signal to the SBL-1 with a capacity!!

The RF and LO ports are allready AC-coupled to the rest of the circuit (through transformers), so I don't see why not.

Paul OH3LWR

--
Phone : +358-31-213 3657 Mail: Hameenpuisto 42 A 26
Internet: Paul.Keinanen@cc.tut.fi FIN-33200 TAMPERE
Telex : 58-100 1825 (ATTN: Keinanen Paul) FINLAND
X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

459. Re: Make TNC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 08:46:30 UTC
From: kthompso@WichitaKS.NCR.COM
Message-ID: <kthompso.403.0008C6AA@WichitaKS.NCR.COM>
Source record: 114511

In article <3grltp$sub@fohnix.metronet.com> copeland@fohnix.metronet.com (Charles Copeland) writes:
>From: copeland@fohnix.metronet.com (Charles Copeland)
>Subject: Make TNC?
>Date: 2 Feb 1995 16:21:45 -0600

>Is it possible to make a TNC with a regular modem and some software?

>Packet sounds like regular FSK modem, but are they the same?

>Seems a regular modem with "packet software" running would work.

I wish. 1200 baud phone modems use bell 212 which is full duplex and uses two pairs of tones.
packet is bell 202, is half duplex and uses a single pair of (different) tones

460. 1750 Mtr tmtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 11:46:50 UTC
From: Steve.Boe%f100.n282.z1@hamlink.hamlink.mn.org
Message-ID: <791812853.AA00434@hamlink.hamlink.mn.org>
Source record: 114516

Anyone have schematics for a 1750 meter (160-190 kHz) transmiter. I would like to build one for cw and ssb voice. Maximum output is restricted to 1 watt. I'm planning on putting up a beacon.

Thanks,
S. Boe

* SLMR 2.1a * Backup not found: (A)bort (R)etry (S)mak the dang thing!

461. Re: Needed: Ultra Sonic Modeling Pgm, etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 13:53:14 UTC
From: zlau@arrl.org
Message-ID: <1995Feb3.135314.8511@arrl.org>
Source record: 114508
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Jim Huber (talisman@crl.com) wrote:
: [Article crossposted from sci.electronics.cad]
: [Author was Jim Huber (talisman@crl.com)]
: [Posted on 30 Jan 1995 06:54:32 -0800]

: [Article crossposted from sci.physics.electromag]
: [Author was Jim Huber (talisman@crl.com)]
: [Posted on 27 Jan 1995 08:07:36 -0800]

: I am interested in using a 486-PC to analyze/compute the intensity levels
: within a room for a 40 kHz ultra sonic transducer source mounted within a
: medium to large office area containing furniture. For simplicity, the
: furniture will be modeled using rectangles, etc., and the walls are
: assumed perfect reflectors.

: Are there any programs that will accomplish the above? Can NEC or
: miniNEC antenna analysis programs be used for this task? What theory
: applies for ultra sonic analysis? What are the recommended texts
: covering this topic?

NEC/Mininec programs model collections of wire segments (plus the
effect of ground). They aren't anywhere near what you need--sort of
like measuring the circumference of the earth with a 6 inch ruler.
It takes a huge amount of wire segments to model a plane reflector.
Not that it either couldn't be done if you threw enough money at it.

Perhaps you might look at optical models. Undoubtedly the Navy
has lots of information on using sound to image objects, but I
have no idea if you could get at it.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

462. WANTED - AT for TS-930S (AT930)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 14:37:23 UTC
From: e94_adu@elixir.e.kth.se
Message-ID: <3gtf33$lhl@news.kth.se>
Source record: 114509

Hello !

I'm interested in buying a new or used, working or deffect
antenna tuner for Kenwood TS-930S ...
If you have one and don't need it PLEASE drop me
an e-mail and we'll discuss the details...

Thanks very much !

73 de Andy SM0TTV

E-mail: E94_adu @ e.kth.se

463. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 16:11:30 UTC
From: ddabay@ruacad.ac.runet.edu
Message-ID: <D3FMB6.Cp2@ruacad.ac.runet.edu>
Source record: 114510
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <3groih$lrq@hpbab.wv> Hank_Oredson@mentorg.com writes:
>In article <3gkhhq$2nc@crcnis3.unl.edu>, gbrown@unlinfo.unl.edu (gregory brown) writes:
>|> Hank Oredson (hanko@wv.mentorg.com) wrote:
>|>
>|> : I'm very curious where you discovered the information that indicates
>|> lots of similar info if you do a Gopher search on some key relevant

>Perhaps you need to look at those books (and papers and other documents)
>before you make assertions about history.
>
> ... Hank
>

YES!!! Someone else who had/has worked onthe "net" since before it
existed, "according to some sources" (dave says tongue in cheek)

Again, as they say in the newspapers (Martie Zad, Washington Post, circa
1978): Don't believe ...anything you hear,
half of what you read,
or some of what you see.
--
Dave Dabay Telecommunications Engineer Supervisor KD3PC
Radford University Computer Services Internet: ddabay@esprit.runet.edu

464. wanted 27513 eprom

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 18:07:25 UTC
From: ak165@lafn.org
Message-ID: <1995Feb3.180725.1184@lafn.org>
Source record: 114512

I'm looking for a 21513 eprom (page rom). I can't get this chip any where
in town! please let me know where can I bye this eprom or if u have some
for sale. thank.

465. Re: Looking for toroid cores in Dallas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 19:11:29 UTC
From: adams@chuck.dallas.sgi.com
Message-ID: <D3Fun5.FKv@odin.corp.sgi.com>
Source record: 114369

In article <3gk9un$hlf@hermes.unt.edu>, drice@ponder.csci.unt.edu (Keith Rice/KC5FCK) writes:
|> Does anyone know of a good supplier of toroid cores in the Dallas/Fort
|> Worth area?
|>
|> 73, Keith, KC5FCK
|>
|> --
>	o	Keith Rice, KC5FCK -- Computer Operator, City of Denton, Texas	o
>	o	Internet: drice@ponder.csci.unt.edu	o
>	o	Amateur Packet Radio: KC5FCK @ WO5H.#DFW.TX.USA.NOAM	o
>	o	"Visualize Whirled Peas!"	o

Keith et.al.,

Try Tanner Electronics at Beltline and I-35 in Carrollton.
Tanner's is on the SE corner of the intersection, i.e. on
the west side of I35.

He has a good supply of odds and ends for experimenters, etc.

This is NOT an advertisement. :-) Just another satisfied customer.

dit dit

--

Chuck Adams K5FO CP-60 adams@sgi.com

466. Re: a little fantasy, QRP from Mt. Logan

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 19:20:44 UTC
From: Grover Cleveland <groverc@gvgadg.gvg.tek.com>
Message-ID: <3gtvmc$irl@gv-gate.gvg.tek.com>
Source record: 114513

I've used solar panels since 1973 when they were REALLY expensive.
There are several reputable manufacturers out there to choose from.

The suggestion about kite antennas is a good one. They work really well
on a mountaintop because you can be certain of enough breeze
to keep them up. Stretch a counterpoise along the ground and
you will do quite well.

73

Grover
WT6P

467. Re: AMSOFT (&other) advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 19:22:12 UTC
From: hanko@wv.mentorg.com
Message-ID: <3gtvp4$r2i@hpbab.wv>
Source record: 114514
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <3gmfq8$k63@ixnews3.ix.netcom.com>, dtburr@ix.netcom.com (Dave Burr) writes:
|> In <3gjbss$3l9@hpbab.wv> hanko@wv.mentorg.com (Hank Oredson) writes:
|>

<deletia>

|> I use the word "enterprising" in quotes...these people are the same ones
|> who believe that they are "clever" when they park in a handicapped
|> parking space and get away with it, and that the rest of us "saps" were
|> not thinking or not willing to take a risk. We could legislate against
|> boorish behavior on the NET, but lets hope it never goes that far.

Do you have evidence to back up this assertion?

It is *illegal* to park in handicapped parking spaces, at least
in most jurisdictions. It is not *illegal* to post commercial
messages to usenet. You have here compared an *illegal* act to
an act *which you personally consider objectionable*.

If you wish a newsgroup without advertising, then you should take
those actions which will lead to such a newsgroup: a call for
moderation of the group, or a call for a new (moderated) group.
Within usenet, this is the only mechanism available to control
content - other than peer pressure ... and you will lose this one.

... Hank

--
<My opinion only>
Hank Oredson @ Mentor Graphics Library Operations
Internet : hank_oredson@mentorg.com "Parts 'R Us!"
Amateur Radio: W0RLI@W0RLI.OR.USA.NOAM

468. Sources for frequency synthesizer kits ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 19:43:58 UTC
From: kuehn@hera.cc.bellcore.com
Message-ID: <3gu11u$rv0@hera.cc.bellcore.com>
Source record: 114515

I plan to build a synthesized vfo in hf range
with a resolution of at least 100hz (10hz preferred)
and locking range of 0.5 or 1Mhz.
I am looking for name, address and tel. nos of
kit suppliers. Thanks in advance for help.

469. Re: AMSOFT advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 20:00:15 UTC
From: tedwards@Glue.umd.edu
Message-ID: <3gu20f$inm@thrash.src.umd.edu>
Source record: 114517
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <3grkrh$ka3@news.doit.wisc.edu>,
Dave Mullenix <djmullen@facstaff.wisc.edu> wrote:

>I _DO_ object to commercial messages on USENET. I don't enjoy having
>my tax money used to pay for somebody to send me advertisements that
>are mixed in with the legitimate messages in such a way that it's
>extremely difficult to avoid them.

If you don't like your tax funded Usenet access to receive traffic
from privately funded Usenet sites, I suggest you contact your
newsadmin and complain. No one is forcing your site to
receive news from anyone else.

Clearly everyone, including advertisers, should abide by the individual
newsgroup charters, as most of you are FAILING to do in having this
conversation on so many newsgroups INAPPROPRIATE for this discussion.

Thus, followups to news.misc, please!

-Thomas
N3HAU

470. Re: Make TNC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 20:38:28 UTC
From: Tony_Pelliccio@brown.edu
Message-ID: <Tony_Pelliccio-0302951545380001@adis-210.adis.brown.edu>
Source record: 114368

In article <kthompso.403.0008C6AA@WichitaKS.NCR.COM>,
kthompso@WichitaKS.NCR.COM (Ken Thompson) wrote:

> In article <3grltp$sub@fohnix.metronet.com> copeland@fohnix.metronet.com
(Charles Copeland) writes:
> >From: copeland@fohnix.metronet.com (Charles Copeland)
> >Subject: Make TNC?
> >Date: 2 Feb 1995 16:21:45 -0600
>
> >Is it possible to make a TNC with a regular modem and some software?
>
> >Packet sounds like regular FSK modem, but are they the same?
>
> >Seems a regular modem with "packet software" running would work.
>
>
> I wish. 1200 baud phone modems use bell 212 which is full duplex and
uses two
> pairs of tones.
> packet is bell 202, is half duplex and uses a single pair of (different)
tones
> for tx and rx.

There were some older modems that would emulate Bell 202. They're few and
far between though.

Tony

--
== Tony Pelliccio, KD1NR

471. Re: More on FeCl3 disposal

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 23:18:11 UTC
From: walker@opus.hpl.hp.com
Message-ID: <D3G62B.Jql@hpl.hp.com>
Source record: 114370

: When the solution is used up, dump it down the toilet and flush several
: times. (and hope you don't have copper drain pipes ;)

Dear Pierre,

I question this practice. Here in the San Francisco Bay Area it is illegal
to use Copper-based products for killing tree roots in sewer pipes.
This is because Cu is a deadly toxin to aquatic life. The treatment
plants just can't get all the Cu out when it is diluted in millions of
gallons of water, and it wreaks havok when discharged into the Bay.

I'm sure a similiar story can be told for most other communities.

Please dispose of etchant at your local municipal dump. They should
have a specific tank for this stuff.

--
Rick Walker

472. Re: Stepper Motor: Useful?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-03 23:27:17 UTC
From: greg@spcfs2.nsc.com
Message-ID: <D3G6HI.G1x@nsc.nsc.com>
Source record: 114371

Since you have an ample supply of stepper motors, you may be
able to make the remote tuner stepper motor move by wiring it in
parallel with an identical one in the shack sort of as a master/
slave servo configuration. No external power will be needed.
Calibration won't be possible though.

--
Greg Dean Internet: greg@bush.nsc.com
National Semiconductor, M/S 07-26
333 Western Ave. Phone: (207) 775-8596
South Portland, ME 04106 Fax: (207) 761-6137

473. Re: L-band tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-04 01:19:15 UTC
From: Steve Kittelsen <sak1@delphi.com>
Message-ID: <ZC35zAT.sak1@delphi.com>
Source record: 114372

I would use the tuner to feed my scanner. I could lock the prescaler output to a crystal and control the frequency that way. Even with a manual tuning control, you can listen to SCPC from satellites. All you need is a satellite tuner and a scanner that can tune the output IF from the tuner. I've done this and it workes fine. Since the LNB drifts, there is mot much sense in making a very stable tuner. I would receive the 1691 with the tuner and feed the signal to my scanner. That should work also.

A tuner that goes up to 1750 MHz (European type) would cover GOES, so if anybody has one for sale, please let me know. Any IF is fine.

```
**********************************************************************
* __/\__/\ Steve Kittelsen __________ *
* / /\ \ Rochester, New York \ / *
* I I I I " sak1@delphi.com " \ / *
* \ __\/__ / OPEN YOUR MIND \/ *
**********************************************************************
```

474. Need 2m plans or kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-04 02:14:56 UTC
From: dmlee@cris.com
Message-ID: <3gunv0$jag@deathstar.cris.com>
Source record: 114373

I am looking for the schematic and construction plans for a 2m transciever. Alternatively a kit would do. I have about 15 new HAMS where I work and need to get them 'on the air' so they don't lose interest and I can work them up past Tech to General or Advanced. I have to make learning code attractive, so to that end -- get 'em talking and then get 'em interested in HF DX.

Can anybody help??

// David M. Lee dmlee@cris.com
// or David_M._Lee@compuware.com
//
// Bill Gates for Ferringi Grand Nagus in 1996!!
// Rule of acquisition #874 -- "Make 'em pay for the software --
// AND the bug fix"

475. The ULTIMATE in long distance QRP (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-04 03:12:36 UTC
From: walker@opus.hpl.hp.com
Message-ID: <D3GGx1.88L@hpl.hp.com>
Source record: 114374

It should be possible to reliably communicate around the world using a system similiar to those used to communicate with space-probes.

I'm thinking about taking the idea of coherent CW to the extreme limit. The lower your bandwidth of information, the better S/N you can get. So.... rather than sending 10WPM, I'm willing to send *1 bit/half hour*.

The question is: "how much coding gain can we get in such a system", and how would you design it?

One bit/half hour is completely useless, you say.

Not really.

With a smart microprocessor, one bit of information can trigger a host of activity. Also, if you have an on-board timer at your receiver, you can send multiple messages by sending your bit at the right time of day.

If you only needed to send 12 different messages a day (say to maintain a remote instrumentation site in Alaska), then you could send them by timing your transmission according the following schedule.

```
time meaning
---- -------
1-2am power down instrumentation package
3-4am power up instrumentation package
5-6am switch to program "A"
7-8am switch to program "B"
...
```

People have commonly done such a thing to send one bit of info by ringing the phone. (My grandmother used to tell my parents that she had safely arrived home from her visit by simply ringing our phone once...)

Now, what would be the best system to send such a bit? Two ideas:

1) It should operate in the HF band. Perhaps somewhere near 10MHz (WWV always seems pretty reliable).

2) Correlative coding should be used to reject noise. (essentially a use of spread-spectrum in a band-limited channel).

For simplicity, I'm assuming that the receiver and transmitter are aligned in frequency to 50ppm (garden variety XTAL tolerance). If we send a CW signal, at one random pulse per second, then we can send about 1e6/(50*10)=2000 bits before our receiver will drift 10% out of bit synchronization with the transmitter. This allows us to average 2000 bits to reduce the channel noise by 10*log(2000) = 33dB.

I'm thinking of a receiver with about 700 Hz IF BW (to tolerate the 500 HZ maximum crystal offset at 10MHz), and an integrate-and-dump detector operating with a 1/3 second integration time. This guarantees that at least one of the 3 integration bins/bit will stay in alignment with the transmitter signal over the entire 2000 bit transmission time. (thereby avoiding a complex bit-sync algorithm)

The integrate-and-dump detector would average the total RMS power in the entire IF BW over each 1/3-second integration time.

The transmitted signal could be a 127 bit PRBS signal, repeated somewhat more than 2000/127=15 times. (If you were worried about FCC restrictions on PRBS keying, then just make a plain text CW signal that is 127 "dits" long, and has 50% duty cycle and a good auto-correlation - something like "DX BEACON DE WB6GVI DX BEACON DE...".

The receiver would take each output from the digitized integrate-and-dump detector, once each 1/3 second, and store them modulo 127 into digital memories. The following C-like pseudo-code illustrates the idea:
(skip it if you're not into C-coding :-)).

```
---------------------------------------------------------------
double prbs[3*127] ; holder for spreading code

double rx_array[3*127] ; array for incoming data samples
double epsilon = 0.8 ; decay constant (needs to be optimized)
double threshold = ?? ; trigger value (lower is more sensitive)
; higher is more reliable

initialize_prbs(prbs) ; fill prbs array with +/- 1 bits
; corresponding to spreading code
while (true) {

val = get_new_integrate_dump_signal();

; update the receiver storage array with digital lowpassing
index = (index+1)%(3*127)
rx_array[index] = epsilon*rx_array[index] + (1-epsilon)*val

; now check for correlation with prbs pattern...
max_correlation = 0;

for( i=1; i<=3*127; i++ ) { ; for every phase shift
correlation = 0
for( j=1; j<=3*127; j++ ) { ; for every element of the array
correlation += rx_array[j]*prbs[(i+j)%(3*127)]
}
if (correlation != max_correlation) {
max_correlation = correlation
}
}

; if correlation exceeds our threshold, then a
; signal has been received
```

```
if (max_correlation != threshold) {
do_got_signal() ; OK, we've got it!
}
}
```

Of course it is critical that the integrate-and-dump ADC have a resolution greater than 1 part in 2000. Audio ADCs are now pretty cheap and should do nicely with 16 bit resolution: ~ 1 part in 65,000.

Now what is the coding gain for such a system?

We are subject to thermal and atmospheric noise of 10MHz over a 700 Hz BW. The 1/3 sec. integrate-and-dump baseband processing (I think) takes us down to 3Hz effective BW.

The 2000 bit (or maybe ~1000 effective bits due to the choice of epsilon in the algorithm above) gives us a sqrt(1000) coding gain, or 30 dB.

With a 5 ppm, ovenized crystal, we could get 40 dB!

That means that a one watt, single bit system, should perform like a comparable 10KW CW system with a 3Hz BW..

If we used this system with a 1KW ham transmitter (assuming the FCC would allow such a thing) our transmission would be about as reliable as CW sent with 10 Mega-Watts.

How far do you think I could get with two modified 100mW, 49 MHz walkie-talkies, and a DSP chip? Do you think I could make a *REAL SLOW* garage door opener that would operate from the other side of the globe? :-).

Cheers,
--
Rick Walker
WB6GVI
walker@opus.hpl.hp.com

476. Re: AMSOFT (&other) advertising on 'net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-04 03:47:46 UTC
From: bob@texas.net
Message-ID: <3gutd2$4li@empire.texas.net>
Source record: 114375
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <3gtvp4$r2i@hpbab.wv>, hanko@wv.mentorg.com (Hank Oredson) says:

>If you wish a newsgroup without advertising, then you should take
>those actions which will lead to such a newsgroup: a call for
>moderation of the group, or a call for a new (moderated) group.
>Within usenet, this is the only mechanism available to control
>content - other than peer pressure ... and you will lose this one.

No, there's also Cancelmoose[tm] and the advent of other cancelbot style-solutions to the spammers on the net. I agree that peer pressure is not likely to work--as long as a company has the potential to make so much as one sale, he's going to post ads to the net if he has no respect for the desires of the group's readers. I saw a post that suggested creating a group like rec.radio.amateur.ads to have a place where those who desire to read ads can go. But the advertisers wish to invite themselves into our living rooms and shacks, rather than place their ads on our doorstep.

Again, I refer those who feel imposed upon by spam ads to check out alt.current-events.net-abuse for some very enlightening reading, starting with the FAQs there.

Bob Scott WY7O | Roses are red, Violets are blue
bob@texas.net | I'm schizophrenic, And so am I

477. Re: CMOS KEYER from Idiom Press

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-04 03:55:58 UTC
From: jhturk@aol.com
Message-ID: <3gutse$qk5@newsbf02.news.aol.com>
Source record: 114376

For your info I have built (last summer) and used the CMOS keyer and have found it to be excellent.
The pkg choice is your own and the parts not supplied were easy to find - and the keyer is very well thought-out.
I had the big and expensive Morse Machine but got rid of it when I finished the CMOS rig.
73, John N1IPT

478. How to build my own

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-04 09:51:43 UTC
From: ad283@rgfn.epcc.edu
Message-ID: <1995Feb4.095143.22061@rgfn.epcc.edu>
Source record: 114378

I would like to build my own transeiver but I don't really know that much about electronics. Does anyone out there know of any begginer type rigs I can start out with. I have heard of heathkit but I don't know what their address is or if they're even still in buisness. I would really appreciate any help someone could give me.

Thanks Alot
--
David Greiner
ad283@rgfn.epcc.edu

What the hell are you looking at.

479. Roller Inductor Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-04 13:45:35 UTC
From: Ken Knapp <kknapp@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950204134238.16671B-100000@peach.epix.net>
Source record: 114379

For Sale:
Homebrew roller inductor tuner. VERY heavy duty, should handle full gallon.
Very nicely made, looks good!. Covers high end of 80 thru 10 meters.
I'm looking for $60.00 shipped for it.

73,

Ken, N3GBW, kknapp@epix.net, (717)448-2565

480. Antenna Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-04 13:47:54 UTC
From: Ken Knapp <kknapp@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950204134601.16671C-100000@peach.epix.net>
Source record: 114380

For Sale:

Tokyo Hi-Power HC-200 antenna tuner. 80-10 meters, 200 watts. $75.

73,

Ken, N3GBW, kknapp@epix.net, (717)448-2565

481. ### Looking for part : UC3906 (Unitrode)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-04 16:29:19 UTC
From: s2202629@np.ac.sg
Message-ID: <3h0a0v$2f9@nova.np.ac.sg>
Source record: 114381

I've recently got a couple of Sealed Lead Acid batteries, and would like to whip together a charger for them. Was reading thru the ARRL handbook and came along one that seems pretty ok.

Unfortunately, I haven't had much luck in locating the key IC rqd locally, and would like more info for low quanity (<5) mail order purchases.

Could anyone perhaps provide me with the info I need? Namely, where can I find it, address of supplier, part number, cost per piece, and amount to add for shipping (airmail to Singapore).

Please email. Thank you.

482. Re: G.E. Delta for 6M. Any hints on getting full 110 watts?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-04 21:32:17 UTC
From: blondell@ripco.com
Message-ID: <D3Hvtv.F1r@rci.ripco.com>
Source record: 114382

Be sure your power supply / cables are delivering the current without a voltage drop. If the adjustments are near the end of their range, you may have to replace that part with a higher or lower valued part to hit the true tuning peak. A manual also helps.

--

Dave Blondell N9JDZ
blondell@rci.ripco.com
Chicago Amateur Radio Club
1-(312)-666-1606

483. Re: QEX ---- back issues on a CD ROM ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 01:10:23 UTC
From: geertj@ripe.net
Message-ID: <D3I5xC.MG0@inter.NL.net>
Source record: 114383

In <1995Jan31.134142.26376@ee.surrey.ac.uk> M.Willis@ee.surrey.ac.uk (Mike Willis) writes:
>The problem with QEX is it is so expensive for us in Europe.

QEX recently changed its policy to allow foreign subscribers to
subscribe using surface mail instead of airmail. Agreed, it's slower,
but then again the articles in QEX don't date as much as QST does.

I just had my 2-years prepayment (another way to get things cheaper;
you pay handling costs only once) changed into a 4-year subscription
by changing it to surface.

It is very likely that QEX is not written as one postscript image, i.e.
asking ARRL for a postscript file probably doesn't help much.

Personally I think that the local hamradio clubs might take part in
the distribution of QEX (sending it in bulk to Europe, then
distribute locally, making it even cheaper...

Geert Jan

484. Re: More on FeCl3 disposal

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 04:07:45 UTC
From: tomb@lsid.hp.com
Message-ID: <D3IE4y.Iz3@hpcvsnz.cv.hp.com>
Source record: 114384

Pierre Thomson (pierre@wcrest.uucp) wrote:
: In article <3giveh$smg@fohnix.metronet.com>,
: copeland@fohnix.metronet.com (Charles Copeland) wrote:

: > FeCl is extremely toxic. The first time I used it, I didn't know where
: > to get rid of it. I dumped 1/2 cup on the ground, it killed a tree.
: >
I suspect it was the copper ions, not the iron or chlorine ions, that
killed the tree.

: In my understanding, FeCl3 is not strictly an acid (no H+ ions), but
: rather a salt which contains lots of Cl- ions, which latch onto the
: copper and form copper chloride. That's why the solution turns green.

Well, yes and no... If it's just FeCl3 dissolved in neutral water, it won't
be acid. But you can't dissolve very much of it in neutral water because
even the 10^-7 concentration of OH- ions is enough to start precipitating
Fe+3 ions in Fe(OH)3 muck. So, you add some HCl to acidify the water,
which lowers the OH- concentration and allows much more Fe+3 to dissolve.

By the way, if you have some FeCl3 solution that's getting muck in the
bottom, try adding a little muriatic acid, which is just HCl, to it. You
can get the acid at home improvement places; used to wash masonry work. As
always, _be_careful_ adding acid to anything.

: The safest way to get rid of your FeCl3 is to use it up etching copper!
: The resulting compounds are not nearly so reactive. It may not be the
: fastest way to etch boards, but it's the most "ecologically responsible".
: When the solution is used up, dump it down the toilet and flush several
: times. (and hope you don't have copper drain pipes ;)

Barry Ornitz, a ChemE with Eastman who used to post to these groups, posted
a very good way to get rid of it, if you don't have a hazardous waste place
that will take it nearby. Basically it's to mix it with concrete dry mix,
in place of the water. The lime in the concrete mix will neutralize it,
and the concrete when it hardens will pretty effectively lock the copper
up, according to Barry.

485. Re: Need info on linear predictive voice coder chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 07:38:18 UTC
From: jathomas@netcom.com
Message-ID: <jathomasD3Invu.8t3@netcom.com>
Source record: 114385

Pieter G. Ibelings (pieter.ibelings@sciatl.com) wrote:
: I am looking for information on CELP vocoders used to convert voice to a 4800
: baud serial stream. Any info on where I can get these chips would be
: appreciated.

Pieter,

Try DSP Group, Inc. They were advertising last fall the CT8005
"TrueSpeech Messaging Co-Processor." This is a full-duplex
speech-compression chip with 8.5 kbits/sec compressed data rate. They
also offer (but I don't have the announcement sheet handy) a similar chip
using 4800 bps CELP. I was told the chips would cost about $13 in quantity.

DSP Group, Inc. Santa Clara, CA, 408-986-4300. The man I spoke with at a
trade show is Serdar Yurdakul, Director, Computer Telephony, at
408-986-4480, or syurdakul@dspg.com.

Hope this helps. I'm interested in digital voice modes too.

John A. Thomas
jathomas@netcom.com
N5RZP

486. Toyocom TQF-456C Filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 10:51:36 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <791981496snz@lfheller.demon.co.uk>
Source record: 114386

I picked this filter up for a couple of quid at a radio rally. The frequency is 68.545 MHz. I was hoping that it was a roofing filter for an up-converting HF Rx. Can anyone confirm this, and tell me the bandwidth and I/O impedances?

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

487. Astatic D104 + TS-430-S

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 13:34:07 UTC
From: ab4el@cybernetics.net
Message-ID: <3h2k4f$1vc@news0.cybernetics.net>
Source record: 114387
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

If you know how to correctly wire an Astatic D104 microphone
to a Kenwood TS-430-S, please reply to me at my email address. TNX
--
73/Steve/AB4EL ab4el@Cybernetics.NET in Raleigh, NC 35.81245N, 78.65849W

488. Re: Roller Inductor Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 13:48:59 UTC
From: artmoe@agora.rdrop.com
Message-ID: <D3J51o.4Gp@agora.rdrop.com>
Source record: 114388

Ken Knapp (kknapp@grape.epix.net) wrote:

: For Sale:
: Homebrew roller inductor tuner. VERY heavy duty, should handle full gallon.
: Very nicely made, looks good!. Covers high end of 80 thru 10 meters.
: I'm looking for $60.00 shipped for it.

: 73,

: Ken, N3GBW, kknapp@epix.net, (717)448-2565

--
What size is the roller inductor lenght, diameter, wiresize ???

..._._
73's
Arthur Moe Oregon City, Or
A.R.S. KB7WW 45-19-22 N 122-36-37 W CN85
artmoe@agora.rdrop.com At the end of the Oregon Trail

489. Low Power 1000' transcievers ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 14:33:42 UTC
From: mkroeger@beta.tricity.wsu.edu
Message-ID: <D3J746.3yn@serval.net.wsu.edu>
Source record: 114389

I'm in the hunt for low power digital radio trancievers. I don't
want to get a license for this project, so frequency is a limitation.
If you send me any suggestions for sources of information I will
compile a list and repost ALL responses !

Much help is appreciated.

--
~~~~~~|~~~~~~~~~~~~~~~~~~~~~~~~~
Marty W. Kroeger |BIOSYS Engineers ---
Engineering Technician Lead |Turning Ideas Into Reality
W.S.U. - Prosser |
Phone (509) 786-2226 Fax (509) 786-4635 |
Internet - mkroeger@beta.tricity.wsu.edu |
~~~~~~

490. Re: Need 2m plans or kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 16:17:24 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb5.161724.4158@ke4zv.atl.ga.us>
Source record: 114391

In article <3gunv0$jag@deathstar.cris.com> dmlee@cris.com (David Lee) writes:
>I am looking for the schematic and construction plans for a 2m transciever.
>Alternatively a kit would do. I have about 15 new HAMS where I work and
>need to get them 'on the air' so they don't lose interest and I can work
>them up past Tech to General or Advanced. I have to make learning code
>attractive, so to that end -- get 'em talking and then get 'em interested in
>HF DX.

Well, there are the Ramsey and Hamtronics kits. You may have heard of the problems with Ramsey, but you can get the kit working clean if you have access to a spectrum analyzer and know some practical circuit theory so you can modify the circuitry to work correctly. If you just tune it up for maximum output, the spectrum will look like a comb. But it is a synthesized design (diode programmed), so it is fairly useful once you have it running correctly.

The Hamtronics kits go together pretty well, and are pretty clean, but they're crystal controlled. That's going to limit the usefulness of the radio for general 2 meter hamming. You can all put it on a club frequency, but you won't be able to channel hop without buying a bunch of expensive crystals. They're mostly used in repeaters where frequency agility isn't important.

Ten-Tec Kits has a new 2 meter transceiver that they previewed at the last Dayton. I don't know if it's shipping yet, but it looked like a very good clean design. It has most of the features of the current Japanese radios. It's synthesized, microprocessor controlled with digital readout, and runs respectable power. Ten-Tec has a great reputation, so they aren't going to release a piece of crap.

If you want a scratch design, the Motorola MC2833 makes building a low power transmitter a snap. And they have the MC13135 that takes most of the pain out of building a receiver. If you call and ask Motorola for evaluation kits for these two chips, you'll get a circuit board, a couple of chips, and an application note that'll get you going. (At least you could a couple of years ago, I don't know if they are still offering these kits.) A small power brick IC will boost the signal to a respectable level.

If all else fails, you can go with one of the older Handbook discrete designs. A pair of 12AT7s will get you a 8 MHz oscillator followed by a doubler and two triplers. That can drive a 2E26 output stage. On receive, a 6CW4 preamp can drive a 6AK5 mixer into a pair of 12AT7 IF stages feeding a diode discriminator using 6AL5s and your AF stages can be one of the classic designs using EL88s. I haven't built this design in many years. I expect

some of the tubes will be rather hard to find in quantity today.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

491. Re: The ULTIMATE in long distance QRP (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 16:33:07 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb5.163307.4279@ke4zv.atl.ga.us>
Source record: 114392

In article <D3GGx1.88L@hpl.hp.com> walker@opus.hpl.hp.com (Rick Walker) writes:
>It should be possible to reliably communicate around the world using a
>system similiar to those used to communicate with space-probes.
>
>I'm thinking about taking the idea of coherent CW to the extreme limit.
>The lower your bandwidth of information, the better S/N you can get.
>So.... rather than sending 10WPM, I'm willing to send *1 bit/half hour*.
>
>The question is: "how much coding gain can we get in such a
>system", and how would you design it?

>Now, what would be the best system to send such a bit? Two ideas:
>
> 1) It should operate in the HF band. Perhaps somewhere near 10MHz
> (WWV always seems pretty reliable).

This is the flaw in your plan. You haven't made allowance for the fact
that parts of the globe will receive *no* signal energy during parts
of the day due to the changes in ionospheric propagation. This will
corrupt the bins and degrade your effective SNR, probably to the point
of uselessness. You need to include a propagation model in your code
which will weight samples depending on predicted propagation.

The difference in what NASA does, and what the Lowfers on 160 kHz do,
and what you are trying to do, is that they are using radio paths of
essentially constant propagation. You're going to have to simulate
that constant propagation model by weighting your samples according
to a HF propagation model.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

492. Re: Looking for toroid co

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 19:31:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.548.546@acenet.com>
Source record: 114393

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

CA>Keith et.al.,
CA>Try Tanner Electronics at Beltline and I-35 in Carrollton.
CA>Tanner's is on the SE corner of the intersection, i.e. on
CA>the west side of I35.

CA>He has a good supply of odds and ends for experimenters, etc.

Chuck do you have an address and/or phone number for this co.
please?
72 de AF4K/3

brian.carling@acenet.com

~ SLMR 2.1a ~ Proud member of PETA, People for Eating Tasty Animals

493. HOAX against AmSoft

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 21:49:11 UTC
From: amsoft@epix.net
Message-ID: <3h3h4n$sev@grape.epix.net>
Source record: 114394
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.space

I question if the person called bob@texas.net really exists or if it was just a HOAX and a campaign by a spineless internet hacker to damage the AmSoft reputation.

I submit the following information and request that you as an individual test the information for yourself.

On 2/5/95 I did a FINGER on bob@texas.net and received the following information:

>--- Host: texas.net User: bob@texas.net ---
>Login name: bob
>In real life: Robert J. Scott
>Directory: /home/b/bob
>Shell: /bin/menu
>Last login Fri Jan 20 20:39 on ttyrc from sa-pm1.texas.net
>No unread mail
>No Plan.

Take a look at the LAST LOGIN DATE!
(Last login Fri Jan 20 20:39 on ttyrc from sa-pm1.texas.net)
So how is it that bob@texas.net has managed to post so many messages in the rec.radio.amateur.* usenets as bob@texas.net since Jan 20 and texas.net's finger has no record of it?

Take a look how he connected thru TEXAS.NET ON JAN. 20, 95
(on ttyrc from sa-pm1.texas.net)
Is sa-pm1 a code for SPAM?

It looks like the wool has been pulled over our eyes on this story.
Even the FCC records for WY7O don't correspond to the Texas area.
Whoever you are pretending to be WY70 we are onto your HOAX.

FYI, AmSoft has not posted any reference to it's products since January 27th and will not post reference to AmSoft products in the future except for the rec.radio.swap usenet, and in the amsoft signature when responding to usenet messages.

To all readers of the rec.radio.amateur.* usenets AmSoft posts this public apology to anyone that became annoyed by any aspect of the continuing posts by or about AmSoft and its product.

I request that nobody post a response to this article unless they intend for their message to appear in all 7 rec.radio.amateur.* usenets (read header of this message first)

Sincerely,
Pete, KC3TL

494. Re: HOAX against AmSoft

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 23:18:29 UTC
From: Gerald Schmitt <ggs@aerie.lanl.gov>
Message-ID: <3h3q8s$esm@newshost.lanl.gov>
Source record: 114395
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Mike,
As I posted to Bob Scott can we please let this go. The bandwidth
wasted on this debate could have posted the entire catalogs from
HRO or AES. Pete said he was just going to post in forsale from
now that should be good enough. 73 de Jerry

495. Re: HOAX against AmSoft

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 23:31:44 UTC
From: md@pstc3.pstc.brown.edu
Message-ID: <3h3n50$53c@cat.cis.Brown.EDU>
Source record: 114396
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.space

In article <3h3h4n$sev@grape.epix.net>, Pete deVolpi <amsoft@epix.net> wrote:

>Take a look at the LAST LOGIN DATE!
>(Last login Fri Jan 20 20:39 on ttyrc from sa-pm1.texas.net)
>So how is it that bob@texas.net has managed to post so many messages in
>the rec.radio.amateur.* usenets as bob@texas.net since Jan 20 and
>texas.net's finger has no record of it?

Boy Pete, you really are a newbie without a clue as to how the net
works or how networks in general function, aren't you? Your whole
posting had me laughing. I hope your programming skills are better than
your understanding of networks, for your company's sake.

MD

--
-- Who needs looks when you have taste?
--
-- Your blood pressure just went up.

496. Re: Needed: Ultra Sonic Modeling Pgm, etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-05 23:33:03 UTC
From: dfk105@psu.edu
Message-ID: <dfk105.186.2F35602E@psu.edu>
Source record: 114397
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <1995Feb3.135314.8511@arrl.org> zlau@arrl.org (Zack Lau (KH6CP)) writes:
>Jim Huber (talisman@crl.com) wrote:
>: [Article crossposted from sci.electronics.cad]
>: [Author was Jim Huber (talisman@crl.com)]
>: [Posted on 30 Jan 1995 06:54:32 -0800]

>: [Article crossposted from sci.physics.electromag]
>: [Author was Jim Huber (talisman@crl.com)]
>: [Posted on 27 Jan 1995 08:07:36 -0800]

>: I am interested in using a 486-PC to analyze/compute the intensity levels
>: within a room for a 40 kHz ultra sonic transducer source mounted within a
>: medium to large office area containing furniture. For simplicity, the
>: furniture will be modeled using rectangles, etc., and the walls are
>: assumed perfect reflectors.

>: Are there any programs that will accomplish the above? Can NEC or
>: miniNEC antenna analysis programs be used for this task? What theory
>: applies for ultra sonic analysis? What are the recommended texts
>: covering this topic?

>NEC/Mininec programs model collections of wire segments (plus the
>effect of ground). They aren't anywhere near what you need--sort of
>like measuring the circumference of the earth with a 6 inch ruler.
>It takes a huge amount of wire segments to model a plane reflector.
>Not that it either couldn't be done if you threw enough money at it.

>Perhaps you might look at optical models. Undoubtedly the Navy
>has lots of information on using sound to image objects, but I
>have no idea if you could get at it.

Optical models might be a good start, but are likely to be inaccurate
since they assume the scattering objects are very large in terms of
wavelength. My area of expertise is in electromagnetics modeling, so I'm
not aware of any acoustical modeling programs by name. However, I'm sure
they exist, and you might be able to find advertisements for them in
the various acoustical engineering journals. Be aware that these programs
are likely to be tailored to underwater acoustical applications (sonar).

73 de Dave NB4J

==
Dave Kelley Electrical Engineering Dept.
email: davek@yoda.psu.edu Pennsylvania State University

497. Building your own.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-06 00:07:02 UTC
From: N5EM@aol.COM
Message-ID: <950205190700_13819964@aol.com>
Source record: 114398

Dave,

Boy are you in luck. There are probably a dozen companies out there right now selling QRP (low power, under 5 watts) transceivers and accessory kits. Prices run from the simplest at around $50 up to close to $300.

I will forward a list of these companies to the ham-homebrew list for you to look over.

Please make note of one that is highly recommended.

Dave Benson, NN1G designed a rig called the NE40-30 for 30 meters and NE-40-40 for 40 meters. It was recently described in a QST article and is a single board, superhet receiver and transmitter that runs about 1 or 2 watts. When finished you will have a small, QRP rig that can be hauled around in a backpack or briefcase and works off a small Gel Cell for about $50. That is a pretty painless way to start building your own. If you really want to try homebrewing cold-turkey, then I would recommend that you get a copy of Solid State Design for the Radio Amateur, published by ARRL and written by DeMaw and Hayward.

Just remember, building RF gear is not entirely straightforward and if you have NO electronics background, you are stepping out. Consider a kit first, get it built and working, find a local ham who will help you get it working right and you are on your way. What you do not want to do, is spend a lot of time and energy collecting the parts for something, building it, and never seeing it work. Plenty have done just that. Also, find a club that has some builders in it. If the club has a group of QRPers, or better yet, a local QRP club, check it out. QRPers tend to be avid builders of small inexpensive rigs.

Good luck.

Ed Manuel - N5EM
n5em@aol.com
Houston, Texas

QRP - Its a state of mind, not just a power level.

QRP ARCI #4914, G-QRP #1243, NORCAL #498

498. Needed: Remote LL reboot method for PC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-06 01:21:19 UTC
From: dbrunell@netcom.com
Message-ID: <dbrunellD3K13J.7wx@netcom.com>
Source record: 114399

I need to find a kit or plans to build a little gadget that will allow me to reboot a PC remotely, over the telephone. It could be as simple as a dtmf-controlled switch to turn the power to the PC off for a minute, and then back on. What would I need? A dtmf decoder? Anybody have suggestions? TIA.

db

499. Advertising on the Inet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-06 01:30:56 UTC
From: N5EM@aol.COM
Message-ID: <950205190341_13814695@aol.com>
Source record: 114400

Hank,

I really don't know from the digest I received who wrote the message on advertising. But, there are now numerous retail businesses being run and heavily advertised on the Internet. Primarily, this is being done via "electronic shopping malls" on World Wide Web. I would not appreciate someone dropping in on a list like ham-homebrew and sending me email advertising their product and that is probably what the writer was referring to. Sending unsolicited advertising is in very bad form and would probably draw the ire from the operator of the system.

73
Ed Manuel - N5EM
n5em@aol.com

500. Re: Needed: Remote LL reboot method for PC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-06 11:55:38 UTC
From: Rolf Mathison <rolf_mathison@hpatc1.desk.hp.com>
Message-ID: <3h52nq$5fn@hpuerci.atl.hp.com>
Source record: 114401

dbrunell@netcom.com (Doug Brunelle) wrote:
>
> I need to find a kit or plans to build a little gadget that will allow me
> to reboot a PC remotely, over the telephone. It could be as simple as a
> dtmf-controlled switch to turn the power to the PC off for a minute, and
> then back on. What would I need? A dtmf decoder? Anybody have
> suggestions? TIA.
>
> db
>
Try a telephone responder for the wireless remote control systems
(plug 'n power, x-10, etc.) from Radio Shack (p/n 6--2692). It will
control any remote module from a touch tone phone.

Regards,
Rolf

501. Re: Mixers.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-06 16:23:28 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <3h5ie0$pn3@abyss.West.Sun.COM>
Source record: 114402

In article 16hi@info4.rus.uni-stuttgart.de, moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>In article <D39vp9.IyL@baan.nl>, Johan Maas <jmaas@aston.baan.nl> wrote:
>>Hello brewers,
>>
>>I am working on a 2 meter SSB transceiver.
>>
>>HELP !!!
>>
>>73 PA3GSB the Johan
>
>The SBL1 requires 5mW into 50 Ohms, which makes it 1.4V peak-to-peak.
>A catch is, that it requires 50 Ohms termination also for the unwanted
>mixing products, i.e. so called diplexers.

The diode mixers are sensitive to termination of the IF port (as well as the LO port and, to a lesser extent, the RF port). Using a diplexer is one way to approach the problem, but another way is to use a post-mixer amplifier (sometimes called a post-amplifier) which has good return-loss on the input over a wide range. According to several references, the actual terminating impedance isn't as critical as the termination being non-reactive. So, you really have several options:

1) Use a diplexer as described in several texts. This does require some tuned ciruits, and may allow some higher order responses of the mixer to be poorly terminated.

2) Use a post-mixer amplifier designed for good input return loss. A common-gate JFET, such as a J310, works well in this application. Examples of this approach were published in _Ham Radio_ about 20 years ago. Also useful for this would be a MMIC, like a MSA-1104. Just be sure to use enough gain ahead of the mixer to establish the desired system noise figure, of course balancing this with dynamic range considerations. Another advantage of the post-amplifier is that it can be beneficial for matching to the roofing filter.

3) You may use a resistive attenuator at the IF port. Really! Again, you'll need to increase the pre-mixer gain or accept a poorer system noise figure, but a 3dB pad (-3dB) results in 6dB additional return loss across a very broad range.

It really makes sense to use only enough gain ahead of the mixer to compensate for the losses in the mixer, termination and filter(s).

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Antenna waves be burnin' up my radio" -- ZZ Top *

502. Re: The ULTIMATE in long distance QRP (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-06 17:17:30 UTC
From: steve@hi.com
Message-ID: <steve-0602951317300001@brainiac.hi.com>
Source record: 114403

There's a fair amount of activity on the 1750-meter band using coherent BPSK. It's been written up in the Lowdown, the journal of the Longwave Club of America. I don't have the references at hand, so I can't quote numbers, but fairly impressive coding gains have been demonstrated. This is part-15 operation, limited to 1 watt input to antennas that, by regulation, are very inefficient. There's also lots of QRM.

There's some DSP decoding software that runs on PCs written by VE2IQ that's becoming popular.

Longwave Club of America
c/o Bill Oliver
45 Wildflower Road
Levittown, PA 19057

Membership is $18 in the US, US$19 in Canada, and US$26 for overseas airmail.

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

503. Free PreAmp, Tube Amp Design SW

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-06 17:31:23 UTC
From: reichert@rtsg.mot.com
Message-ID: <3h5mdb$5n0@delphinium.cig.mot.com>
Source record: 114404

I have uploaded to SimTel, the Coast to Coast Software
Repository (tm),
(available by anonymous ftp from the primary mirror site
OAK.Oakland.Edu
and its mirrors):

ftp://oak.oakland.edu/SimTel/msdos/hamradio/kd9jq_95.zip

SimTel/msdos/hamradio/
kd9jq_95.zip Preamp & Triode amp design, 4 utility pgms

The following utility programs are distributed, courtesy of
KD9JQ,
as FreeWare in file kd9jq_95.zip:

asp_ver4.zip Contains ASP version 4.0 transistor RF preamp
design
program. It requires EGA or higher.

tap_ver2.zip Contains TAP version 2.0 triode amplifier
program for
grounded grid tube RF amplifiers.

utility.zip Collection of 4 programs for matching,
filters, attenuators,
and transistor compression point calculations.
These are:

1 - compress.exe - calculates transistor
compression point.
2 - bbmatch.exe - calculates broadband
matching L/C values vs Z
3 - atten.exe - simple T. PI resistive
attenuator program
4 - filter.exe - calculats L/C values for LPF,
HPF

Chuck Reichert KD9JQ

504. Where to buy crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-06 18:08:38 UTC
From: hhaas@saffron.gatech.edu
Message-ID: <3h5oj6$ls0@siberia.gtri.gatech.edu>
Source record: 114405
Cross-posted to:
git.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.swap

I have several Motorola HT220s (and a GE and a Maxon) that I
need to get crystals for. Can anyone suggest a place that sells
crystals for a reasonable price? I also need a line on low cost
batteries for the same radios.

Thanks in advance.

hh
--
--
Harry Haas GTRI/SEAL/RSD/ASB | Georgia Tech Research Institute
Research Engineer II | 225 North Ave.
harry.haas@gtri.gatech.edu | Atlanta Georgia, 30332
Systems and EM Apps. Lab. | RADAR Systems Division

505. Home-built HF Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-06 19:12:33 UTC
From: "P. Healey" <phealey@blue.weeg.uiowa.edu>
Message-ID: <792098297-1-153196@blue.weeg.uiowa.edu>
Source record: 114406

WE are seeking any information we can find on an article in the most recent "Communications Quarterly" on home-built HF transmitters. Any information on the article would be welcome: Author, title, issue, pages, date...anything at all.
Thanks in advance for any help.

Paul D. Healey J.D. (graduate student and technology lab coordinator),
School of Library and Information Science
3071 Main Library, University of Iowa, Iowa City, Iowa 52241
email: phealey@blue.weeg.uiowa.edu Phone: 319-335-6478

"All you need to start an insane asylum is an empty room
and the right sort of people." -- "My Man Godfrey"

506. HELP CHAN. ELEM. ALIGN MOTOROLA MITREK

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-06 20:43:08 UTC
From: sidener@crunch.nuc.umr.edu
Message-ID: <3h61ks$3a9@hptemp1.cc.umr.edu>
Source record: 114407

I am currently trying to tune a Motorola Mitrek radio to the ham band:

The radio is rated for (146-174Mhz)

It was tuned to 168Mhz.

I have successfully tuned the radio and channel element on the
transmit side to 145.290Mhz.

I am having a big problem getting the channel element (not radio)
on the recieve side to resonate at 144.690Mhz.

Motorola does not produce schemaitic of their channel elements
and I have been told that some components eg. caps. must be replaced
in the element to get it to resonate.

Motorola only has one model of channel element for that radio.
(KXN1088A) TX and (KXN1086B) RX

I was wandering if someone has a schematic or conversion chart pretaining
to the channel element alignment.

Obviously, something besides the crystal must be changed to have a range
of 146-174Mhz.

Any help would be greatly appreciated!!!

Thanks,

Scott Sidener N0WFL sidener@umr.edu

507. Re: More on FeCl3 disposa

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 01:38:00 UTC
From: tom.hammond@woodybbs.com
Message-ID: <93.5134.7584.0NFB91C9@woodybbs.com>
Source record: 114408

TO>The safest way to get rid of your FeCl3 is to use it up etching
>copper! The resulting compounds are not nearly so reactive. It may
>not be the fastest way to etch boards, but it's the most
>"ecologically responsible". When the solution is used up, dump it
>down the toilet and flush several times. (and hope you don't have
>copper drain pipes ;)

TO>Barry Ornitz, a ChemE with Eastman who used to post to these groups,
>posted a very good way to get rid of it, if you don't have a
>hazardous waste place that will take it nearby. Basically it's to
>mix it with concrete dry mix, in place of the water. The lime in the
>concrete mix will neutralize it, and the concrete when it hardens
>will pretty effectively lock the copper up, according to Barry.

A really NEAT solution (er, solid) to the problem. Even though I was
told that you could dispose of exhausted FeCl3 by diluting with water
and flushing down the drain, this method certainly sounds like a much
better alternative.

Thanks.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--- Alexi/Mail 2.02b (#83)
* Origin: Distant Winds BBS * Jefferson City, Mo * [314] 635-7868 (1:289/67)

508. Re: Sources for frequency synthesizer kits ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 02:19:12 UTC
From: Mike Franks <70712.1222@CompuServe.COM>
Message-ID: <3h6lb0$q4q$1@mhade.production.compuserve.com>
Source record: 114409

I do not know if you want to go PLL or DDS route. Phase lock loop info can be obtained from Motorola in Schaumburg, Illionois. They have lots of free technical advice, Aplications notes, etc. If you want to go DDS (Direct Digital Synthesis) there is a company in California (I can not find my notes but I think it is called Standard Telecom or something like that). These companys do not offer kits per se but have all parts available to do what you want.

509. Re: HOAX against AmSoft

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 02:56:44 UTC
From: bob@texas.net
Message-ID: <3h6nhc$3t0@empire.texas.net>
Source record: 114410
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.r

In article <3h3h4n$sev@grape.epix.net>, amsoft@epix.net (Pete deVolpi) says:
>
>I question if the person called bob@texas.net really exists or if it was
>just a HOAX and a campaign by a spineless internet hacker to damage the
>AmSoft reputation.
[snip]

>Take a look at the LAST LOGIN DATE!
>(Last login Fri Jan 20 20:39 on ttyrc from sa-pm1.texas.net)
>So how is it that bob@texas.net has managed to post so many messages in
>the rec.radio.amateur.* usenets as bob@texas.net since Jan 20 and
>texas.net's finger has no record of it?
>
>Take a look how he connected thru TEXAS.NET ON JAN. 20, 95
>(on ttyrc from sa-pm1.texas.net)
>Is sa-pm1 a code for SPAM?
>
>It looks like the wool has been pulled over our eyes on this story.
>Even the FCC records for WY7O don't correspond to the Texas area.
>Whoever you are pretending to be WY70 we are onto your HOAX.

OK Pete, you got me. I really don't exist. Or do I??!? Actually, when
I discovered how to travel through the space-time continuum using my
IC-765 and a Henry 5K Ultra to excite a subethereal space modulator, the
FCC gave me an extra class ticket out of sheer awe. Of course, since I am
now omnipresent in multiple temporal dimensions, the address from which I
operate isn't that important. yeah, that's it. Or maybe it's just that
the texas.net host had the wrong date/time. And of course, telnet might
be a valid explanation of how my whereabouts don't match my host location...
Tricky stuff! You are now deserving of the title "Junior Net Detective,"
provided, of course, you send in the correct number of boxtops...

You *were* joking, weren't you???!?

>
>FYI, AmSoft has not posted any reference to it's products since January
>27th and will not post reference to AmSoft products in the future except
>for the rec.radio.swap usenet, and in the amsoft signature when
>responding to usenet messages.

All joking aside, thanks for the consideration! I read .swap regularly and
don't especially mind seeing any ham radio related ads therein. That's
what the swap group is all about, no?

Well, I must leave to the other dimension now. 73, or as we say in the future, 72.9999999997. [Pentiums will be the standard soon]

_
Bob Scott WY7O | Roses are red, Violets are blue
bob@texas.net | I'm schizophrenic, And so am I

510. Good and simple QRP kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 05:26:20 UTC
From: X32KB@CUNYVM.CUNY.EDU
Message-ID: <95038.002620X32KB@CUNYVM.CUNY.EDU>
Source record: 114411

Does anyone have any recommendation for a fairly easy to build, introductory kit for a QRP rig, which would be suitable for a 13 year old's science fair project? It should be prefferably a transmitter or tranceiver that has more than one frequency capability. Please e-mail to: x32kb@cunyvm.cuny.edu

Thanks.
Moshe

511. Re: Need 2m plans or kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 05:44:40 UTC
From: jdevenport@lanl.gov
Message-ID: <3h71c8$hag@newshost.lanl.gov>
Source record: 114412

In article <1995Feb5.161724.4158@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) says:
>
>In article <3gunv0$jag@deathstar.cris.com> dmlee@cris.com (David Lee) writes:
>>I am looking for the schematic and construction plans for a 2m transciever.
>><snip>
>Well, there are the Ramsey and Hamtronics kits. You may have heard of the
>problems with Ramsey, but you can get the kit working clean if you have
>access to a spectrum analyzer and know some practical circuit theory so
>you can modify the circuitry to work correctly. <snip>
I must have slept through something. What problems with Ramsey kits?
Mine has never given any trouble. A few capacitors were missing and I
had to enlarge the coils in the tx and rx to maximize output power and
receive sensitivity, and tx power has never reached the advertised level
but what do you want for the price? I've marketed kits before myself and
know the difficulty in quality control etc just in purchasing parts for
the kits. The biggest variable in kits is the kit BUILDER. I've never
had one of my kits returned for repair that wasn't butchered beyond
recognition and huge globs of solder all over the circuit board, shorting
traces and parts galore. Few folks nowadays have the background or
experience in good soldering technique nor the time and patience to do a
decent, much less great, job in assembling a kit.
Unless your circuit can be sold by the kazillions so that you can purchase
your parts by the carload it is VERY difficult to market a kit that costs
less than a comparable overseas-assembled factory unit. And, if it has
that kind of demand the folks overseas will be grinding them out in mass
quantities and pricing you into the dirt post haste. I think Ramsey does
a good job for the price. The manuals that come with their kits are
great for learning circuitry and electronics. I'd recommend them to
anyone who'd like a radio that, though not fancy, extra sensitive, selective,
or high powered, works and gives you experience and satisfaction to boot.
Not to mention that once you have it working you are familiar and brave
enough with it to modify it, interface it to a computer, mess around with
it in all kinds of ways. I like 'em.

Jim Devenport WB5AOX
".... The Christian Principle has not been tried and found wanting......
It has just not been TRIED."

512. Re: Make TNC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 07:02:08 UTC
From: dave@eram.esi.com.au
Message-ID: <3h75tg$qm9@eram.esi.com.au>
Source record: 114413

In article <3grltp$sub@fohnix.metronet.com>,
copeland@fohnix.metronet.com (Charles Copeland) writes:

| Is it possible to make a TNC with a regular modem and some software?

Yeah - just use the modem chip (if it's a 7910/3105 etc). The serial
hardware is useless.

| Packet sounds like regular FSK modem, but are they the same?

No - it's NRZI-encoded HDLC. Async ASCII it ain't.

| Seems a regular modem with "packet software" running would work.

Yes, if you can get straight to the bits without having them serialised
and bracketed with stop/start stuff.

--
Dave Horsfall (VK2KFU) | dave@esi.com.au | VK2KFU @ VK2AAB.NSW.AUS.OC | PGP 2.6
Opinions expressed are mine. | E7 FE 97 88 E5 02 3C AE 9C 8C 54 5B 9A D4 A0 CD

513. Re: The ULTIMATE in long distance QRP (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 09:43:25 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <3h7fbt$huv@proffa.cc.tut.fi>
Source record: 114414

Rick Walker (walker@opus.hpl.hp.com) wrote:

> It should be possible to reliably communicate around the world using a
> system similiar to those used to communicate with space-probes.
>
> I'm thinking about taking the idea of coherent CW to the extreme limit.
> The lower your bandwidth of information, the better S/N you can get.
> So.... rather than sending 10WPM, I'm willing to send *1 bit/half hour*.

There are a few important differences in communication with a deep space probe and in communication around the world using tropospheric, ionospheric or EME modes.

When communicating with a deep space probe, the propagation delay is usually well known and the rate of change can be well predicted. The doppler shift is usually quite stable and in any case, it is predictable.

When communicating around the world, the propagation delay can vary a lot with different propagation paths. At extremely low bit rates this is hardly a problem. However, the reflecting/refracting medium is not usually stationary, so you have some doppler shift on the signal. If the medium would behave like a flat mirror, the received signal would be shifted by some amount of doppler shift and it would be easy to compensate for it. The nasty thing is that usually part of the medium is moving towards you, while other parts are moving away from you and thus, you have both positive and negative doppler shifts simultaneously, i.e. there are sidebands around a carrier. In aurora communication and EME (libration fading), the sidebands can be a few hundred or even a few kilohertz wide. For best sensivity, you have to process these sidebands also. If a spread spectrum is used (assuming frequency hopping for simplicity) the signal bandwidth after despreading can still be a few hundred hertz wide during bad conditions while during good conditions, the bandwidth is a few hertz wide.

> Now, what would be the best system to send such a bit? Two ideas:
>
> 1) It should operate in the HF band. Perhaps somewhere near 10MHz
> (WWV always seems pretty reliable).
>
> 2) Correlative coding should be used to reject noise. (essentially
> a use of spread-spectrum in a band-limited channel).
>
> For simplicity, I'm assuming that the receiver and transmitter are
> aligned in frequency to 50ppm (garden variety XTAL tolerance).

Garden variety crystals are usuallu specified at +/- 50 ppm, so the
worst case difference between transmitter and receiver is 1 kHz.

> If we
> send a CW signal, at one random pulse per second, then we can send about
> 1e6/(50*10)=2000 bits before our receiver will drift 10% out of bit
> synchronization with the transmitter. This allows us to average 2000
> bits to reduce the channel noise by 10*log(2000) = 33dB.

IMHO, using OOK is out of the question, as we would have to adopt similar
principles as in a Dicke radiometer, switching rapidly between the antenna
and a 300 K noise source (a 50 resistor) to compensate for receiver gain
variation. And while the signal strength and band noise constantly varies,
there are a great difficulty of settting the threshold at the final
detection. A much better system is to use some kind of FSK transmitter,
which constantly sends one of two (or more frequencies). If you take
the FFT of the received signal, you can take the _difference_ between
the signal strengths in different bins and thus compensate for the
variation of background noise.

IMHO, it might be easier to first take the FFT of the signal before any
further processing. The doppler sidebands could be easily included
to improve the SNR. This way it would also be easier to extract some AFC
signals to compensate for the crystal drifts during the long transmission
time. Thus, the IF bandwidth could be reduced, when you do not have to
allow for the drift.

Paul OH3LWR

--
Phone : +358-31-213 3657 Mail: Hameenpuisto 42 A 26
Internet: Paul.Keinanen@cc.tut.fi FIN-33200 TAMPERE
Telex : 58-100 1825 (ATTN: Keinanen Paul) FINLAND
X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

514. Looking for Thin Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 10:05:18 UTC
From: arsenaul@emc.com
Message-ID: <arsenaul.411.000A16EE@emc.com>
Source record: 114333

Hi everyone...

I am looking for a source for some very thin bare wire...No insulation needed...The size that I am looking for is in the range of .003"-.005" (That's no typo, three to five THOUSANDTH's of an inch)...Not needed in huge quantity...Just trying to find a source to get it at...Please let me know via E-Mail...Address is at the bottom...Thanks a bunch...

Brian Arsenault
EMC Corporation - The Storage Architects
arsenaul@emc.com

515. Re: QEX ---- back issues on a CD ROM ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 13:00:31 UTC
From: hbrown@nadir.resd
Message-ID: <1995Feb7.130031.15169@knight.vf.ge.com>
Source record: 114415

Has anyone considered contacting University Microfilms? They are now Xerox University Microfilms and their phone number is 313-761-4700 (I just copied it from Micrwaves and RF magazine). They have been microfilming magazines for many many years. They are quite possibly into CD ROMs now. The Microwaves and RF indicated that they were available on microfilm, microfiche, 16mm or 35 mm roll film.

73, Harry, W3IIT
hbrown@resd.vf.ge.com

516. Re: Crowbars for 3kV supplies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 16:00:34 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D3n0H1.22I@hpqmoea.sqf.hp.com>
Source record: 114416

Ian G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:

: Nah, 10A is the thyristor rating. The 3kV supply is only 1A continuous...
: Actually it's for the EME system and I do have a QRO permit for that,
: not to mention a lot of unavoidable cable loss.

GM4JJJ lives at the other end of our village. It took him years to
get one of those. He just uses a wimpy pair of 4CX250B's but he's been
collecting bits for something meatier over the past several years.....

: Sorry, I missed something out of the previous description of the
: OE5JFL circuit. It is triggered by the voltage drop across a 10R
: resistor between ground and the negative terminal of the smoothing
: capacitor. That's where most of the energy goes.

: diodes ---+---L-----+-------B+ output
: | | |
: Tfmr C Th
: | | |
: diodes---<X>--R-----Gnd

: The inductor is 100-500uH, (10m of enameled copper wire) giving a
: resonant frequency of about 2kHz and a Q of less than 0.25 when the
: thyristors fire.

Ah, that's the key, getting the energy ditched without a ring turning
off the SCRs. In the case of such a turn-off, not all will go off at
once, and this might mess up voltage-sharing arrangements.

: Provided the 10R resistor can handle the peak current, 135J only
: represents the equivalent of 1A for 13.5 seconds, so anything over
: 10W rating seems OK.

10W long term rating, but a very hefty short-term rating.

: Current is sensed by the ground-referenced negative voltage at point
: <X>. This triggers a flip-flop, which turns off the solid-state relay
: in the AC line to the primary and also fires the string of thyristors
: via the opto-couplers. The transformer-triggered circuit would probably
: work, but the trigger points might be dependent on the characteristics
: of the individual devices... and I would like to be sure that the
: circuit will work first time.

I'd probably lean towards firing via transformers rather than
optocouplers, saves the need for floating power sources to drive the
gates, should be more reliable, and easier to construct robustly.

: As Tom, W8JI put it: If it doesn't work, be sure to wear goggles when
: you short the B+, and have a change of underwear handy.

Yup, I read that and agree totally, get neighbours over a decent radius to keep their pets indoors. You'll need tweezers handy for peeling your eyebrows off the ceiling....

: Cheers David, and thanks for the 'Oscillators' chapter in the latest
: ARRL Handbook - like it *a lot*!

Thyristors are fun/challenging. There's an HP modular system that employs power distribution as a 40kHz sine, carefully regulated. It allows transformer isolation of LF common mode stuff, and free choice of power rails in modules. It used a driven, tuned thyristor inverter using thyristors designed for the old "SYCLOPS" TV psu/lineoutput system. I had the job of redesigning it when thyristor stocks ran down. Thyristors have nasty unwanted trigger effects due to dV/dt, temperature, and lunar phase. 40kHz is pushing it for thyristors. I did the honourable thing, bottled out, and used IGBTs ;-)

Glad you like the chapter, it seems to have been well received. I was really worried writing it, I've not had much writing experience, and I was going far over the target length, and I'd chosen a different emphasis compared to previous editions. The book used to throw circuits at people, and I was trying to write pictures in peoples minds to give an insight into how the things actually work, and what compromises are necessary. I notice you're in the credits, too, but I've not yet had a serious read through much of it, so I've not yet discovered what you did. Keep up the good work with the column, the job of spreading simple truth around in areas where complex myths are rampant is beyond value. I can see the RSGB re-publishing them in collection form rather like the tech topics books over the years.

Um, I've just been making remarks on QRO stuff, and 'RJV sometimes reads this group. I'd better exit quietly. no more capital letters or exclamation marks.....

cheers,
david gm4znx

517. Re: The ULTIMATE in long distance QRP (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 16:01:30 UTC
From: glenne@sr.hp.com
Message-ID: <3h85gq$pbb@canyon.sr.hp.com>
Source record: 114334

Kein{nen Paul (k23690@proffa.cc.tut.fi) wrote:

: IMHO, it might be easier to first take the FFT of the signal before any
: further processing. The doppler sidebands could be easily included
: to improve the SNR. This way it would also be easier to extract some AFC
: signals to compensate for the crystal drifts during the long transmission
: time. Thus, the IF bandwidth could be reduced, when you do not have to
: allow for the drift.

Paul,
I'm interested to know how the sidebands could be *easily* included?
It seems to me that, in general, their correlation with the carrier is
a very complex thing. That is, they may be generated by a large number of
paths. In the case of EME and uhf/microwave terrestrial communication over
non-LOS paths, I think this is the case.
Is there an easy way to remove the spreading caused by these complex
paths?

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| ftp://col.hp.com/hamradio/packet/n6gn/index.html |

518. Homebrew 25 Watt HF amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 16:31:08 UTC
From: sameer.tiwari@syntex.com
Message-ID: <NEWTNews.100.792178781.Postmaster@ptwxa3.Syntex.Com>
Source record: 114417

I have built many HF amps in the QRP region, but I have long wanted to build a 25 watt amp using regular power MOSFETs (IRF 511 is the recommended one due to it's internal geometry) and using power splitters and combiners to make a 1.8 - 30 MHz 100 watt solid state amp at LOW-low cost. (Each 25 W mod should not cost more than 12 bucks).

The problem is availablity of IRF 511 power MOSFET, Radio Shack used to carry them in 1990-91 @ $1.80 a piece, now they don't. Some local electronics supply stores carry it but want $8 or $10 a piece depending on the qty.

I believe there are some stockists on the East coast who sell these for a buck a piece. If someone has a list of these guys please help me out.

Anyone interested in discussing switching power MOSFETs as HF amps

Sameer
W6/VU2TWX.

519. Ckt of TS-820

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 16:42:37 UTC
From: sameer.tiwari@syntex.com
Message-ID: <NEWTNews.12911.792179017.Postmaster@ptwxa3.Syntex.Com>
Source record: 114318

I am still looking for the ckt diag/repair manual for the Kenwood TS 820
Pls Help
Sameer
W6/VU2TWX

520. Re: Need 2m plans or kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 16:48:47 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb7.164847.13580@ke4zv.atl.ga.us>
Source record: 114319

In article <3h71c8$hag@newshost.lanl.gov> jdevenport@lanl.gov (Jim Devenport) writes:
>In article <1995Feb5.161724.4158@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) says:
>>
>>In article <3gunv0$jag@deathstar.cris.com> dmlee@cris.com (David Lee) writes:
>>>I am looking for the schematic and construction plans for a 2m transciever.
>>><snip>
>>Well, there are the Ramsey and Hamtronics kits. You may have heard of the
>>problems with Ramsey, but you can get the kit working clean if you have
>>access to a spectrum analyzer and know some practical circuit theory so
>>you can modify the circuitry to work correctly. <snip>
>I must have slept through something. What problems with Ramsey kits?
>Mine has never given any trouble. A few capacitors were missing and I
>had to enlarge the coils in the tx and rx to maximize output power and
>receive sensitivity, and tx power has never reached the advertised level
>but what do you want for the price? I've marketed kits before myself and
>know the difficulty in quality control etc just in purchasing parts for
>the kits. The biggest variable in kits is the kit BUILDER. I've never
>had one of my kits returned for repair that wasn't butchered beyond
>recognition and huge globs of solder all over the circuit board, shorting
>traces and parts galore. Few folks nowadays have the background or
>experience in good soldering technique nor the time and patience to do a
>decent, much less great, job in assembling a kit.

Well the fellow I sold mine to sent me a note complimenting me on
its assembly. He said he thought it was better than most factory
jobs. (I have been working professionally in electronics for
over 30 years, and consider myself a highly skilled craftsman,
even if I do say so myself.) Assembly wasn't the problem. There
were several problems with the design, all of which I eventually
fixed. For one, the output spectrum looked like a comb when the
radio was tuned to anything approaching its rated output power.
It could easily be tuned to 6 watts out, but most of that power
wasn't on the indicated frequency. That was caused by an output
amplifier design with *very* conditional stability. Another problem
was that the radio would transmit while the synthesizer was out of
lock. That's a cardinal sin which puts a "sweeper" on the band that
keys any repeater in its path, and was solved by qualifying the buffer
collector voltage with the synthesizer out of lock line (unused in the
original design) via a keying transistor. Of course the crystals for
the offset oscillators wouldn't come on frequency as supplied. They
could be padded onto frequency, but with a marked reduction in stability.
Replacement crystals were necessary to get the rig to perform correctly.
There was a hard squelch "thump" that needed fixing. Etc, etc, etc.

Most damning, my kit was not an abberation in this regard. Several
locals asked me to look at theirs, and they had the same problems.
And several others on the net have commented about the problems too.
This isn't an assembly issue. But even so, I'd suggest that a kit
meant to be built by the masses should be designed to take that
into account. Circuitry shouldn't be potentially unstable, should
be forgiving of component tolerances, and should have considerable
self-testing features built in to minimize the amount of external
test equipment required (or the advertising and manual should clearly
state the test equipment and expected skill requirements needed to
accomplish the project.)

>Unless your circuit can be sold by the kazillions so that you can purchase
>your parts by the carload it is VERY difficult to market a kit that costs
>less than a comparable overseas-assembled factory unit. And, if it has
>that kind of demand the folks overseas will be grinding them out in mass
>quantities and pricing you into the dirt post haste. I think Ramsey does
>a good job for the price. The manuals that come with their kits are
>great for learning circuitry and electronics. I'd recommend them to
>anyone who'd like a radio that, though not fancy, extra sensitive, selective,
>or high powered, works and gives you experience and satisfaction to boot.
>Not to mention that once you have it working you are familiar and brave
>enough with it to modify it, interface it to a computer, mess around with
>it in all kinds of ways. I like 'em.

Anyone who thinks they can save money by building a kit is just fooling
themselves. As you note, assembled gear is generally cheaper and better
than the kit products, and certainly modified commercial surplus gear
will be both cheaper and better. Ramsey is sadly about as good as it
gets in the kit department since the demise of Heathkit, but that's
not high praise. A kit assembled according to instructions should work
according to specifications. Ramsey's two meter kit doesn't.

That doesn't mean you aren't getting value for your money, however.
The kit is a challenge to your skills, especially the part where you
find and fix the design mistakes. And, in this day of few central
parts sources, buying the Ramsey just for the collected hardware it
contains as a starting point for a project is not completely out of
line. The aggravation you save acting as purchasing agent for all
the odd parts is worth something.

I'm not suggesting that a kit builder not buy Ramsey kits, but I do
suggest that one should *expect* to have to modify this design to
have a radio that's both legal and usable. Access to a spectrum
analyzer is a minimum requirement for getting this thing to work
correctly. Few kit builders have the test equipment needed to make
this kit transmit legally, and we don't need a lot of trashy signals
on the band. There are enough pager spurs already. (To be fair,
Ramsey appears to have revised this kit from the original model
I built. Some of my complaints may have been addressed. I haven't
built or tested a recent example. However, having been asked to
check a factory built Ramsey communications monitor against my

IFR and Tektronix spectrum analyzers, I'm dubious. That thing is trashy too, with several design errors.)

The Hamtronics kits are better in this regard. They usually tune up *clean*, if not with very spectacular performance, using only simple test equipment. And I have hopes that the Ten-Tec 2 meter kit will be properly designed. It certainly looked good from the prototype I saw.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us

521. Re: QEX--any good

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 17:10:52 UTC
From: tnichols@bmers29c.bnr.ca
Message-ID: <3h89is$hmi@bmerhc5e.bnr.ca>
Source record: 114320

In article <60d_9502010112@trisoft.com>, Ted.Kell@f1.n328.z1.fidonet.org (Ted Kell)
writes:
|> From: kell@mpac.jsc.nasa.gov (Ted Kell)
|> Date: Fri, 27 Jan 1995 11:22:55 -0600
|> Message-Id: <kell-2701951122550001@netguy.jsc.nasa.gov>
|>
|> In article <3g3e6o$kfh@bmerhc5e.bnr.ca>, tnichols@bmers29c.bnr.ca (Todd
|> Nichols) wrote:
|>
|> > Add my opinion to the pot - QEX is WELL worth the $12 a year to subscribe.
|> > Unfortunately, sending the thing over the border doubles the cost. So, if
|> > you are living in the US, I wouldn't be griping too much about the extra
|> > cost. Just remember, it could be worse!
|> >
|> > Todd
|> >
|> > --
|> > Todd Nichols Bell Northern Research, Ottawa, Ontario (613) 765-3560
|> > tnichols@bnr.ca
|> > KB0HQU/VE3 BNR didn't say it; I did
|>
|> To where does one respond to subscribe?
|>
|> 73

QEX Circulation
American Radio Relay League
225 Main St.
Newington, CT 06111
USA

Rates:
ARRL member nonmember
in US $12 $24
US, Canada, Mexico 1st class mail $25 $37
elsewhere by surface mail (4-8 wks) $20 $32
elsewhere by airmail $48 $60

Todd Nichols Bell Northern Research, Ottawa, Ontario (613) 765-3560
tnichols@bnr.ca
KB0HQU/VE3 BNR didn't say it; I did

522. Re: Looking for toroid co

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 17:36:32 UTC
From: adams@chuck.dallas.sgi.com
Message-ID: <D3n4wx.1sE@odin.corp.sgi.com>
Source record: 114321

Tanner Electronics, Dallas, TX phone number is:

(214) 242-8702

In article <2a6.548.546@acenet.com>, brian.carling@acenet.com (Brian Carling) writes:
...snip snip...
|> Chuck do you have an address and/or phone number for this co.
|> please?
|> 72 de AF4K/3
|>
|> brian.carling@acenet.com
|
--

Chuck Adams K5FO CP-60 adams@sgi.com

523. Experiments to show intersetd 5 yr old

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 18:42:18 UTC
From: ddabay@ruacad.ac.runet.edu
Message-ID: <D3n7yI.2xB@ruacad.ac.runet.edu>
Source record: 114322

I have a fairly inquisitive 5 year old who is into experiments..
like baking soda and vinegar volcanos, candle flame under a jar, (oxygen
to burn)

I am looking for safe, simple experiments to show and do with him
about electricity, radio, xtals, etc....He may be too young for his
first crystal set, but what else is out there...

dave

--
Dave Dabay Telecommunications Engineer Supervisor KD3PC
Radford University Computer Services Internet: ddabay@esprit.runet.edu

524. Optimum stacking distance 2x6el 145MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 19:39:44 UTC
From: lakki@krksun.krk.fi
Message-ID: <1995Feb7.193944.269@krk.fi>
Source record: 114323

I have built a little yagi system, and all works great. The yagis are
well tuned and are quite broad-band. But the optimum spacing?!

Yagimax lists the best to be 0.5 wavelenght (100 centimetres) but all
other theories fight against it. The physical data for the yagis are:
boom 2.5m, elements insulated from boom and are above it, 6 elements.

Can you tell, bu theory or by experience, how much the spacing should be.
Replies via e-mail to lakki@krk.fi

/Erik
--
E r i k F i n s k a s O H 2 L A K
=---=
InterNet: Lakki@krk.fi -=- Sammalkalliontie 4 E 40
AX.25: OH2LAK@OH2RBJ.FIN.EU -=- FIN - 02210 Espoo 21
AmprNet: OH2LAK@OH2LAK.AMPR.ORG -=- GSM: +358-(9)40-500 6800
=---=
H A M R A D I O - T H E R E A L T H I N G

525. Re: Sources for frequency synthesizer kits ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 20:27:48 UTC
From: novatech@eskimo.com
Message-ID: <D3nCuD.2yy@eskimo.com>
Source record: 114324

Mike Franks <70712.1222@CompuServe.COM> writes:

>I do not know if you want to go PLL or DDS route. Phase lock loop
>info can be obtained from Motorola in Schaumburg, Illionois. They
>have lots of free technical advice, Aplications notes, etc. If
>you want to go DDS (Direct Digital Synthesis) there is a company
>in California (I can not find my notes but I think it is called
>Standard Telecom or something like that). These companys do not
>offer kits per se but have all parts available to do what you want.

Qualcomm and Analog Devices both have demo boards which can qualify
as "kits" for their parts.

Check with Novatech Instruments for DDS kits. See .signature below
to see why I am not an unbiased unobserver.

--
Steven D. Swift, P.E. (novatech@eskimo.com)
NOVATECH INSTRUMENTS, INC. 1530 Eastlake Avenue East, Suite 303
206 328 6902, FAX 206 328 6904 Seattle, Washington 98102 USA

526. Audio problem with HR2510/Lincoln

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 21:43:27 UTC
From: lakki@krksun.krk.fi
Message-ID: <1995Feb7.214327.1403@krk.fi>
Source record: 114325

Can someone help me with my HR-2510 ...

It makes a terrible POP sound when squelch closes and when you press the PTT.
And when you talk on AM or SSB your speech can be heard from the loudspeaker

Have anyone faced the same problems? I am using this radio with a transverter,
it works fine! Only these small details bother me.

Mail to lakki@krk.fi

/Erik
--
E r i k F i n s k a s O H 2 L A K
=---=
InterNet: Lakki@krk.fi -=- Sammalkalliontie 4 E 40
AX.25: OH2LAK@OH2RBJ.FIN.EU -=- FIN - 02210 Espoo 21
AmprNet: OH2LAK@OH2LAK.AMPR.ORG -=- GSM: +358-(9)40-500 6800
=---=
H A M R A D I O - T H E R E A L T H I N G

527. Re: Mixers.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-07 23:12:55 UTC
From: dbashaw@synoptics.com
Message-ID: <3h8upn$437@inn.synoptics.com>
Source record: 114336

While on the sublect of mixers. Some specs list the power
delivered to the port in dbm. If 0 dbm is 1mw @ 50 ohms
then would 3dbm be 2mw @ 50 ohms. I'm interested
in computing the rms volts to develop n-dbm into 50
ohms for the mixer i'd like to use.

Thanks in advance for any sage advice.
Dave wa6qwl

528. Re: Looking for Thin Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 00:16:07 UTC
From: alanb@sr.hp.com
Message-ID: <3h92g7$7cr@canyon.sr.hp.com>
Source record: 114326

Brian Arsenault (arsenaul@emc.com) wrote:
: Hi everyone...

: I am looking for a source for some very thin bare wire...No insulation
: needed...The size that I am looking for is in the range of .003"-.005" (That's
: no typo, three to five THOUSANDTH's of an inch)...Not needed in huge
: quantity...Just trying to find a source to get it at...Please let me know
: via E-Mail...Address is at the bottom...Thanks a bunch...

Lessee, that would be about #36 to #40 or so. I think the wire used
on TV deflection coils (that mount on the CRT neck) is in that range.
If you can scrounge one from a defunct TV, the price would be right :-)

AL N1AL

529. Looking for good design program to help with eliptical filters...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 00:21:34 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <3h92qeINN4si@sepia.wv.tek.com>
Source record: 114327

Hi,
I'm looking for programs or pointers to help with the design of eliptical band-pass filters for the HF regions. I have similar programs for the 7 element Chebyshevs, etc. but I really want to model the 5 element (7 component) eliptical filters. I have looked at the Amateur Radio Handbook(s), but would like to understand the math behind the design, rather than looking up the values and extrapolating from a table. Anybody else brewing their own filters for rigs? Any pointers would be appreciated. So far, I have not found an ftp site with any programs for doing this.

P.S. I used to be an S transform and Laplace kind of guy, but have forgotten most of what I learned, hence my desire to understand the math again.

Thanks,
Ed Burress
KC7GFX

530. WANTED: MANUAL FOR HICKOK OCSILLOSPOPE, MOD.677

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 01:00:17 UTC
From: radio@postoffice.ptd.net
Message-ID: <D3npGI.F4A@postoffice.ptd.net>
Source record: 114328

If anyone has a manual for the Hickok oscilloscope Model 677 please
contact me at radio@postoffice.ptd.net.
I need schematics in order to repair. Any reply would be greatly
appreciated.....73...N3MXG

531. Fwd: NN1G SW 30-40 KIT REVIEW...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 02:18:44 UTC
From: N5EM@aol.COM
Message-ID: <950207211834_15613787@aol.com>
Source record: 114329

Thought this might be of interest to those looking for kits. I am still going to post a list of suppliers for builders to have, but this are typical of some of the QRP oriented kit reviews that are posted on the QRP-L list. If you find this interesting and useful, let me know and I'll get some of the others and forward them to the ham-homebrew.

Ed Manuel - N5EM
n5em@aol.com
Houston, Texas

QRP - Its a state of mind, not just a power level.

QRP ARCI #4914, G-QRP #1243, NORCAL #498

Forwarded message:
From: davidgb@bnr.ca (david (d.) burniston)
Sender: owner-qrp-l@netcom.com
To: qrp-l@netcom.com
Date: 95-02-07 02:26:20 EST

Hi...

As a result of the article in QST, November 94 and some of the comments on the QRP-L mailing list, I decided to order the 30M version of Dave's (NN1G) transceiver. I sent my money order in in late November and received my kit on the Dec 29.

I opened the large envelope and found a PCB (silkscreened and solder masked), manual, bag of parts and 4 small envelopes with the additional parts that could be easily confused if mixed in with the rest. One envelope had the FTXX-43 cores and another the FTXX-61 cores (these are not color coded so are difficult to tell apart). Another envelope had the wire for winding the toroids and the zener diodes (taped to a sheet and labelled).

I read through the manual to get an overview before starting to build the kit. I followed the described sequence for putting the parts on the board. The quality of the board was very good and all the parts went on without any trouble, with one exception - the small variable capacitors had one lead wider than the other and wouldn't fit through the hole. I had to enlarge two holes on the board.

Annoyance number 1 was the parts list/silkscreen. The parts list doesn't give values for the resistors as these are marked on the board overlay in the manual, but parts designators aren't marked on the silkscreen. There was also one error on the silkscreen - C1 is labelled

as C2.

Annoyance number 2 - the IC's were loose and wrapped up in a piece of aluminum foil - not in foam. Two of the IC's had the pins bent right over. This can be a real problem if you're not very careful straightening them out.

The board took about 4 hours to get assembled. Next I had to make a trip to Radio Shack to get the potentiometers required for the tuning and RF gain control.

I did a visual inspection of the board after cleaning it with flux remover, measured the resistance from the IC power pins to ground to make sure there were no major shorts, plugged in the IC's and head phones and turned on the power. No smoke!

The instructions say to use your main HF rig with the power cranked down into a dummy load as a signal source to align the receiver. Having just aquired a signal generator good down to .1 uV, I decided to use it. I hung a short wire off the antenna lead of the transceiver and put a clip lead on the sig. gen. output. I swept the generator from 9 - 11 MHz until I heard the signal in the qrp rig. The receiver worked!

Using my TS430 receiver I confirmed the generator signal - 9.7 MHz. I removed 1 turn from L1 and this put me up to 10.107 MHz. I added a 27pF NPO across L1 as indicated in the instructions and got it to tune 10.1 MHz at the low end of the tuning range.

I followed the instructions to peak up the TX filter but when I tried to adjust R6 to bring the RF up to 1.5W, all I could get was 200mW. With power meter in line, I keyed the TX and adjusted the filter again. I was able to get 1.5W but I lost the sidetone. A quick check with the scope showed RF in the audio. I suspected pickup by the audio amp leads, so I moved them about, but the problem persisted.

I sent an e-mail to Dave, NN1G asking about this problem. While waiting for a reply, I added RG174 from the board to the ANT connector, and ran twisted pair for the key and audio out lines. This time the rig peaked right up at 1.5W and the sidetone was fine.

The next day I got a reply from Dave indicating that RF pickup was the likely cause... thanks Dave - it's great to be able to get assistance direct from the designer!

The receiver works quite well (once I realized that 30M is dead in the evenings at this time of year!). The 2 crystal filter isn't as good as the filter in my NORCAL40 and I can hear a bit of the other sideband when tuning through strong stations, but just barely. Tuning is smooth, although non-linear, but this is expected with a simple varactor circuit.

The lack of AGC could take some getting used to, but being used to Direct Conversion receivers this wasn't really a problem for me - and

there's none of the problems associated with audio-derived agc. I used headphones with an in-line volume control to make life a bit easier.

About the biggest complaint I have with the kit is that the designators for resistors aren't shown on the parts overlay, they're shown by value. The other components have the designators shown. I was trying to locate a specific resistor to take some measurements. I found the one I wanted on the schematic, but had to trace it back from a labelled component. A minor annoyance.

Would I recommend the kit?

You bet! All of the parts were there, it went together easily and worked right off (once I cleaned up my act with cabling), and it works well.

You have to pay the extra cost of the 2 potentiometers, an antenna connector and connectors for a key and headphones, plus a case. This could boost the cost by about $25 if you need to buy them, but it is still one of the least expensive kits you can get, and you can customize the case the way you like.

Now I'm just waiting till I have some time during the day, when 30M is active so I can have some QSO's!

... Dave

==========
Dave Burniston, Bell Northern Research Ottawa, ON Canada
VE3LFO ph.(613) 765-3579
NORCAL 434 *** All opinions are strictly my own. ***

==========

532. Re: Optimum stacking distance 2x6el 145MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 02:45:22 UTC
From: jdevenport@lanl.gov
Message-ID: <3h9b82$qir@newshost.lanl.gov>
Source record: 114330

In article <1995Feb7.193944.269@krk.fi>, lakki@krksun.krk.fi (Erik Finskas) says:
>
>
>I have built a little yagi system, and all works great. The yagis are
>well tuned and are quite broad-band. But the optimum spacing?!

>Can you tell, bu theory or by experience, how much the spacing should be.
>Replies via e-mail to lakki@krk.fi
>
>/Erik
Erik, the "rule of thumb" I've read in and believed in is found in the
old ARRL VHF handbook. However long your booms are is a good basic
stacking distance.... you want their patterns to combine and not take
away from each other. Theoretically the farther apart you stack them the
higher the gain but the pattern really gets weird if you separate them too
far.
73,
Jim Devenport WB5AOX
".... The Christian Principle has not been tried and found wanting......
It has just not been TRIED."

533. Re: Ray Jefferson Marine radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 02:59:54 UTC
From: Ben Pooley <bpooley@fox.nstn.ca>
Message-ID: <92033.bpooley@fox.nstn.ca>
Source record: 114331

Sy,
Have copy of schematic/parts list and brief alignment instructions for Ray Jefferson 1425, which seems to be a 12 channel radio with separate TX and RX boards, but I don't know if it would be similar to your 1025.
If you would like a copy just let me know your mailing address.
73,
Ben, VE1AHX
--
Ben Pooley Allendale Electronics Limited
bpooley@fox.nstn.ca

534. TDA7000 FM radio on a chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 05:38:28 UTC
From: Jerilyn@primenet.com
Message-ID: <Jerilyn.17.032A7F57@primenet.com>
Source record: 114332

If the gentleman looking for this chip is still looking, I have about a dozen that I would be willing to part with along with Phillips docs and misc. application notes as well.

Jerilyn

535. Re: Looking for Thin Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 08:14:07 UTC
From: drted@ix.netcom.com
Message-ID: <3h9ugf$g4s@ixnews2.ix.netcom.com>
Source record: 114350

In <arsenaul.411.000A16EE@emc.com> arsenaul@emc.com (Brian Arsenault)
writes:

>
>Hi everyone...
>
>I am looking for a source for some very thin bare wire...No insulation
>needed...The size that I am looking for is in the range of .003"-.005"
(That's
>no typo, three to five THOUSANDTH's of an inch)...Not needed in huge
>quantity...Just trying to find a source to get it at...Please let me
know
>via E-Mail...Address is at the bottom...Thanks a bunch...
>
>Brian Arsenault
>EMC Corporation - The Storage Architects
>arsenaul@emc.com
>

In Houston, TX, Ace Electronics has some surplus .0013" aluminum wire on
short spools. There number is 713-688-8114. Of course this wire makes
your request look look coat hangers. Hmmm, I think they also had some
platinum wire in the size you are looking for. At only $4.95 for 25
feet. I might have given you a real lead after all...
Bye... Ted..

536. [help] software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 09:46:08 UTC
From: vecoven@montefiore.ulg.ac.be
Message-ID: <1995Feb8.094608@micro6.montefiore.ulg.ac.be>
Source record: 114351

Well, a friend who has no access to internet asked me to post this
message.

He is building his own receiver (as he told me, a very special
beast which can receive lots of stuff). His problem is that he
can receive meteo maps and news facsimiles. He is looking for
software which could decode the received data.

Can somebody help me and point me to this soft (if it exists !) ?

-Fred

--
__/ __/ ***
(@@) (@@) * Frederic Vecoven - Researcher *
//||\\ //||\\ * Department of microelectronics *
* Institut Montefiore B28 - 4000 Liege *
__/ __/ __/ * University of Liege - Belgium *
(oo) (oo) (oo) * Phone: (32)-41-662631 Fax: (32)-41-662950 *
//||\\ //||\\ //||\\ * *
* E-mail : vecoven@montefiore.ulg.ac.be *
FIGHTER CAPTURED ! * http://www.montefiore.ulg.ac.be/~vecoven/ *
****

537. Re: The ULTIMATE in long distance QRP (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 10:06:06 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <3ha52e$efd@proffa.cc.tut.fi>
Source record: 114352

Glenn Elmore (glenne@sr.hp.com) wrote:

> Kein{nen Paul (k23690@proffa.cc.tut.fi) wrote:

> : IMHO, it might be easier to first take the FFT of the signal before any
> : further processing. The doppler sidebands could be easily included
> : to improve the SNR. This way it would also be easier to extract some AFC
> : signals to compensate for the crystal drifts during the long transmission
> : time. Thus, the IF bandwidth could be reduced, when you do not have to
> : allow for the drift.

> Paul,
> I'm interested to know how the sidebands could be *easily* included?
> It seems to me that, in general, their correlation with the carrier is
> a very complex thing.

Sorry, bad choise of words. I should have said: In frequency domain,
it is easier to handle the noise sidebands than in time domain.

I was thinking of a system like this for ultra low speed reception:

- use 1 to 2 kHz IF bandwidth and digitise the signal
- take FFT a few times a second and store spectra
- try different drifts by shifting the spectra and sum them
- locate the signal frequencies (FSK) from the best sum spectrum
- fine adjust the drift and calculate new sum spectrum
- determine the spreading of the both FSK tones
- use this bandwith for further processing
- establish bit (chip) synch
- do normal spread spectrum processing

With enough memory to store a few minutes of signal or spectra, there is
no need to send long preambles to synchronize the receiver, since as
soon as the receiver has determined the actual drift and tone spreading
from the beginning of the message, the receiver can quickly catch up.

Other statistical analysis could be done to the spectra e.g. to detect
local interference (with different statistical properties than the
wanted distant signal).

In radio astronomy (and appearantly also in SETI) much work has been done
to detect weak (more or less) broadband noise sources and also to keep
out any man-made nose sources from the measuremnts, so I suggest that
if someone is seriously trying to build an ultra low speed link to
check the modern radio astronomy litterature.

> That is, they may be generated by a large number of
> paths. In the case of EME and uhf/microwave terrestrial communication over
> non-LOS paths, I think this is the case.

No, I don't know how to coherantly add these signals together.

> Is there an easy way to remove the spreading caused by these complex
> paths?

With only a few discrete paths and sufficiently high chip rate, you could
lock multiple "receivers" to each discrete reflection and add the baseband
signals.

As strange as it might sound, the received EME signal has similar
properties as the the signal from a car moving on a street received
on a fixed base station. As there is usually not a direct path between
the car and the signal propagates via reflecting surfaces, some are
in front of the moving car and some behind it. Consequently, different
reflections are getting different doppler shift broadening the received
spectrum. This random FM is detectable at road speeds above 1 GHz.
A similar spectral broadening is experienced by the EME signal reflected
from different (east and west) parts of the moon moving towards or away
from us due to lunar libration.

A good treatment of random FM can be found in Jakes William C. jr.:
Microwave mobile communications (New York, Wiley 1974). There was
also a description of a complex system to combat random-FM with
an unmodulated pilot tone close to the actual signal, but I did
not study it in more detail.

Paul OH3LWR

--
Phone : +358-31-213 3657 Mail: Hameenpuisto 42 A 26
Internet: Paul.Keinanen@cc.tut.fi FIN-33200 TAMPERE
Telex : 58-100 1825 (ATTN: Keinanen Paul) FINLAND
X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

538. Re: GAMMA or T Match on YAGI: HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 13:09:11 UTC
From: zlau@arrl.org
Message-ID: <1995Feb8.130911.15851@arrl.org>
Source record: 114335

white@julian.uwo.ca wrote:

: I'm trying to build a 3 or 4 element YAGI but I'm having trouble with
: matching the impedance of the antenna to the line. I don't care how I do it,
: but the simples ways seem to be using a Gamma or T-Match.

: I only do listening, which means I don't have a transmiter to check the SWR of
: the antenna. (at least I don't think I can with my current equipment) This
: is the root of all my problems because the ARRL and most other books assumes
: you can find standing waves on the antenna.

There is a device known as a noise bridge that can be used in conjunction
with a receiver to measure impedance. The receiver is used as a null
detector--it indicates that the bridge is balanced.

: I don't understand the purpose of the Gamma rod or the T rods shown in figure
: 37, 17-17 of the ARRL. (wait: are they an easy way to keep the distance x (
: the space between the antena and the line) constant? If so should the rod
: come to the centre of the antenna? Does the total length of the rod matter?
: ie. The book refers to the rods as being adjustable, does this mean the length
: of the rod is adjustable, or the position on the antenna is adjustable?)

You can vary all these factors to obtain a match. The process is largely
experimental--the calculations are a very rough starting point, in my
experience. However, I've not been able to replace the equations with
better ones.

The easiest way to match a yagi is to split the element and use a
transmission line matching section to match it.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

539. Wanted: Copy April, 1990 CQ Magazine Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 14:47:57 UTC
From: Waltk@pica.army.mil
Message-ID: <9502080947.aa20796@COR5.PICA.ARMY.MIL>
Source record: 114346

Howdy. I'm looking for a copy of an article that appeared
in the APRIL 1990 CQ Magazine. The article was about a
160M Linear Amplifier. If you have this issue I would
appreciate your assistance in making a copy. I will pay for
any postage & duplication costs. Many Thanx & 73 de K2WK

.....
73 de Walt Kornienko - K2WK Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM Packet: K2WK@N2ERH.NJ.USA.NOAM
Snail: 52 Sunset Inn Road Lafayette, New Jersey 07848
Work: 201-724-3158 Home: 201-579-1966
---

540. Dielectric grease

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 15:05:50 UTC
From: Waltk@pica.army.mil
Message-ID: <9502081005.aa28242@COR5.PICA.ARMY.MIL>
Source record: 114347

I'm in the process of making my own connectors for 75 ohms CATV hardline. I want to use threaded copper plumbing reducer fittings. Three quarter inch fittings are the right size. At the "reduced" end I silver solder a barrel connector. The center pin gets attached to the center conductor of the cable.

There is one problem and that is that the fittings and the hardline are of dissimilar metals (Al & Cu). I understand there is a compound that is effective in preventing corrosion/oxidation and the accompanying "diode" effect that develops due to the dissimilar metals used.

Does anyone know where I can find dielectric grease, which is designed for just this type of application.

Many thanx for taking the time to read this. 73 de Walt - K2WK

.....
73 de Walt Kornienko - K2WK Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
---

541. Re: Experiments to show intersetd 5 yr old

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 16:49:41 UTC
From: george@news.epix.net
Message-ID: <3hasn5$i05@grape.epix.net>
Source record: 114337

How bout a led attached to a D sized alkaline battery? Tell him to watch it and let you know when it goes out? That oughta keep him busy for a year or so.
My Dad made me something he called a blinky when I was little using a NE2 Bulb you could do the same with LEDs and a 555 timer

How bout making light with no electricity? Run a little saran over a flouresent bulb in the dark.

The lod knife switch and dry cell and light bulb make for hours of fun.
How bout a little DC motor? With a Mesmerdisk on the spindle?

Build that crystal set!

Fun with sparkcoils? Big sparks! Burning wood.

Look in the kids section of the library under electricity Lots of scout books and stuff.

And if all else fails tie a 1" square of red cloth to the end of a string. Tie about 5 ft of the string to the end of a stick. Dangle the cloth in front of a frog and he will try to eat it! And then he can't spit it out cuase his mouth is sticky. You can jerk him from the pond and catch him. Now this has nothing to do with electronics but 5 year old boys love doing it.....and so do I!
GC Father...Grandfather....Ham operator

Dave Dabay (ddabay@ruacad.ac.runet.edu) wrote:

: I have a fairly inquisitive 5 year old who is into experiments..
: like baking soda and vinegar volcanos, candle flame under a jar, (oxygen
: to burn)

: I am looking for safe, simple experiments to show and do with him
: about electricity, radio, xtals, etc....He may be too young for his
: first crystal set, but what else is out there...

: dave

: --
: Dave Dabay Telecommunications Engineer Supervisor KD3PC
: Radford University Computer Services Internet: ddabay@esprit.runet.edu

--
****
* George Cook AA3JU Bangor, PA FN21 *
* george@peach.epix.net AA3JU@N3IQD.EPA.USA.NA *
****

542. Re: Mixers.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 18:37:36 UTC
From: tomb@lsid.hp.com
Message-ID: <D3p2Ep.67u@hpcvsnz.cv.hp.com>
Source record: 114338

David Bashaw (dbashaw@synoptics.com) wrote:
: While on the sublect of mixers. Some specs list the power
: delivered to the port in dbm. If 0 dbm is 1mw @ 50 ohms
: then would 3dbm be 2mw @ 50 ohms. I'm interested
: in computing the rms volts to develop n-dbm into 50
: ohms for the mixer i'd like to use.

Yep. Or you can just calc the volts for 1mW @ 50 ohms = .2236VRMS, and multiply (or divide for negative dB) that voltage by 1.41 for 3dB or 2 for 6dB or 3.16 for 10dB or 10 for 20dB. So +46dB would be *10, *10, *2, for 20+20+6dB. And +17dB would be *10, /1.41 for +20-3dB. So +17dBm is .2236VRMS*10/1.41 = 1.58VRMS. These rules of thumb can be useful when you don't have a calculator (or table of logarithms! ;-) handy.

543. Re: Optimum stacking distance 2x6el 145MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 18:58:32 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <76928491wnr@ifwtech.demon.co.uk>
Source record: 114355

In article: <3h9b82$qir@newshost.lanl.gov> jdevenport@lanl.gov (Jim Devenport) writes:
:
: In article <1995Feb7.193944.269@krk.fi>, lakki@krksun.krk.fi (Erik Finskas) says:
: >
: >
: >I have built a little yagi system, and all works great. The yagis are
: >well tuned and are quite broad-band. But the optimum spacing?!
:
: >Can you tell, bu theory or by experience, how much the spacing should be.
: >Replies via e-mail to lakki@krk.fi
: >
: >/Erik
: Erik, the "rule of thumb" I've read in and believed in is found in the
: old ARRL VHF handbook. However long your booms are is a good basic
: stacking distance.... you want their patterns to combine and not take
: away from each other. Theoretically the farther apart you stack them the
: higher the gain but the pattern really gets weird if you separate them too
: far.

The optimum stacking distance depends on what you want from the array.
As you move the antennas farther apart, the gain increases and goes
through a maximum; but you always get extra sidelobes due to stacking
antennas, and these will continue to grow as you increase the spacing
(as Jim says, the pattern gets weird).

If you want maximum gain, you'd stack the antennas farther apart than
if you want to keep a clean pattern.

How these two factors balance out will depend on the actual antennas.
There is NO rule of thumb that is valid for all antennas. The old
ARRL VHF Handbook says: "As a rule of thumb, the minimum desirable
spacing is one-half the boom length..." - but that was written more
than 30 years ago.

That book used to be my "VHF bible", and it still contains some good
information; but I think Ed Tilton would be shocked if anyone was still
following his dictates blindly, and ignoring what we have learned since.

As always, the difficulty is to decide which pieces of old knowledge to
keep, and which to discard. Most 1960s yagi designs and the "rules"
about stacking fall into the latter category.

If you have Yagimax or any other program that will make computations
of the patterns and gain of your actual antennas, believe the results.
Computer programs aren't perfect, but in this area they are better than
any gain and pattern measurements that we amateurs can make.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

544. Packet Radio-Internet gateways

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 19:17:03 UTC
From: bon@paradox.win.net
Message-ID: <216@paradox.win.net>
Source record: 114339

I heard about the ARRL automated mail server at the beginning of
the year. I do not know about the number of gateways available in
the states now. Probably the land BBSs specificaly for Hams will
provide the gateway. I like to receive more imformation about this
subject: technicall disposition, actual suppliers...
Thanks, JB

--
bon@paradox.win.net (Joaquin Bonilla, Forest, MS, USA)

545. 12 VDC -> 110 VAC inverter plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 19:22:41 UTC
From: little@pecan.enet.dec.com
Message-ID: <3hb5m1$5hl@jac.zko.dec.com>
Source record: 114340

I'm trying to find plans for a 12 VDC to 110 VAC inverter. I'd like to build something that can handle a 1/3 HP sump pump (6-8 amp). Any suggestions on where to find plans or even partial designs?

73,
Todd
N9MWB

546. Re: The ULTIMATE in long distance QRP (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 19:32:39 UTC
From: walker@opus.hpl.hp.com
Message-ID: <D3p4yF.ED6@hpl.hp.com>
Source record: 114341

Kein{nen Paul (k23690@proffa.cc.tut.fi) wrote:

: The nasty thing is that usually part of the medium is moving
: towards you, while other parts are moving away from you and thus,
: you have both positive and negative doppler shifts simultaneously,
: i.e. there are sidebands around a carrier.

Thats why I proposed a broadband IF power detector. The sidebands are
supposed to fit within the proposed IF, and so are properly accounted
for. The trade-off with my simple scheme is the extra atmospheric noise
that is allowed in by the wider BW.

: > For simplicity, I'm assuming that the receiver and transmitter are
: > aligned in frequency to 50ppm (garden variety XTAL tolerance).
: Garden variety crystals are usuallu specified at +/- 50 ppm, so the
: worst case difference between transmitter and receiver is 1 kHz.

I'm assuming a precision transmitter and a cheap, in-the-field receiver.
That's how I got the 500Hz variation instead of 1kHz.

: > If we
: > send a CW signal, at one random pulse per second, then we can send about
: > 1e6/(50*10)=2000 bits before our receiver will drift 10% out of bit
: > synchronization with the transmitter. This allows us to average 2000
: > bits to reduce the channel noise by 10*log(2000) = 33dB.

: IMHO, using OOK is out of the question, as we would have to adopt similar
: principles as in a Dicke radiometer, switching rapidly between the antenna
: and a 300 K noise source (a 50 resistor) to compensate for receiver gain
: variation. And while the signal strength and band noise constantly varies,
: there are a great difficulty of settting the threshold at the final
: detection. A much better system is to use some kind of FSK transmitter,
: which constantly sends one of two (or more frequencies). If you take
: the FFT of the received signal, you can take the _difference_ between
: the signal strengths in different bins and thus compensate for the
: variation of background noise.

I think On-Off-Keying (OOK) works fine. I am not trying to set a
threshold for any given bit. I only linearly integrate them over time.
The rapid switching is done by comparing the average of the Off
intervals (pure channel noise) with the average of the On intervals
(noise + signal).

The idea is to chop the incoming signal at a rate that is faster than
the receiver gain variations. The bins that contain signal power get added
into the integrator, while the bins without signal power get subtracted.
With a 50% duty cycle on the spreading code, this causes the

uncorrelated background noise power to decrease as sqrt(N), while the averaged signal power component grows as (N). This gives a S/N improvement of N/(sqrt(N)) = sqrt(N). This is not affected substantially by slow gain changes. An appropriate AGC with a time constant of several bit times is sufficient to stabilize the system gain.

I do agree, though, that FSK would be a better use of the transmitter power. You get twice the transmitted energy since you never turn the transmitter off. I would implement this as two IFs (one for the upper tone, and one for the lower tone). Each IF power detector would be correlated as originally described: one with the same spreading pattern, and the other with the complement of the spreading pattern.

If you carefully read the pseudo-code in the original post, you'll see that the only clever bit is a way to avoid a-priori synchronization of the despreading code. By averaging the power-samples (modulo the sequence length) into a RAM, you can defer the de-correlation until later (when the SNR is greatly enhanced by the averaging process).

: IMHO, it might be easier to first take the FFT of the signal before any
: further processing. The doppler sidebands could be easily included
: to improve the SNR. This way it would also be easier to extract some AFC
: signals to compensate for the crystal drifts during the long transmission
: time. Thus, the IF bandwidth could be reduced, when you do not have to
: allow for the drift.

This would be a good (although complex) way of reducing the effective power, and would probably out-perform my simple power-correlating proposal. There are several algorithms (extracting AFC, drift compensation, sideband identification vs noise, etc) that need more elucidation before it would be a realizable system.

--
Rick Walker
WB6GVI

547. Re: 6M SSB/CW radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 19:51:42 UTC
From: cmassey@onramp.net
Message-ID: <cmassey-0802951451420001@dal15.onramp.net>
Source record: 114342

In article <560_9502010108@trisoft.com>,
Jeff.Okleberry@f1.n328.z1.fidonet.org (Jeff Okleberry) wrote:

> From: jeffo@io.SLC.Unisysgsg.COM (Jeff Okleberry)
> Date: 27 Jan 1995 11:45:27 -0600
> Message-Id: <9501271745.AA10960@io.slc.unisysgsg.com>
>
> I'm am looking for manufacturers of 6M radios or 6M radio kits which
> are SSB/CW capable. I'm interested in something along the lines of a
> Ramsey FX-50, small, basic, and not too expensive. I want to drag it
> to the top of mountains on my back. Responses by E-mail would be greatly
> appreciated since I don't usually read this news group.
>
> Jeff Okleberry, N7QYN
>
> jeffo@syseng.slc.unisysgsg.com
> "If pro is the opposite of con, is Congress the opposite of progress?"

Jeff...
Currently the 6 mtr. world is handicapped by a lack of gear...small and portable and ssb/cw would leave only th Yaesu FT-690...around $700 new and $400 used. Or the Kenwood TS-60...about $1000 new...how about building or buying one of the little QRP rigs for 20 mtrs., (MFJ comes to mind) and then adding the Ten-Tec 6 mtr. transverter kit...it's only $95 and works great...you will only get around ten watts out for the 5 you put in, but to a small beam should be the ticket...just depends how much stuff you want to include on your trek. I just found a 690 used here in the internet and can't wait to get it and use it for much the same thing.

cul...cleve

548. Re: FeCL3 replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 20:49:34 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <792276574snz@lfheller.demon.co.uk>
Source record: 114343

In article <M1g8+wytBjb@banyan.dgim.doc.ca>
Tony.Komljanec@banyan.dgim.doc.CA writes:

> A lot of good chemical discussion recently on Ferric Chloride for board
> etching.
>
> I have some Ammonium Persulphate (?) we used in school, that is in crystaline
> form. We had to mix with water and heat it to get it to react with the
> board, but it was certainly a lot cleaner, thinner, and non-staining,
> compared to Ferric Chloride. Why isn't this stuff sold at Radio Shack, et
> al? It seems much more convenient to use (and sell) in its powder state.
> Are there environmental concerns with it? Is it more expensive?

I used to use it many years ago. It works a lot better if you add some
salt. The downside is that chlorine gas is given off. I remember reading
that mercuric chloride is even better than salt, but that is *very* toxic.

I would use it in preference to FeCl3 if I could still get it.

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

549. Re: Mixers.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 22:48:05 UTC
From: sherwood@oribi.cig.mot.com
Message-ID: <3hbhn5$odv@delphinium.cig.mot.com>
Source record: 114344

In article <3h5ie0$pn3@abyss.West.Sun.COM> myers@Cypress.West.Sun.Com writes:
>In article 16hi@info4.rus.uni-stuttgart.de, moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>>I am working on a 2 meter SSB transceiver.
>>>
>>
>>The SBL1 requires 5mW into 50 Ohms, which makes it 1.4V peak-to-peak.
>>A catch is, that it requires 50 Ohms termination also for the unwanted
>>mixing products, i.e. so called diplexers.
> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
>

I have a related request. I would like to build a 2m to 10m receive converter. I have already build and tinkered with a hamtronics one that works, but I'm not satified with the performance. I am particular disappointed with the fact that the LO is highly present at the antenna, about -35dbm according to a HP spectrum analizer. Since I am not an RF engineer, I do not have the ability to design one (probably not the time either), can someone point me to a good design or kit? I have envisioned one with a good RF amp, a good mixer to solve the above problem, and an IF amp to solve some of the problems that Dana mentioned.

Thanks
Chuck Sherwood
sherwood@cig.mot.com

--
Chuck Sherwood
sherwood@cig.mot.com
708-632-7078

550. Looking for tube socket.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-08 23:22:05 UTC
From: brian@telex1.telex.mn.org
Message-ID: <D3pFKu.Fs4@telex.mn.org>
Source record: 114345

My dad is building an old receiver that he built when he lived in Europe as a child. That receiver used an EF50 tube. That tube has a 9 pin loctal socket that he needs. This socket is slightly larger than the 8-pin octal socket in the US, and the tube has smaller diameter pins too.

Any help would be appreciated as my dad would really enjoy getting this receiver built again.

Thanks, and 73's

Brian

--
Brian K. Teravskis | Internet: brian@smedley.telex.mn.org
Telex Communications, Inc | ARS : WD0EFL
Bloomington, MN 55420 |
612-887-7483 |

551. Re: [help] software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 03:29:31 UTC
From: paul@docs.dgsys.com
Message-ID: <3hc26r$5fr@news.dgsys.com>
Source record: 114364

Frederic Vecoven (vecoven@montefiore.ulg.ac.be) wrote:

: His problem is that he
: can receive meteo maps and news facsimiles.

Meteo maps? Can you explain?

552. Re: Looking for Thin Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 04:33:06 UTC
From: ballnt@aztec.inre.asu.edu
Message-ID: <3hc5u2$ram@news.asu.edu>
Source record: 114357

In a previous article, drted@ix.netcom.com (Ted Viens) says:

>>I am looking for a source for some very thin bare wire...No insulation
>>needed...The size that I am looking for is in the range of .003"-.005"
>(That's
>>no typo, three to five THOUSANDTH's of an inch)...Not needed in huge
>>quantity...Just trying to find a source to get it at...Please let me
>know
>>via E-Mail...Address is at the bottom...Thanks a bunch...
>>
>>Brian Arsenault
>>EMC Corporation - The Storage Architects
>>arsenaul@emc.com
>
0.005" is AWG 36, that is a very common size for magnet wire. When I worked
for Rea Magnet Wire we regularly made AWG 60. You should be able to find AWG
36 in the Newark Electronics Catalog or any other electronic supply house.
Radio Shack probably carries AWG 36 magnet wire, also.
--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

553. Re: CD changer FM transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 04:33:10 UTC
From: Jeff.Steinkamp%f10.n101.z88@fluxline.mi.org
Message-ID: <792520354.AA00850@fluxline.mi.org>
Source record: 114348

-=> Quoting David Paul Yeske to All <=-

DPY> From: dyeske@st6000.sct.edu (David Paul Yeske)
DPY> Date: 23 Jan 1995 08:23:53 GMT

DPY> I have seen car CD changers that had a many FM stereo transmitter so
DPY> that you could keep your CD changer safe in your trunk while tuning in
DPY> to your CD's. I have a car radio (no tape) and a portable CD player.
DPY> I am sure I could build or buy a small FM stereo transmitter to hook
DPY> up to the earphone jack of the CD player so I can hear it through the
DPY> car's speakers. Is there a basic schematic to build this or do I need
DPY> to order a kit? If so what would be the best kit for this situation?
DPY>

David
Check out a company called Ramsey. They have a number of kits you
can build including a mini stereo FM tranmitter that puts out about
100mw. The advertise in all the Ham Radio Journals along with
Popular Electronics and a few other electronic mags. Good Luck.

... Back up my hard disk? I can't find the reverse switch!

554. Re: a little fantasy, QRP from Mt. Logan

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 04:41:31 UTC
From: billh.computek.net
Message-ID: <3hc6dr$7iu@ns1.computek.net>
Source record: 114349

> >The coolest thing would be a mod to an existing
> >CB unit that could allow it to send/rcv cw on 80 meters.
>
> Does not sound a good idea to me. You would have to rebuild most of it.

> 73, good luck, Moritz DL5UH
>
>>>>
A 20 meter C.B. is possible, I have done it with a Uniden PC122 ssb cb. Lots of work and not for
the beginner, but it is possible. I think 15 and 40 meters are possible also. 80 meters would
require some major engineering.

Bill H. N5HNN, in Dallas

555. Re: Connection of FET

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 09:06:18 UTC
From: wolters.pad@sni.de
Message-ID: <3hclua$2ep@news.sni.de>
Source record: 114354

In article <D3D3F0.4wv@baan.nl>, jmaas@aston.baan.nl (Johan Maas) says:
>
>Hello all,
>
>
>Do anyone no the connection of the fet E310.
>
>
>Thanks in advance
>
>73 the Johan PA3GSB
>
>
Hi, Johann

The E310 is an old n-channel JFET made by Siliconix.
They stopped production 15-20 years ago. The replacement
for that type is J310 made by the same company.
I remember that your device is housed in a ceramic
package with a black top, while the new version are
in TO92 black plastic case. A S S U M I N G analogy
in pin counts in both types pin numbers looking from
bottom left to right is 1 2 3,when leads oriented
like a roof (triangle up)than:
pin 1 is gate
pin 2 is source
pin 3 is drain according to my data sheet of J310.

73 de Gerd DJ6YB

556. Will copper etchant dissolve stainless steel?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 09:27:20 UTC
From: VFONG@GMR.COM
Message-ID: <VFONG.66.0024A2DF@GMR.COM>
Source record: 114361

Hi,

I was wondering is copper etchant will dissolve stainless steel. I want to use an aquarium pump to circulate the etchant, but the shaft is made of stainless steel.

Vince, KB8WQZ

557. <ad> GUARANTEED CREDIT REPAIR BY LAW FIRM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 10:47:12 UTC
From: ccapc@cyber.sell.com
Message-ID: <3hcrrg$o7i@panix.com>
Source record: 114353

Consumer Credit Advocates, PC
11 Pennsylvania Plaza, Suite 2101
New York, NY 10001
(212) 629-5261 (telephone) (212) 629-4762 (fax)
E-MAIL: ccapc@cyber.sell.com

Our LAW FIRM offers direct guaranteed effective credit restoration services by experienced attorneys. THIS IS NOT A DO-IT-YOURSELF KIT.

What can we do?

We have successfully facilitated the removal of Late Payments, Charge-offs, Foreclosures, Repossessions, Collection Accounts, Loan Defaults, Tax Liens, Judgments and Bankruptcies from our clients' credit reports. WE GUARANTEE THAT YOUR CREDIT CAN BE RESTORED!!!

Who needs our services?

Anyone who has experienced the inconvenience and embarrassment of being turned down for a credit card, a lease or a purchase of an automobile.

Anyone who is unable to buy the house of their dreams due to denial of a mortgage application or who has to pay thousands of dollars more in mortgage interest than someone with good credit.

Anyone who has been turned down for a job or promotion due to derogatory credit items on a credit report.

Anyone in business who has lost a deal because a person or firm wanted to see his/her credit report before doing business.

Anyone who has been unable to establish credit.

THE FOUR GREAT MYTHS OF CREDIT:

Myth #1: It is illegal or immoral to have your credit report cleared.

Fact: It is not illegal nor immoral. In fact, that is what the Fair Credit Reporting Act is all about. The act was enacted by Congress in 1971. One of its purposes as to give consumers the protection of the law and to help guard against

any unwarranted invasion of a consumer's right to privacy.

Myth #2: The information on a credit report cannot be changed.

Fact: Actually, the opposite is true under the Fair Credit Reporting Act. Federal and State laws require that items be removed if they are not 100% accurate or cannot be verified in a timely manner.

Myth #3: It is impossible to get a bankruptcy off a credit report.

Fact: Bankruptcies can come off credit reports like any other derogatory item. The nature of the derogatory item has nothing to do with its removal under the Fair Credit Reporting Act.

Myth #4: Credit Reporting Agencies are empowered with some kind of governmental authority.

Fact: Absolutely Not!! They are simply large corporations whose primary goal is to make a profit like any other business.

If you have ever applied for or received credit, a file exists in one or more of the credit bureaus. These companies collect, store and distribute as much credit information as they can find, retaining negative information on a credit report for 7 to 10 years. This information is evaluated by potential creditors to determine your credit worthiness.

Credit reporting agencies are in business to protect the interests of the creditors. the LAW FIRM's goal is to help and protect the individual consumer from inaccurate credit reporting.

The president of our LAW FIRM has been practicing consumer law since 1984. The staff of our firm has successfully processed, disputed and challenged thousands of client credit reports.

Our legal fee is based o the number of negative items that appear on a client's credit reports, issued b the three national credit bureaus. Our retainer agreement offers a MONEY BACK GUARANTEE stating that if any negative item is not deleted, upgraded or corrected from a client's credit file, it will give the client a full refund for that item or continue to process the client's file at no additional fee until that item is

corrected, upgraded or deleted. THE ONLY THING YOU HAVE TO LOSE IS YOUR BAD CREDIT!!

PLEASE CONTACT THE LAW FIRM AND LEAVE YOUR FULL NAME, MAILING ADDRESS AND TELEPHONE NUMBER SO WE MAY FORWARD FURTHER INFORMATION AND INSTRUCTIONS TO YOU ABOUT OUR SERVICE.

Consumer Credit Advocates, PC
11 Pennsylvania Plaza, Suite 2101
New York, NY 10001
(212) 629-5261 (telephone) (212) 629-4762 (fax)
E-MAIL: ccapc@cyber.sell.com

558. Re: Sources for frequency synthesizer kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 12:27:07 UTC
From: peter@Thoth.st.3Com.com
Message-ID: <3496@bridge2.NSD.3Com.COM>
Source record: 114356

Moto also has an evaluation kit for their 1.1 Ghz PLL...MC145190EVK
and MC145191EVK. I called and checked on the price once, they were
a bit steep for me...about $400, as I recall, for a board with
their synthesizer chip, a VCO and an interface to a PC printer port.
You also get some nifty software to run the thing.

There's a picture in the Communications Device Data Book DL136/D Rev 3.

I'd buy one if they dropped the price to about $100, but I guess it's
the VCO that costs so much. Oh well :-(

Peter

Peter Simpson, KA1AXY Linux! Peter_Simpson@3mail.3com.com
3Com Corporation The free Unix (508) 836-1719 voice
Northborough, MA 01532 for the 386 (508) 393-6934 fax

I speak only for myself...not 3Com...nor Canter & Siegel.

559. WTB - Antenna Tuner for TS-930S (AT930)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 12:29:32 UTC
From: e94_adu@elixir.e.kth.se
Message-ID: <3hd1rc$n7c@news.kth.se>
Source record: 114220

Hello OM !

I'm interested in buying an Antenna Tuner for the
Kenwood TS-930S. I belive the unit is called AT930.
It doesn't matter if it's new or used, working or
deffect.
If YOU have one and don't realy use it PLEASE sell
it to me, I've been looking every where for one ...

Write me an e-mail so we can discuss the price and
the details.

Hope to hear from you soon !

73 de Andy SM0TTV

560. Re: Dielectric grease

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 15:04:12 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb9.150412.23450@ke4zv.atl.ga.us>
Source record: 114360

In article <9502081005.aa28242@COR5.PICA.ARMY.MIL> Waltk@pica.army.mil writes:
>I'm in the process of making my own connectors for 75 ohms CATV hardline.
>I want to use threaded copper plumbing reducer fittings. Three quarter
>inch fittings are the right size. At the "reduced" end I silver solder
>a barrel connector. The center pin gets attached to the center conductor
>of the cable.
>
>There is one problem and that is that the fittings and the hardline are
>of dissimilar metals (Al & Cu). I understand there is a compound that is
>effective in preventing corrosion/oxidation and the accompanying "diode"
>effect that develops due to the dissimilar metals used.
>
>Does anyone know where I can find dielectric grease, which is designed
>for just this type of application.

No, you don't want dielectric grease, which is an insulator. What you
want is a product called NoAlox, which is a conductive penetrant and
protectant sold at any electrical supply house. It's used where aluminum
wiring, such as power entrance cable, is connected to the copper connections
of a meter box or service panel. A lifetime supply (for hams) is only
a couple of bucks.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

561. Re: Mixers.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 15:14:56 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb9.151456.23567@ke4zv.atl.ga.us>
Source record: 114359

In article <3hbhn5$odv@delphinium.cig.mot.com> sherwood@oribi.cig.mot.com (Charles A. Sherwood) writes:
>
>I have a related request. I would like to build a 2m to 10m receive converter.
>I have already build and tinkered with a hamtronics one that works, but I'm
>not satified with the performance. I am particular disappointed with the
>fact that the LO is highly present at the antenna, about -35dbm according
>to a HP spectrum analizer. Since I am not an RF engineer, I do not have the
>ability to design one (probably not the time either), can someone point me
>to a good design or kit? I have envisioned one with a good RF amp, a good
>mixer to solve the above problem, and an IF amp to solve some of the problems
>that Dana mentioned.

In chapter 21 of the ARRL Handbook (I'm looking in the 1992 edition)
there is a 2 meter transverter project. Simply delete the transmitting
portion, and you have a good receive converter project. GASFET preamp,
crystal LO chain, SRA-1 mixer with discrete diplexer, and 28 MHz post amp.
I'd be tempted to replace the discrete diplexer and post amp with a
MMIC and BPF, but the given circuit should perform well.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

562. 2n3055 etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 15:22:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.615.546@acenet.com>
Source record: 114358

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

I am needing some transistors:
I need two 2N3055
and a couple of GE-18 and GE-21

Anyone know what I can sub for the GE drivers?
Or where I can get these cheap?

brian.carling@acenet.com

 SLMR 2.1a Walk in the light!

563. Oak Hills kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 17:34:49 UTC
From: William Barnes <wbarnes@earth.geology.ubc.ca>
Message-ID: <3hdjnp$3d2@nnrp.ucs.ubc.ca>
Source record: 114362

Has anyone built the Oak Hills $219.95 QRP transceiver kit. If so, how did it go? What test equipment was required for calibration, etc. Any comments on kit quality with respect to Ten-Tec or Hamtronics kits?

73,

Bill -- VE7MEW

564. Re: 2n3055 etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 19:14:06 UTC
From: mjsilva@ix.netcom.com
Message-ID: <3hdphu$d3b@ixnews2.ix.netcom.com>
Source record: 114363

In <2a6.615.546@acenet.com> brian.carling@acenet.com (Brian Carling) writes:

>
>Newsgroups: rec.radio.amateur.homebrew
>From: brian.carling@acenet.com
>
>I am needing some transistors:
>I need two 2N3055
>and a couple of GE-18 and GE-21
>
>Anyone know what I can sub for the GE drivers?
>Or where I can get these cheap?
>
The 2N3055 is easy. It's THE ubiquitous power transistor, and everybody should have them, including Radio Shack. The GE devices cross-ref to (i.e. are <= to) a complementary pair (-18 is NPN, -21 is PNP) for audio or video (100 volts, 1 amp, 100 MHz). You could try the NTE/ECG subs (128 for -18, 129 for -21), or something along the line of the MPS-U01/MPS-U51 pair (only good to 80 volts, but easier to find).

Mike, KK6GM

565. Re: FeCL3 replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 19:55:37 UTC
From: tomb@lsid.hp.com
Message-ID: <D3r0op.BA1@hpcvsnz.cv.hp.com>
Source record: 114365

Tony.Komljanec@banyan.dgim.doc.CA wrote:
: A lot of good chemical discussion recently on Ferric Chloride for board
: etching.

: I have some Ammonium Persulphate (?) we used in school, that is in crystaline

etc.

My understanding is that ammonium persulphate requires a catalyst to work properly. I recall having difficulties with it. Some places have indeed sold it.

As an alternative, you might consider cupric chloride. Barry Ornitz posted a tickler about it a couple years ago. Basically, etching copper creates more etchant. You need to oxidize the cuprous to cupric, but that can be done with patience by bubbling air through it. And you need to keep the acidity correct with hydrochloric acid. Probably the worst part for a home shop is figuring out how to measure the concentrations. Barry recommended an out-of-print book on electronic prototype construction as a good source of info on this method, and backed it up with personal testimony.

73, K7ITM

566. Re: FeCL3 replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 20:42:42 UTC
From: morrison@hal.cs.uiuc.edu
Message-ID: <morrison.792362562@hal.cs.uiuc.edu>
Source record: 114366

tomb@lsid.hp.com (Tom Bruhns) writes:

>Tony.Komljanec@banyan.dgim.doc.CA wrote:
>: A lot of good chemical discussion recently on Ferric Chloride for board
>: etching.

>As an alternative, you might consider cupric chloride. Barry Ornitz posted
>a tickler about it a couple years ago. Basically, etching copper creates
>more etchant. You need to oxidize the cuprous to cupric, but that can be
>done with patience by bubbling air through it. And you need to keep the
>acidity correct with hydrochloric acid. Probably the worst part for a home
>shop is figuring out how to measure the concentrations. Barry recommended
>an out-of-print book on electronic prototype construction as a good source
>of info on this method, and backed it up with personal testimony.

>73, K7ITM

Another alternative is to use electrolosis for your etchant. Simply
use a a standard exectroplating bath (copper sulphate with a bit of
sulphuric acid)) to remove most of the copper. Islands may form at
the very end which can be cleaned up with standard etchant, but tilting
the exectrodes, you can encourage the copper to be etched from the far
side of the board to the place where the power connection is made.

The beauty of this approach is that the only 'waste' is the extra copper
on the other electrode, the solution lasts `forever'. Side benefits
are that the speed of etching is not a function of temperature as it
is of current, so it is highly controlable.

Vance

567. Re: HOAX against AmSoft

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 21:18:53 UTC
From: jholly@cup.hp.com
Message-ID: <D3r4JH.3LL@cup.hp.com>
Source record: 114367
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.space

Michael P. Deignan (md@pstc3.pstc.brown.edu) wrote:
: In article <3h3h4n$sev@grape.epix.net>, Pete deVolpi <amsoft@epix.net> wrote:

: >Take a look at the LAST LOGIN DATE!
: >(Last login Fri Jan 20 20:39 on ttyrc from sa-pm1.texas.net)
: >So how is it that bob@texas.net has managed to post so many messages in
: >the rec.radio.amateur.* usenets as bob@texas.net since Jan 20 and
: >texas.net's finger has no record of it?

: Boy Pete, you really are a newbie without a clue as to how the net
: works or how networks in general function, aren't you? Your whole
: posting had me laughing. I hope your programming skills are better than
: your understanding of networks, for your company's sake.

At least his skill in dealing with people are better than yours. Talk about
a pompus jerk.

568. Re: FeCL3 replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-09 22:05:48 UTC
From: sameer.tiwari@syntex.com
Message-ID: <NEWTNews.16203.792371575.Postmaster@ptwxa3.Syntex.Com>
Source record: 114218

About 10 yrs back, I had just made a PCB for a RC reciever for a model car and after 5 hrs of work realized I was out of FeCl3, so (DO NOT USE THIS METHOD NO3 poisning may occur) I used HNO3 instead, it worked fine and the pcb was etched in 1-2 minutes flat and then the acid starting eating into the Nail polish(which I used for masking) and I had to hurriedly wash it off with lots of soap(alkali- to neutralize the acid). The end result - I got the PCB, but the copper markings were kind of rough, but I got the PCB and the RC reciever still works.

Thinking back on the incident, it was really stupid to do that and I never did that again(always have a stock of FeCl3)

Sameer
W6/VU2TWX

569. HELP !!! - KENWOOD remote control ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 00:56:25 UTC
From: harisk@delphi.com
Message-ID: <B8xZbXZ.harisk@delphi.com>
Source record: 114219

I want to do remote control of Kenwood TM741/TM942A
transceivers
by PC. Idea is to detach front panel and connect PC instead of
it.
So, I need information on serial protocol between front panel
and
mainboard. I asked for it somebody of Kenwood service stuff,
and I got
answer that they had no information about it.
(Japan Kenwood address is also useful).

Does anybody can help me?
THANKS

570. Re: Will copper etchant dissolve stainless steel?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 01:53:27 UTC
From: tomb@lsid.hp.com
Message-ID: <D3rH93.HL0@hpcvsnz.cv.hp.com>
Source record: 114221

Vince Fong (VFONG@GMR.COM) wrote:
: Hi,

: I was wondering is copper etchant will dissolve stainless steel. I want to use
: an aquarium pump to circulate the etchant, but the shaft is made of stainless
: steel.

Well, it _may_ depend on the etchant and the grade of stainless. But I can assure you I've etched some very high quality stainless tweezers in ferric chloride! I'd only use a chemical pump to pump something like this.

73, K7ITM

571. Re: Homebrew 25 Watt HF amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 05:44:39 UTC
From: billh.computek.net
Message-ID: <3heug7$scr@ns1.computek.net>
Source record: 114229

> sameer.tiwari@syntex.com writes:
>
> I have built many HF amps in the QRP region, but I have long wanted to build a
> 25 watt amp using regular power MOSFETs (IRF 511 is the recommended one due to
> it's internal geometry) and using power splitters and combiners to make a 1.8 -
> 30 MHz 100 watt solid state amp at LOW-low cost. (Each 25 W mod should not cost
>
> Anyone interested in discussing switching power MOSFETs as HF amps
>
> Sameer
> W6/VU2TWX.

I have built several 40 watt amps using IRF-531's and IRF-530's. They work fine on 80,40, and 30
meters. On higher frequencies they begin to loose gain somewhat. It is still possible to use them
as high as 10 meters but they require higher drive. This is the drawback to using them in a broadband amp. I have also used the BUK-455 mosfet with similar success. Most of the amps were mono-band and tuned circuit variety.

Bill Heishman , N5HNN
billh@computek.net

572. Need schematic for HP3200B VHF Oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 07:36:27 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <51371545wnr@ifwtech.demon.co.uk>
Source record: 114227

Please can anyone help with a photocopy of the schematic for the
Hewlett-Packard 3200B VHF Oscillator?

Please e-mail me if you can. All costs will be repaid, of course,
plus my eternal gratitude :-)

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

573. Want Schematic DX-60B & HG-10

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 11:20:44 UTC
From: jgrib@aol.com
Message-ID: <3hfi6c$fnd@newsbf02.news.aol.com>
Source record: 114236

Hi,

I need a copy of a schematic for a Heath DX-60B, and HG-10 VFO. Would be willing to pay any reasonable copying charge..

73,

Joe KI3B

574. 2n3055 etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 11:38:49 UTC
From: hduff@humnet.westonia.com
Message-ID: <7754135283301@humnet.westonia.com>
Source record: 114222

lb>
lb>
lb> Newsgroups: rec.radio.amateur.homebrew
lb> From: brian.carling@acenet.com
lb>
lb> I am needing some transistors:
lb> I need two 2N3055
lb> and a couple of GE-18 and GE-21
lb>
lb> Anyone know what I can sub for the GE drivers?
lb> Or where I can get these cheap?
lb>
lb> brian.carling@acenet.com
lb> ---
lb> &#65533; SLMR 2.1a &#65533; Walk in the light!
lb>
lb>
2N3055 transistors are "a dime a dozen". You should have little
trouble locating a couple of those.

```
Hugh Duff VA3TO/VE3OYH Toronto
```

&#65533; NFX v1.3 [000]

```
--
---------------------------------------------------------------------
HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---------------------------------------------------------------------
```

575. Re: Mixers.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 13:18:27 UTC
From: zlau@arrl.org
Message-ID: <1995Feb10.131827.4512@arrl.org>
Source record: 114223

Dana Myers (myers@Cypress.West.Sun.Com) wrote:

: The diode mixers are sensitive to termination of the IF port (as well as
: the LO port and, to a lesser extent, the RF port). Using a diplexer
: is one way to approach the problem, but another way is to use a
: post-mixer amplifier (sometimes called a post-amplifier) which has
: good return-loss on the input over a wide range. According to several
: references, the actual terminating impedance isn't as critical as
: the termination being non-reactive. So, you really have several
: options:

: 1) Use a diplexer as described in several texts. This does require
: some tuned ciruits, and may allow some higher order responses of
: the mixer to be poorly terminated.

A band pass/band reject diplexer may do a better job of terminating
the responses than a high pass/low pass diplexer. A lot tougher to
tune up, though it isn't that hard with a good sweep setup.

A broadband resistive termination isn't the best theoretical
solution. Ideally, you can return the unwanted mixing products
with the proper phase to actually enhance mixer performance.
The resistive termination may be the best practical solution
for most people.

However, since the poster was designing a single band 2 meter
SSB transceiver, for many years the Handbook has had some rules
of thumb for reactively terminating VHF diode doubly balanced
mixers (written by K1AGB initially in March 1975 QST, though
I think we took it out of the 1995 Handbook to make room for
newer material).
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

576. Re: Optimum stacking distance 2x6el 145MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 14:29:18 UTC
From: M.Willis@ee.surrey.ac.uk
Message-ID: <1995Feb10.142918.27764@ee.surrey.ac.uk>
Source record: 114237

In article <1995Feb7.193944.269@krk.fi>, lakki@krksun.krk.fi (Erik Finskas) writes:
|>
|> I have built a little yagi system, and all works great. The yagis are
|> well tuned and are quite broad-band. But the optimum spacing?!
|>
|> |>
It rather depends on what you mean by optimum. Front to back and sidelobes (for EME) or gain (for contests).

There was a publication called wires and waves by Practical wireless that has some useful information taking into account the radiation pattern of the antenna. With 2 6 elements, spacing them more than 1.5 wavelengths apart would be OK. Remember that the top antenna is higher up, so if you are not on a mountaintop a higher close spacing is better than a wider spacing with the bottom antenna nearer the ground.

Mike

577. Re: HELP !!! - KENWOOD remote control ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 15:29:16 UTC
From: jcw@kd4dts.radio.org
Message-ID: <1995Feb10.152916.11968@kd4dts.radio.org>
Source record: 114224

I've put a logic analyzer on the bus between the head and the box, and it's very indecipherable. I spend 3-4 hours trying to figure something as simple as a single button press. I've got *no* idea what's going on with this puppy. Someone had a mod file that explained how to control the RF decks directly. They basically use a big shift register, and set bits for whatever function you're trying to do. But as for the head to box connection, it's got me beat. (*Noooooooo.... It couldn't be a simple async protocol so you could just connect the UART on a PC... Noooooooo. They had to make it wierd*)

harisk@delphi.com writes:

>I want to do remote control of Kenwood TM741/TM942A
>transceivers
>by PC. Idea is to detach front panel and connect PC instead of
>it.
>So, I need information on serial protocol between front panel
>and
>mainboard. I asked for it somebody of Kenwood service stuff,
>and I got
>answer that they had no information about it.
>(Japan Kenwood address is also useful).
>
>Does anybody can help me?

578. Re: Sources for frequency synthesizer kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 17:32:20 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <3hg7v4$6o1@abyss.West.Sun.COM>
Source record: 114242

In article 3496@bridge2.NSD.3Com.COM, peter@Thoth.st.3Com.com (Peter Simpson) writes:
>
>Moto also has an evaluation kit for their 1.1 Ghz PLL...MC145190EVK
>and MC145191EVK. I called and checked on the price once, they were
>a bit steep for me...about $400, as I recall, for a board with
>their synthesizer chip, a VCO and an interface to a PC printer port.
>You also get some nifty software to run the thing.
>
>There's a picture in the Communications Device Data Book DL136/D Rev 3.
>
>I'd buy one if they dropped the price to about $100, but I guess it's
>the VCO that costs so much. Oh well :-(

I've been experimenting with the MC145170 PLL (good to at least 160MHz)
and it seems to be pretty darn good (i.e. works as advertised).

A buddy and myself are working on building up some 900MHz+ gear. We've
picked a handful of the MC14519x and MC14520x parts for
experimentation. No, we didn't get the eval kit. Yes, a decent VCO at
900MHz+ is not trivial (for that matter, a decent VCO at any frequency
isn't trivial). For the moment, we plan to build the VCOs, afterall,
we're experimenting and learning. But, if someone can point me at
sources of economical VCOs in modular form, like would be used in
cel-tels or Part 15 devices, I'd love to check them out.

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Damn I'm smooth" (Anon.) *

579. Dielectric grease

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 20:05:32 UTC
From: N5EM@aol.COM
Message-ID: <950210145317_18160129@aol.com>
Source record: 114225

Walt, do you really want dielectric grease? Usually, between dissimilar metals like copper and aluminum, one uses a conductive grease, like the stuff called NO-OX. That is a brand name conductive grease that is loaded with carbon, I think. Go to your local full service hardware store and go to the electrical department. This is the stuff you use if your house was build by cheap idiots a few decades ago using aluminum wire with regular copper and brass based switches and outlets. You put this stuff on to prevent a build up of corrosion and, ultimately, spontaneous combustion in your walls.

I have used it (and a variety of similar products under various names) on the sliding surfaces of aluminum tubing to keep the "similar" surfaces from forming al-ox, that dry white powder that forms down here near the Gulf of Mexico and effectively welds two sections together.

Just remember, you want a good fit of the separate pieces, then only a thin coat of this stuff between them. Mechanically secure connections are still very important. Good Luck.

Ed, N5EM
n5em@aol.com
Houston, Texas

580. Digital Radio link ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 20:12:00 UTC
From: wardml@picard.cig.mot.com
Message-ID: <3hghag$r7v@delphinium.cig.mot.com>
Source record: 114239

Can anyone give me a suggestion as to a good frequency detection chip with a very fast response time ? Not DTMF (none of those IC's have a response time of > 20 msec, even at 4 bits per signal that's only 200 bits/second)

I am attempting to build an FSK/MSK digital datalink in the 80 MHz "free" band. I need a reponse time in the order of 1-5 milliseconds. Of course, a faster reponse time would always be better.

Anybody have a IC that fits ? Or an old-fashioned analog circuit ?

Matt Ward,

581. Ham radio tour

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-10 21:08:47 UTC
From: bilbee@aol.com
Message-ID: <3hgkkv$k72@newsbf02.news.aol.com>
Source record: 114240

Invited ham radio bicyclists to join a tour along the Pacific Crest Bicycle Trail from Hamburg CA to Lake Tahoe May 26-June 3. Camping/cooking/no charge/50mi. days. Limit of 10. For more info E-mail me directly.

-- Bil Paul KD6JUI

582. Re: Sources for frequency synthesizer kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 00:04:08 UTC
From: djwang@ginger.biophys.upenn.edu
Message-ID: <3hguto$qq9@netnews.upenn.edu>
Source record: 114226

```
|>
|> I've been experimenting with the MC145170 PLL (good to at least 160MHz)
|> and it seems to be pretty darn good (i.e. works as advertised).
|>
|> A buddy and myself are working on building up some 900MHz+ gear. We've
|> picked a handful of the MC14519x and MC14520x parts for
|> experimentation. No, we didn't get the eval kit. Yes, a decent VCO at
|> 900MHz+ is not trivial (for that matter, a decent VCO at any frequency
|> isn't trivial). For the moment, we plan to build the VCOs, afterall,
|> we're experimenting and learning. But, if someone can point me at
|> sources of economical VCOs in modular form, like would be used in
```

Mini-Circuit Lab may have the VCO that you want, they are now advertising a series of VCO modules with low phase noise. They cover from something like 20MHz to about 900 MHz I believe (you have to check their ad). The prices are quite reasonable, they quoted me about $19 a piece with a minimum order of $50. Seems like a good deal to me. BTW, most of them claim a tunning range of 2:1 from about 1 to 15V.

```
|> cel-tels or Part 15 devices, I'd love to check them out.
|>
|> ---
|> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
|> * (310) 348-6043 | mine and do not necessarily *
|> * Dana.Myers@West.Sun.Com | reflect those of my employer *
|> * "Damn I'm smooth" (Anon.) *
|>
|>
```

583. Re: FREE HAM NEWSLETTER!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 01:12:03 UTC
From: lenrev@wwa.com
Message-ID: <3hh2t3$omr@sashimi.wwa.com>
Source record: 114228
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amate

In article <NEWTNews.19038.791320464.amsoft@amsoft.epix.net>, AMSOFT@EPIX.NET says:
>
>
>A Free newsletter from AmSoft, a leader in Amateur Radio CD-ROM's is available
>by sending your E-Mail address to amsoft@epix.net. The newsletter contains the
>entire listing of the January 95 CD-ROM software library, and a one page
>description of the Amsoft CD-ROM. Please respond via E-Mail only.

Please forward newsletter to lenrev@wwa.com

584. Re: Ham-Homebrew Digest V95 #45

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 03:50:57 UTC
From: gull@cyberspace.ORG
Message-ID: <Pine.SUN.3.91.950210224753.12976A-100000@grex.cyberspace.org>
Source record: 114230

I don't know if this is the best place to post this question, but
here it is...
I have a Drake TR-4. I've noticed that with the XMITR GAIN and RCVR GAIN
controls advanced, anything that is picked up by the mike can be heard
through the speaker while the radio is in recieve mode. In fact, if the
RCVR GAIN is advanced too mcuh, feedback occurs. Is this a sign that the
set needs re-aligning? Or is this normal?

_ _
__ _ _ _| | | | David Brodbeck Alma, MI
/ _` | | | | | | | Amateur Packet(AX.25): N8SRE@wb4vva.#nemi.mi.usa.na
| (_| | |_| | | | +--
__, |__,_|_|_|_| @ grex.cyberspace.org
|___/

585. Re: Optimum stacking distance 2x6el 145MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 04:11:18 UTC
From: n7ws@aol.com
Message-ID: <3hhdd6$pfk@newsbf02.news.aol.com>
Source record: 114231

As the other fellows have said, there isn't a universal "rule-of-thumb"
and computer modeling is the best way to do it. However, if you want a
rule that works pretty well, use the square root of the boom length
(expressed in wavelengths). 73,
Wes Stewart, N7WS
n7ws@aol.com

586. WTB: SK-620A Socket for 4CX250B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 05:41:39 UTC
From: Mark Moulding <mmoulding@delphi.com>
Message-ID: <JAzbzDj.mmoulding@delphi.com>
Source record: 114232

Am looking for 1 each sk620a Socket.

If you can help leave email to me at mmoulding@delphi.com

Tnx, 73 Mark, KE7NS

587. Re: FeCL3 replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 08:55:35 UTC
From: marvin@rain.org
Message-ID: <3hhu27$afs@news.rain.org>
Source record: 114233

sameer.tiwari@syntex.com wrote:

: About 10 yrs back, I had just made a PCB for a RC reciever for a model car and
: after 5 hrs of work realized I was out of FeCl3, so (DO NOT USE THIS METHOD NO3
: poisning may occur) I used HNO3 instead, it worked fine and the pcb was etched
: in 1-2 minutes flat and then the acid starting eating into the Nail

Ah yes, we used to use HNO3 to etch the copper buildup on the racks used for copper plating PC boards. Something nobody has mentioned (yet) is Hydrogen Peroxide/Sulfuric Acid etchant. Copper causes the peroxide to decompose, but for small amounts it works very well. Stabilizers are available from a couple of companys that supply chemistry to the printed circuit industry that can make it last. The 10% sulfuric, 10% (33%) hydrogen peroxide plus stabilizers work very well although the temperature needs to be somewhere around 100 degrees F or so (don't remember the exact recommended temperature.) It is an exothermic reaction so it will get hotter as the copper gets etched. If Ammonium Persulfate is used, some people have had some success keeping it going by plating the copper out of the solution. I believe Ammonium Persulfate will die at a couple of ounces per gallon of copper while the peroxide/sulphuric will start to redeposit copper somewhere around 7 ounces per gallon (depending on agitation, temperature, and concentration of the peroxide and acid.) The peroxide/sulfuric is regenerated by putting it in the refridgerator when the acid concentration is right, and the copper will come out of solution as copper sulfate. The Ferric Chloride dies somewhere around 4 ounces/gallon copper (as I recall.)

On the other side of things, some of the smaller pc shops will print and etch a pc board with no holes drilled, etc. for a nominal charge. When I still had the business, I would charge $25 for approximately 10" x 12" board for a tin-lead plated board etched and fused. It might be worth trying to get a relationship with a smaller pc board house to see if they will do the same thing. Oh, the turn-around time depended on how busy we were but was usually a day or so.

588. 40 meter traps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 09:46:35 UTC
From: teixeira@ccnet.com
Message-ID: <3hi11r$5ei@ccnet3.ccnet.com>
Source record: 114234

Anyone have plans for building 40 meter traps? I went to HRO & they don't have them.

589. A good AFC with TCA3189.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 10:28:44 UTC
From: iw1bi@ik1qld-10.ampr.ORG
Message-ID: <18598@ik1qld-10.ampr.org>
Source record: 114235

Hello!

I'm working around a wide band FM detector, for an High speed packet link.
I have used TCA3189 as IF stage and detector (10.7 Mhz); it work, but the
AFC is not good.
How I can improve it?

Thanks for reply! 73
////
(o o)
---oOO-(_)-OOo--------
| 73 de Iw1BI Domenico Casarino "IK1QLD-10 Universita' di Torino Team" NWIDG |
| |
| Ampr Tcp-Ip > iw1bi@ik1qld-10.ampr.org |
| Email Internet > domenico@radio-gw.cisi.unito.it |
| Email Packet AX25 BBS > iw1bi@i1ylm.ipie.ita.eu |
----

590. Digital Radio link ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 13:00:01 UTC
From: pierre@wcrest.uucp
Message-ID: <D3u6s2.6n3@wcrest.uucp>
Source record: 114238

In message: <3hghag$r7v@delphinium.cig.mot.com>
wardml@picard.cig.mot.com (Matthew L. Ward) wrote:

> Can anyone give me a suggestion as to a good frequency detection chip
> with a very fast response time ? Not DTMF (none of those IC's have a
> response time of > 20 msec, even at 4 bits per signal that's only 200
> bits/second)
>
> I am attempting to build an FSK/MSK digital datalink in the 80 MHz "free"
> band. I need a reponse time in the order of 1-5 milliseconds. Of course,
> a faster reponse time would always be better.
>
> Anybody have a IC that fits ? Or an old-fashioned analog circuit ?
>

What frequencies are you talking about? You'll never decode 1 KHz in
1 millisecond! For FSK at up to 600 baud, I've used the XR-2211, once
made by Exar and now by whoever bought 'em out. It's designed for low
speed FSK demodulation.

73, Pierre
---
de KA2QPG | Pierre Thomson | pierre%wcrest@kd3bj.ampr.org

591. Looking for tube socket.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 15:06:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.654.546@acenet.com>
Source record: 114241

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

BR>My dad is building an old receiver that he built when he lived in
BR>Europe as a child. That receiver used an EF50 tube. That tube has
BR>a 9 pin loctal socket that he needs. This socket is slightly larger
BR>than the 8-pin octal socket in the US, and the tube has smaller
BR>diameter pins too.

Astounding! I am from England and built one of these receivers using
a lot of EF50s. I got mine out of a surplus dump. They were
red metal cylinders! The receiver never worked and I was very young 12
or 13 at the time and had little of any idea how to troubleshoot it.
Or as the English would say, "I didn't know how to fault-find!"

Such memories!

```
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---.OOOo----oo----oOOO.---
| |
| Brian Carling |
| Radio AF4K |
| Gaithersburg, MD |
| |
| brian.carling@acenet.com |
| .us |
|_____________Oooo._____|
.oooO ( )
( ) ) /
\ ( (_/
\_)
```

 SLMR 2.1a Make a joyful noise unto the Lord!

592. Re: Oak Hills kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 16:30:40 UTC
From: stevedas@aol.com
Message-ID: <3hiong$2ik@newsbf02.news.aol.com>
Source record: 114243

The Oak Hills kit to which you are asking about was reviewed extensively in a recent issue of 73 magazine I thing it was either January or Feb issue. The reveiwer seemed to have good impression of the kit over all good luck

593. Re: FeCL3 replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-11 23:33:08 UTC
From: mzenier@eskimo.com
Message-ID: <D3wG6s.52n@eskimo.com>
Source record: 114244

in <D3r0op.BA1@hpcvsnz.cv.hp.com>, Tom Bruhns wrote:
: As an alternative, you might consider cupric chloride. Barry Ornitz posted
: a tickler about it a couple years ago. Basically, etching copper creates
: more etchant. You need to oxidize the cuprous to cupric, but that can be
: done with patience by bubbling air through it. And you need to keep the
: acidity correct with hydrochloric acid. Probably the worst part for a home
: shop is figuring out how to measure the concentrations. Barry recommended
: an out-of-print book on electronic prototype construction as a good source
: of info on this method, and backed it up with personal testimony.

The book, written by one of Barry's coworkers is:

Electronic Prototype Construction
Stephen D. Kasten
1983, Howard W. Sams

All sorts of useful chemisitry. Be worth checking to see if it's still
sitting on the book shelf at your friendly neighborhood electronics parts
store, if you still have one. They kept it in print for a while, I got
my copy sometime in the last 5 years. (Since then Prentice Hall Computer
Books seems to have done strange things to the Sams imprint.)

Mark Zenier mzenier@eskimo.com mzenier@netcom.com
The Gingrich Revolution: the process of proving that right wing policy
wonks are even more destructive of the social fabric that left wing ones.

594. Re: Optimum stacking distance 2x6el 145MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 00:41:42 UTC
From: mack@ncifcrf.gov
Message-ID: <D3v39J.AtH@ncifcrf.gov>
Source record: 114245

In article <3h9b82$qir@newshost.lanl.gov> jdevenport@lanl.gov (Jim Devenport) writes:
>In article <1995Feb7.193944.269@krk.fi>, lakki@krksun.krk.fi (Erik Finskas) says:
>>I have built a little yagi system, and all works great. The yagis are
>>well tuned and are quite broad-band.

Congratulations - it's not trivial
>>Can you tell, bu theory or by experience, how much the spacing should be.
>>Replies via e-mail to lakki@krk.fi
>>
>>/Erik

>Erik, the "rule of thumb" I've read in and believed in is found in the
>old ARRL VHF handbook. However long your booms are is a good basic
>stacking distance.... you want their patterns to combine and not take
>away from each other. Theoretically the farther apart you stack them the
>higher the gain but the pattern really gets weird if you separate them too
>far.

>73,
> Jim Devenport WB5AOX

The capture area (in square wavelengths) of an antenna can be
determined from it's gain muliplied by the capture area of a dipole (I think
lambda^2 / 8). E.g for a 15dbd yagi on 2m that's a circle of 2m radius. So if
you stack 15dbd yagis on 2m at 4m intervals they will not interact and you
will get a gain of 2. The boom length for this yagi is 9m. You don't need
to separate the yagis by 9m. The edge of the capture area is not hard - ie
the gain doesn't suddenly drop as you move the yagis closer, and you don't
get exactly a gain of 2 at the separation calculated this way.

Joe Mack NA3T
mack@ncifcrf.gov

595. 1296 beacon suggestions ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 02:25:02 UTC
From: hduff@humnet.westonia.com
Message-ID: <7755-217275901@humnet.westonia.com>
Source record: 114246

I'm putting together a beacon for 1296 Mhz for the Toronto area
and would appreciate hearing from others who have done this.
Suggestions/ Tips ???

I've been thinking about the tradeoffs between minimizing line losses
and maintaining reasonable frequency stability. I considered mast
mounting the whole shooting match just below the antenna in a
weatherproof box but the temperature change here in Toronto between
winter and summer can be drastic and would probably have an adverse
affect on the operating frequency, especially after the oscillator
multiplication that gets you to 1296 Mhz.
On the other hand, mounting the whole thing indoors would require a run
of hardline about 50 or 60 feet or more so my 1 or 2 watts would be
whittled down to milliwatts. Short of adding a brick amplifier and
running 20 watts up the feedline and expecting a few watts out (which
would exceed my budget for the project), I'd like to be more creative to
accomplish the task.

Also looking for omnidirectional horizontally polarized antenna designs.

Many thanks ! Hugh Duff VA3TO/VE3OYH Toronto

~ NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---

596. Re: HELP !!! - KENWOOD remote control ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 02:25:02 UTC
From: hduff@humnet.westonia.com
Message-ID: <7755-217279702@humnet.westonia.com>
Source record: 114247

Ij>
Ij> >I want to do remote control of Kenwood TM741/TM942A
Ij> >transceivers
Ij> >by PC. Idea is to detach front panel and connect PC instead of
Ij> >it.
Ij> >So, I need information on serial protocol between front panel
Ij> >and
Ij> >mainboard. I asked for it somebody of Kenwood service stuff,
Ij> >and I got
Ij> >answer that they had no information about it.
Ij> >(Japan Kenwood address is also useful).
Ij> >
Ij> >Does anybody can help me?
Ij> >THANKS
Ij>
Ij>
Ij> I've put a logic analyzer on the bus between the head and the box, and it's
Ij> very indecipherable. I spend 3-4 hours trying to figure something as simpl
Ij> as a single button press. I've got *no* idea what's going on with this
Ij> puppy. Someone had a mod file that explained how to control the RF decks
^ where can I get this ????
Ij> directly. They basically use a big shift register, and set bits for what-
Ij> ever function you're trying to do. But as for the head to box connection,
Ij> it's got me beat. (*Noooooooo.... It couldn't be a simple async protocol
Ij> so you could just connect the UART on a PC... Noooooooo. They had to make
Ij> it wierd*)
Ij>
Ij> harisk@delphi.com writes:

I'd like to do something with this too (TM-741 memory programming from a
PC ASCII file). I wonder what you mean by indecipherable ? Was there
anything there at all that resembled a digital stream ? Do you really
mean that there was a digital stream of data but it did not conform to
a typical format and speed ? If that might be the case, I could easily
put a microcontroller between the radio and the PC...have each talk:
controller <--- ---> PC via normal RS232 and
controller <--- ---> radio using whatever it needs to see. A software
UART could be written into the controller and normal port pins do the
talking. Whatever you send from the PC to the controller could be
translated by the microcontroller into the appropriate datastream that
the radio wants to see. Of course, it would be a monotonous task to
document the flow of data from the logic analyzer for every funtion on
the radio. If someone is willing to work with me on this, I believe we
could master it.

BTW, I'd love to see that mod file to control the RF decks independantly if you have access to it ! I've been thinking that Kenwood should have offered a monoband head/chassis that would accept TM741/742 modules. That would have been a great way to market monoband FM rigs from 10 meters through to 23cm. I have some modules for my 741 kicking around... I'd like to put them to use, my 741 is already full.
If I knew what the RF decks need for data, I might be able to whip up a micro with an LCD display, rotary encoder and maybe a keypad to do this although, now that I think of it, all of the audio along with other functions are done at the head...maybe a little more trouble than meets the eye !? Certainly worth experimenting with anyway.

Hugh Duff VA3TO/VE3OYH Toronto hduff@humnet.westonia.com

~ NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---

597. Re: Sources for frequency synthesizer kits ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 03:59:12 UTC
From: hbr@ix.netcom.com
Message-ID: <3hk12g$bt9@ixnews3.ix.netcom.com>
Source record: 114248

In <3h6lb0$q4q$1@mhade.production.compuserve.com> Mike Franks
<70712.1222@CompuServe.COM> writes:

>
>I do not know if you want to go PLL or DDS route. Phase lock loop
>info can be obtained from Motorola in Schaumburg, Illionois. They
>have lots of free technical advice, Aplications notes, etc. If
>you want to go DDS (Direct Digital Synthesis) there is a company
>in California (I can not find my notes but I think it is called
>Standard Telecom or something like that). These companys do not
>offer kits per se but have all parts available to do what you want.
>

ALSO - be sur and check with Analog Devices. They have some new,
relatively cheap DDS chips. Harris also has some good DDS chips.

Also check with Phillips/Signetics regarding PLL's.

73, N3GDE (Brian Robinson)

598. Re: Sources for frequency synthesizer kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 04:04:06 UTC
From: hbr@ix.netcom.com
Message-ID: <3hk1bm$c03@ixnews3.ix.netcom.com>
Source record: 114249

In <3hguto$qq9@netnews.upenn.edu> djwang@ginger.biophys.upenn.edu (DJ Wang) writes:

>
>
>|>
>|> I've been experimenting with the MC145170 PLL (good to at least 160MHz)
>|> and it seems to be pretty darn good (i.e. works as advertised).
>|>
>|> A buddy and myself are working on building up some 900MHz+ gear. We've
>|> picked a handful of the MC14519x and MC14520x parts for
>|> experimentation. No, we didn't get the eval kit. Yes, a decent VCO at
>|> 900MHz+ is not trivial (for that matter, a decent VCO at any frequency
>|> isn't trivial). For the moment, we plan to build the VCOs, afterall,
>|> we're experimenting and learning. But, if someone can point me at
>|> sources of economical VCOs in modular form, like would be used in
>
>
>Mini-Circuit Lab may have the VCO that you want, they are now advertising a series of VCO modules with low phase noise. They cover from something like 20MHz to about 900 MHz I believe (you have to check their ad). The prices are quite reasonable, they quoted me about $19 a piece with a minimum order of $50. Seems like a good deal to me. BTW, most of them claim a tunning range of 2:1 from about 1 to 15V.
>
>
>|> cel-tels or Part 15 devices, I'd love to check them out.
>|>
>|> ---
>|> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
>|> * (310) 348-6043 | mine and do not necessarily *
>|> * Dana.Myers@West.Sun.Com | reflect those of my employer *
>|> * "Damn I'm smooth" (Anon.) *
>|>
>|>
>

Z-COM has some low-cost VCO's; also check with Phillips/Signetics, RF MicroDevices, and TriQuint for chips with oscillators built-in.

73 N3GDE (Brian Robinson)

599. Re: 40 meter traps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 04:23:26 UTC
From: billh.computek.net
Message-ID: <3hk2fu$5c7@ns1.computek.net>
Source record: 114250

> teixeira@ccnet.com (TEIXEIRA) writes:
> Anyone have plans for building 40 meter traps? I went to HRO & they don't
> have them.
>
>>>>
I may be able to help, but I need to know if you have a grid dip meter or any way to tune them. I
have built coaxial traps for dipole antenna's before. My way is a bit cut and try. If you haven't
done such a thing before, let me know and I will post a more detailed answer.

Bill H. N5HNN

600. PC Card 50Mhz DDS Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 18:31:07 UTC
From: erichter@editec.artinet.de
Message-ID: <7opPvAMMBh107h@editec.artinet.de>
Source record: 114251

For those of you out there who struggled until now to build a precise and reliable NF/IF/HF source, my latest developement may be of interest:

- short PC plug in card
- a 50 Mhz DDS Generator (based on AD7008)
- 32 Bit resolution (0,011641532Hz!!!!)
- Frequ. output 0,011Hz to 15Mhz (20Mhz is possible)
- output power >13dBm into 50 Ohm
- 4 channel 12 Bit A/D converter (with pre-amp�s)
- high purity signal

- Test SW available (incl. Pascal Source code, allowing for
fixed frequency setup and A/D test)

- Wobbulator SW allowing for any start/stopp frequency
build in adaptable error correction (non linearity of Demodulator heads)
Precise Raster Display to show all 4 channels in different colors
(resolution 1Hz!)
Power level readout (resolution 1dB)

This card is useful for (but not limitted to):

- NF-Testing (HiFi Bandwith, NF Filters)
- IF- Testing (smallest christal filters can be expanded over the total PC screen)
- HF Testing (Receiver Input Filters)
- VHF and UHF Testing with external mixers
- Reference Signal for High Resolution PLL circuits

The following complete support is available:

1) complete 76 page book describing all chips and circuit details
(circuit discription is currently in german, chips discription in english will be completely
available in english soon). Book comes wit Test SW.

2) professional Pc board with soldering stopp and Parts layout

3) Wobbulator SW

4) Complete Kits

5) Assembled and tested ready to plug in cards

Vy 73, Edwin DC9OE

601. Re: 40 meter traps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 20:02:51 UTC
From: dubner@spk.hp.com
Message-ID: <D3wL0s.JBt@hpcvsnz.cv.hp.com>
Source record: 114252

TEIXEIRA (teixeira@ccnet.com) wrote:
: Anyone have plans for building 40 meter traps? I went to HRO & they don't
: have them.

See the December 1984 issue of QST for an article on building traps from small-diameter coax wound around PVC plumbing parts. I've had excellent success in duplicating the author's results.

73,
Joe, K7JD

--

Joe Dubner K7JD | Hewlett-Packard Company | dubner@spk.HP.COM
| 24001 E. Mission Avenue |
| Liberty Lake, WA 99019 | +1 509 921-3514

602. Re: Will copper etch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 21:12:00 UTC
From: tom.hammond@woodybbs.com
Message-ID: <93.5243.7584.0NFB9281@woodybbs.com>
Source record: 114253

VF>I was wondering is copper etchant will dissolve stainless steel. I
>want to use an aquarium pump to circulate the etchant, but the shaft
>is made of stainless

TO>Well, it _may_ depend on the etchant and the grade of stainless.
>But I can assure you I've etched some very high quality stainless
>tweezers in ferric chloride! I'd only use a chemical pump to pump
>something like this.

FeCl3 (Ferric Chloride) has NOT etched the piece of stainless steel whip antenna I use for a "board pick-up" stick when I'm etching PC boards... at least not to this writing.

If the aquarium pump must be immersed IN the liquid in order for it to be pumped, I'd recommend AGAINST using the pump.

I've had very good success in using a small water pump. I found an AMXCO (American Excelsior Co.) #578 pump which has a plastic body and impeller. The shaft is made of steel, so I disassembled the plastic body and completely coated the metal shaft with epoxy to keep the etchant from attacking the metal. Then I reassembled the pump. This is a bottom-feed pump with a 1/4" to 5/16" output port right above the impeller housing. The pump is not all that high priced (less than $25) and it has more than adequate power to push a lot of etchant around in the tank.

NOTE: I had originally tried a "Little Giant" submersible water pump in this application. While the pump worked quite well, it was FILLED with a cooling oil and, once overheated, the sealing gasket let go and I had an etch tank full of etchant mixed with cooling oil... ruining my PC board and my etchant. The pump I now use is quite a bit lower priced and works just as well... maybe even better.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--- Alexi/Mail 2.02b (#83)
* Origin: Distant Winds BBS * Jefferson City, Mo * [314] 635-7868 (1:289/67)

603. UNDERWATER 2WAY RADIO

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 21:55:31 UTC
From: joe mccormack <mccormac@iol.ie>
Message-ID: <3hm04j$nbe@barnacle.iol.ie>
Source record: 114254

Has any body got any advice or plans for a underwater 2way radio,or any other interesting electronic devices connected with scuba diving.

My email address is mccormac@iol.ie

604. Dielectric grease

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 22:49:00 UTC
From: tom.hammond@woodybbs.com
Message-ID: <93.5244.7584.0NFB9282@woodybbs.com>
Source record: 114255

N5EM>Walt, do you really want dielectric grease? Usually, between
>dissimilar metals like copper and aluminum, one uses a conductive
>grease, like the stuf called NO-OX. That is a brand name
>conductive grease that is loaded with carbon, I think.

Could you possibly be referring to NOALOX Anti-Oxident Joint Compound,
for AL/AL & AL/CU Wire Connections and Aluminum Conduit Joints, made by
IDEAL INDUSTRIES (Cat. No. 30-026, for a 4-oz tube, about $7)?

This stuff works great! Been using it for about 20 years with no
complaints whatsoever.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--- Alexi/Mail 2.02b (#83)
* Origin: Distant Winds BBS * Jefferson City, Mo * [314] 635-7868 (1:289/67)

605. Dielectric grease

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-12 22:51:00 UTC
From: tom.hammond@woodybbs.com
Message-ID: <93.5245.7584.0NFB9283@woodybbs.com>
Source record: 114256

WA>Message-ID: <9502081005.aa28242@COR5.PICA.ARMY.MIL>
>Newsgroup: rec.radio.amateur.homebrew
>Organization: ucsd usenet gateway

WA>I understand there is a compound that is effective in preventing
>corrosion/oxidation and the accompanying "diode" effect that develops
>due to the dissimilar metals used.

WA>Does anyone know where I can find dielectric grease, which is designed
>for just this type of application.

N5EM>Walt, do you really want dielectric grease? Usually, between
>dissimilar metals like copper and aluminum, one uses a conductive
>grease, like the stuff called NO-OX. That is a brand name
>conductive grease that is loaded with carbon, I think.

Could you possibly be referring to NOALOX Anti-Oxident Joint Compound,
for AL/AL & AL/CU Wire Connections and Aluminum Conduit Joints, made by
IDEAL INDUSTRIES (Cat. No. 30-026, for a 4-oz tube, about $7)?

This stuff works great! Been using it for about 20 years with no
complaints whatsoever.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--- Alexi/Mail 2.02b (#83)
* Origin: Distant Winds BBS * Jefferson City, Mo * [314] 635-7868 (1:289/67)

606. Re: 1296 beacon suggestions ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-13 03:30:56 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb13.033056.11800@ke4zv.atl.ga.us>
Source record: 114257

In article <7755-217275901@humnet.westonia.com> hduff@humnet.westonia.com writes:
>I've been thinking about the tradeoffs between minimizing line losses
>and maintaining reasonable frequency stability. I considered mast
>mounting the whole shooting match just below the antenna in a
>weatherproof box but the temperature change here in Toronto between
>winter and summer can be drastic and would probably have an adverse
>affect on the operating frequency, especially after the oscillator
>multiplication that gets you to 1296 Mhz.
>On the other hand, mounting the whole thing indoors would require a run
>of hardline about 50 or 60 feet or more so my 1 or 2 watts would be
>whittled down to milliwatts. Short of adding a brick amplifier and
>running 20 watts up the feedline and expecting a few watts out (which
>would exceed my budget for the project), I'd like to be more creative to
>accomplish the task.

Consider keeping the reference oscillator in the shack and the rest
of the transmitter up at the antenna. That way you can use cheap
cable to carry the reference up there since it will be operating
at a relatively low frequency.

>Also looking for omnidirectional horizontally polarized antenna designs.

Consider a cylindrical slot array.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

607. Re: Will copper etchant dissolve stainless steel?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-13 14:37:02 UTC
From: zlau@arrl.org
Message-ID: <1995Feb13.143702.18761@arrl.org>
Source record: 114258

KB8WQZ Vince Fong (VFONG@GMR.COM) wrote:
: I was wondering is copper etchant will dissolve stainless steel. I want to use
: an aquarium pump to circulate the etchant, but the shaft is made of stainless
: steel.

I seem to recall that Kepro uses titanium for the metal screws on their
etching tanks, though I don't recall exactly where they are used.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

608. Cellular Reception

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-13 17:43:09 UTC
From: Jeremi Lee <eaeu817@taurus.oac.uci.edu>
Message-ID: <Pine.SUN.3.91.950213094228.28973E-100000@taurus.oac.uci.edu>
Source record: 114259

Does anybody know how a scanner can be converted to receive Cellular Frequencies?

JL

609. kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-13 17:45:33 UTC
From: Jeremi Lee <eaeu817@taurus.oac.uci.edu>
Message-ID: <Pine.SUN.3.91.950213094320.28973F-100000@taurus.oac.uci.edu>
Source record: 114260

Anybody know places where they sell ham radio kits?
Also, any idea where (preferably through internet) i could find
schematics to build my own radio from scratch?

JL

610. Re: 1296 beacon suggestions ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-13 17:50:53 UTC
From: nick@vlsi.polymtl.ca
Message-ID: <3ho65t$k0h@charles.cdec.polymtl.ca>
Source record: 114261

In article <7755-217275901@humnet.westonia.com> hduff@humnet.westonia.com writes:
>I've been thinking about the tradeoffs between minimizing line losses
>and maintaining reasonable frequency stability. I considered mast
>mounting the whole shooting match just below the antenna in a
>weatherproof box but the temperature change here in Toronto between
>winter and summer can be drastic and would probably have an adverse
>affect on the operating frequency, especially after the oscillator
>multiplication that gets you to 1296 Mhz.
>On the other hand, mounting the whole thing indoors would require a run
>of hardline about 50 or 60 feet or more so my 1 or 2 watts would be
>whittled down to milliwatts. Short of adding a brick amplifier and
>running 20 watts up the feedline and expecting a few watts out (which
>would exceed my budget for the project), I'd like to be more creative to
>accomplish the task.

Hugh:

Why not use an oven on the XTAL? That's what we do and our frequency
sources are stable to within +/- 5 ppm from -25C to +70C. That should
be good enough for your application. The ovens are manufactured by
ISOTEMP and should be about $20. If you're clever anough, you can make your
own oven that should be close in performance to the commercial ones.

Also, if the beacon is going to be CW, I wrote an article in the February
issue (1994) of QEX that may suit your needs.

Nick

--

****
* Nick Ciarallo *
* SR Telecom Inc. telephone: 514-335-2429 ex: 438 *
* Microwave Group facsimile: 514-335-2986 *
* 8150 Trans Canada Hwy internet : nick@vlsi.polymtl.ca *
* St. Laurent, Quebec hamradio : ve2hot@ve2fkb.pq.can.na *
* Canada H4S-1M5 *
****

* Accept no substitutes, *REAL* ham radio lives on 220 MHz! *
****

611. Re: 1296 beacon suggestions ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-13 17:58:53 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3ho6kt$12p9@info4.rus.uni-stuttgart.de>
Source record: 114262

>>I've been thinking about the tradeoffs between minimizing line losses
>>and maintaining reasonable frequency stability.

I think, that it is OK to have all on the mast top. A good practice
is to thermally insulate the VCO (+ any other low power components)
or even provide a small amount of temperature controlled heating.
Of cause the unit should be protected from direct sun light.

Temperature controlled heating could be done with a temperature sensor,
an op amp and a power transistor as heating element.

73, Moritz DL5UH

612. PC Card 50Mhz DDS Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-13 19:49:00 UTC
From: tom.alldread@kbsbbs.com
Message-ID: <9502131820443640@kbsbbs.com>
Source record: 114263

Greetings Edwin:

I find the information on the DDS very interesting. I built a
similar DDS on a full length PC prototype card about a year and a half
ago and have been having fun with it ever since.

I have developed an interesting ham radio application for my PC
DDS that the manufacturers of your kit might be very interested in!

E>4) Complete Kits

E>5) Assembled and tested ready to plug in cards

I wonder what the prices are for the above options?

73 de VE7TMA

---
* QMPro 1.53 * Very Best Regards, tom.alldread@kbsbbs.com

613. Looking for 900MHz equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-13 20:45:04 UTC
From: dholten@comtch.iea.com
Message-ID: <3hogcg$jqh@krel.iea.com>
Source record: 114264

Looking for plans or kits for equipment to use in the 900MHz band.
Also looking for any modification plans, etc. to modify existing
commercial equipment (including 1st generation cell phones) to the
900MHz amateur band. Any help appreciated.

Dave Holten
N7UTG
dholten@comtch.iea.com

614. Need a frequeny for testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-13 23:45:33 UTC
From: wmoyes@cello.gina.calstate.edu
Message-ID: <3hoqut$seo@cello.gina.calstate.edu>
Source record: 114265

I am working on some expermental equipment, and I need a frequency pair to test it on. I am aiming for the 100-200 MHz range, so 2M is a good canidate. The system will run at 1-2 watts max output (it will be a pulsed signal, very short pulses 1-10 ms). I would perfer to use a Citizen band, but I do have a Technican license (I got mine before the no code tech came around). Thank you.

-William Moyes
wmoyes@cello.gina.calstate.edu

615. Re: Need a frequeny for testing.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 00:22:17 UTC
From: jholly@cup.hp.com
Message-ID: <D3yrp5.6Ip@cup.hp.com>
Source record: 114266

William A Moyes (wmoyes@cello.gina.calstate.edu) wrote:
: I am working on some expermental equipment, and I need a frequency
: pair to test it on. I am aiming for the 100-200 MHz range, so 2M is a
: good canidate. The system will run at 1-2 watts max output (it will be a
: pulsed signal, very short pulses 1-10 ms). I would perfer to use a
: Citizen band, but I do have a Technican license (I got mine before the no
: code tech came around). Thank you.

: -William Moyes
: wmoyes@cello.gina.calstate.edu

Are you asking if it is okay to blast away on 2 meters with pulse modulation?
Or are you just thinking out loud? You have a license that authorizes you
to transmit on the 2 meter amateur band. Presumedly you are familiar with
the contents of part 97. Then you have your answer. Simple, isn't?

Jim

616. Re: 1296 beacon suggestions ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 00:32:31 UTC
From: hduff@humnet.westonia.com
Message-ID: <7757-255856401@humnet.westonia.com>
Source record: 114267

In>
In> In article <7755-217275901@humnet.westonia.com> hduff@humnet.westonia.com
In> writes:
In> >I've been thinking about the tradeoffs between minimizing line losses
In> >and maintaining reasonable frequency stability. I considered mast
In> >mounting the whole shooting match just below the antenna in a
In> >weatherproof box but the temperature change here in Toronto between
In> >winter and summer can be drastic and would probably have an adverse
In> >affect on the operating frequency, especially after the oscillator
In> >multiplication that gets you to 1296 Mhz.
In> >On the other hand, mounting the whole thing indoors would require a run
In> >of hardline about 50 or 60 feet or more so my 1 or 2 watts would be
In> >whittled down to milliwatts. Short of adding a brick amplifier and
In> >running 20 watts up the feedline and expecting a few watts out (which
In> >would exceed my budget for the project), I'd like to be more creative to
In> >accomplish the task.
In>
In> Hugh:
In>
In> Why not use an oven on the XTAL? That's what we do and our frequency
In> sources are stable to within +/- 5 ppm from -25C to +70C. That should
In> be good enough for your application. The ovens are manufactured by
In> ISOTEMP and should be about $20. If you're clever anough, you can make you
In> own oven that should be close in performance to the commercial ones.
In>
In> Also, if the beacon is going to be CW, I wrote an article in the February
In> issue (1994) of QEX that may suit your needs.
In>
In> Nick
In>

Hi Nick. The oven idea sounds like a possibility ! I'll look into it.
Do you have a CDN source for the ISOTEMP ovens (Qty 1) ?

Yes, the beacon will transmit CW. I think I'll use a single chip PIC to
do the keying. I also have a 6 meter beacon running here in Toronto
and for that one I used an 8031 microcontroller..sort of overkill but I
had access to bare boards and the processor, latch and EPROM cost me
less than $10 and it saved me the trouble of handwiring something like
a 555/counter/EPROM keyer. (See my 6m beacon article in November 94
TCA).
What is your QEX article about ?
73 Hugh VA3TO/VE3OYH

NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---

617. Ramsey FM-4 dirty output

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 07:41:51 UTC
From: alf@kaiwan.com
Message-ID: <8Y5GlClg1e8A068yn@kaiwan.com>
Source record: 114268

Greeting to all!

I have built a Ramsey FM-4 4 transistors FM wireless mic and am having some problems. I plan to use this as a no ID required very short distance repeater. I am posting this in hope of some kind souls out there can offer some pointers.

I have build as per instructions, keeping all lead short. Every things is as best as I can manage. Transistor polarity has been checked. It powered up fine without smoke nor smell. Tuning the oscillator tuning coil I can actually receive the audio on an FM radio across several rooms at perhaps 40 feet.

All seems fine except I can do so only in a very narrow band of frequency of perhaps 500 kHz. When using a 500 MHz scope with short lead to look at the output, the problem becomes obvious. In the working frequency range the output waveform looks like a half way decent sine wave, with as a wild guess of perhaps 10% distortion. In other frequencies the output has severe distortions. At its worsest it has perhaps 50% 2nd harmonic distortions. And these are by visual guesstimation. As a result, it cause serious interference to many FM stations and without any usable audio output.

I wonder is there anyone on the net has experience with such gadget? I would appreciate any suggestion or comment, such as adding a filter. Thanks in advance.

73,

Alfred Lee Fountain Valley, CA, U.S.A. alf@kaiwan.com
KE6KGV 'The answer is (e^i&#65533; + 1) ? "No" : "Yes"'

618. Looking for TNC schematic diagram

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 15:05:56 UTC
From: stakenborg@hyph.azr.NL
Message-ID: <MAILQUEUE-101.950214160410.288@fs1-kfih.azr.nl>
Source record: 114269

Thanks for reading,

I want to build a microprocessor-based TNC. Can anyone
give me a good suggestion. I am looking for an intelligent
TNC that can handle up to 9600 bauds.

73's Joop PA3ABA

619. Searching for WB8DQT's software "morse.zip"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 15:13:25 UTC
From: e8626609@stud1.tuwien.ac.at
Message-ID: <e8626609.6.00102F9E@stud1.tuwien.ac.at>
Source record: 114293

Hello OMs !

My father OE5LCO read in the magazine QST (January '95) the article
"Quick and Easy CW with your PC" written by WB8DQT.

He would like start this project, but there is also software necessary, which
WB8DQT has written.

The only problem is to get this software.

It seems to be only available at following entries:

- ARRL BBS 203-66-0578

- CompuServe HamNet forum library 7.

and it is called "morse.zip".

This zipfile contains "morse.exe, cw.dat, log.dat, cw.hlp" and
"morse.bas" (a QuickBasic source code).

Neither my father OE5LCO nor I are able to get access to one of those entries.

So it will be very kind , if someone helps us to solve this problem.

Tnx in advance
Hans Czylok

Europe, Austria, Vienna 14-2-1995

620. Re: Cellular Reception

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 15:46:01 UTC
From: wells@lvld.hp.com
Message-ID: <3hqj7p$mjq@hplvec.lvld.hp.com>
Source record: 114270

Jeremi Lee (eaeu817@taurus.oac.uci.edu) wrote:
: Does anybody know how a scanner can be converted to receive Cellular
: Frequencies?

: JL

Yes.

621. Re: 40 meter traps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 16:02:08 UTC
From: Steve Murdock <murdock@graceland.edu>
Message-ID: <3hqk60$btk@insosf1.infonet.net>
Source record: 114271

In article <3hi11r$5ei@ccnet3.ccnet.com> TEIXEIRA, teixeira@ccnet.com writes:
>Anyone have plans for building 40 meter traps? I went to HRO & they don't
>have them.

I forgot to mention that the plans I used for the 5 band single trap dipole were in Nov-94 QST. Sorry.

Steve Murdock, N0ZYE || Like the Zen Monk said to the hot dog vendor:
murdock@graceland.edu || make me One with everything

---

622. Re: Modem to TNC? HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 17:17:06 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb14.171706.20241@ke4zv.atl.ga.us>
Source record: 114272

In article <3hp0uh$ed8@techsrv1.tech> cmlong@mtu.edu (Mike) writes:
>I was wondering if it is possible to change a computer modem into
>a TNC by modifying/adding parts?

Sure. You could probably salvage the case, and maybe the wall cube.
Everything else would need to be changed.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

623. Re: Looking for 900MHz equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 17:19:07 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb14.171907.20317@ke4zv.atl.ga.us>
Source record: 114273

In article <3hogcg$jqh@krel.iea.com> dholten@comtch.iea.com (Dave Holten - N7UTG) writes:
>Looking for plans or kits for equipment to use in the 900MHz band.
>Also looking for any modification plans, etc. to modify existing
>commercial equipment (including 1st generation cell phones) to the
>900MHz amateur band. Any help appreciated.

I've got a whole bunch of 900 MHz duplex radios, suitable for use
with duplex data or as repeaters (cavity duplexers included). Email
if interested.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

624. Re: Looking for TNC schematic diagram

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 17:24:49 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb14.172449.20396@ke4zv.atl.ga.us>
Source record: 114274

In article <MAILQUEUE-101.950214160410.288@fs1-kfih.azr.nl> stakenborg@hyph.azr.NL (Joop Stakenborg : PA3ABA) writes:
>Thanks for reading,
>
>I want to build a microprocessor-based TNC. Can anyone
>give me a good suggestion. I am looking for an intelligent
>TNC that can handle up to 9600 bauds.
>
>73's Joop PA3ABA

How good are you at writing machine language state machine code?
If the answer is "not so hot", then you'd better stick with the
TNC2 design and use B or H Z80 and Z80 SIO parts. You can get the
proper ROM image from TAPR.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

625. Re: Cellular Reception

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 18:58:43 UTC
From: domtnt@aol.com
Message-ID: <3hquh3$inp@newsbf02.news.aol.com>
Source record: 114275

FTP at dg-rtp.dg.com or ftp.cs.buffalo.edu or oak.oakland.edu and look under /pub/ham-radio/mods/, u will find information for modification for most scanners there.

626. Re: Cellular Reception

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 20:25:57 UTC
From: mzenier@eskimo.com
Message-ID: <D423Ix.KC8@eskimo.com>
Source record: 114276

in <Pine.SUN.3.91.950213094228.28973E-100000@taurus.oac.uci.edu>, Jeremi Lee wrote:
: Does anybody know how a scanner can be converted to receive Cellular
: Frequencies?

"Scanner Convertor"
William Sheets and Rudolf F. Graf
February, 1992 and March, 1992 Radio-Electronics magazine

Mark Zenier mzenier@eskimo.com mzenier@netcom.com
The Gingrich Revolution: the process of proving that right wing policy
wonks are even more destructive of the social fabric that left wing ones.

627. Help Wanted on Xmtr Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 20:36:17 UTC
From: gsymonds@hpb.hwc.ca
Message-ID: <3hr481$ljl@m.ehd.hwc.ca>
Source record: 114277

I need some help in designing a 1927s vintage CW transmitter.
I want to use a one tube crystal oscillator driving a pair of
P-P 10s with balanced input and output. My questions are:

- how much power will I need from the oscillator stage to drive
the "final" amplifier? I want to start on 80 meters. The
power output needed is 8 or 10 watts. A #10 tube has a mu
of about 8 and a Gm of about 1500.

- how do I design the transformer coupling between the oscillator
(single-ended) and the balanced input to the P-P stage?

- what is the best (and authentic!) way to key the transmitter?
Is cathode keying OK or would keying the crystal oscillator
be better? When I eventually get a license, this thing has to
be legal and sound good on the air!

I am not an RF designer, but am willing to learn. Thanks for any
advice.

Gordon Symonds
Ottawa, Ontario

628. Re: Experiments to show intersetd 5 yr old

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-14 20:38:53 UTC
From: jfw@proteon.com
Message-ID: <D40C0u.6G3@proteon.com>
Source record: 114278

>Dave Dabay (ddabay@ruacad.ac.runet.edu) wrote:
>: I have a fairly inquisitive 5 year old who is into experiments..
>: like baking soda and vinegar volcanos, candle flame under a jar, (oxygen
>: to burn)
>: I am looking for safe, simple experiments to show and do with him
>: about electricity, radio, xtals, etc....He may be too young for his
>: first crystal set, but what else is out there...

Maybe the crystal set isn't such a bad idea. If talking about how radio flies through the air to make the voice happen seems too abstract for him, maybe you can make it more concrete with a telegraph set: get a telegraph key, a battery, and a light bulb. Show him that you can make the light go on and off as long as the wire is intact.

Now, replace the wire with empty space, build a little milliwatt transmitter, and a crystal receiver driving a switching transistor, and show him that you can make the light go on and off WITHOUT a wire, too.

A substantially more sophisticated radio demonstration that I saw recently (you might want to wait until he's 6 :-): at the Boxborough ARRL convention, "The Wireman" did a demonstration with a 910MHz transmitter hooked up to a simple dipole on a stick, with a crystal-set-and-light-bulb somewhat as described above also connected to a dipole on a stick. Using these two antennas, he was able to visually demonstrate polarization and the inverse square law. Next, he mounted the receiver's dipole on a pegboard, and put another wire on a stick behind the dipole; the wire was just longer. Voila! Instant 2-element beam, and sure enough, waving the transmitting antenna around changed how bright the light bulb was, just like those pictures in the ARRL Antenna Book say it should. And that is the whole point -- it's one thing to read a description of antenna patterns and see a 2D picture in a book, it's quite another thing to build your own antenna range (which is physically practical at 910MHz) and *see* it work. The Wireman suggested that clubs might want to build sets like this for staging demonstrations.

629. Looking for old dial cord

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-15 01:36:49 UTC
From: stanwood <stanwood@tiac.net>
Message-ID: <3hrlrh$mdl@sundog.tiac.net>
Source record: 114279

I looking to buy spools of tightly braided cotton dial cord.
030"-.040" diameter, for use in my work with piano action mechanisms
I know it's out there sitting on dusty shelves!

David C. Stanwood Stanwood@tiac.net
West Tisbury, Massachusetts USA
on the Island of Martha's Vineyard

630. Re: Modem to TNC? HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-15 11:06:59 UTC
From: kthompso@WichitaKS.NCR.COM
Message-ID: <kthompso.439.000B1E29@WichitaKS.NCR.COM>
Source record: 114283

In article <1995Feb14.171706.20241@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>From: gary@ke4zv.atl.ga.us (Gary Coffman)
>Subject: Re: Modem to TNC? HELP!
>Date: Tue, 14 Feb 1995 17:17:06 GMT

>In article <3hp0uh$ed8@techsrv1.tech> cmlong@mtu.edu (Mike) writes:
>>I was wondering if it is possible to change a computer modem into
>>a TNC by modifying/adding parts?

>Sure. You could probably salvage the case, and maybe the wall cube.
>Everything else would need to be changed.

>Gary

Nice. The reason why is that 1200 baud tele. modems are bell 212, a full duplex system with four tones used. Packet is bell 202 a simplex system with only two tones (and different ones at that) used. TI's 3105 is a good choice for generating and receiving the tones. One would have to do all the upper layers too. But it is true one could reuse the case and power supply.

631. Re: Looking for old dial cord

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-15 13:16:29 UTC
From: torey@aol.com
Message-ID: <3hsurd$13q@newsbf02.news.aol.com>
Source record: 114280

Try MCM Electronics, they carry it, that's where I get mine.
1-800-543-4330. They have a $20.00 min order
Tony Reynolds

632. Re: Help Wanted on Xmtr Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-15 14:23:40 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb15.142340.24390@ke4zv.atl.ga.us>
Source record: 114281

In article <3hr481$ljl@m.ehd.hwc.ca> gsymonds@hpb.hwc.ca (Gordon Symonds) writes:
>I need some help in designing a 1927s vintage CW transmitter.
>I want to use a one tube crystal oscillator driving a pair of
>P-P 10s with balanced input and output. My questions are:
>
> - how much power will I need from the oscillator stage to drive
> the "final" amplifier? I want to start on 80 meters. The
> power output needed is 8 or 10 watts. A #10 tube has a mu
> of about 8 and a Gm of about 1500.

Looks like you need about 0.5 watt of oscillator drive.

> - how do I design the transformer coupling between the oscillator
> (single-ended) and the balanced input to the P-P stage?

That's pretty easy. The primary will be in series between the
oscillator plate and B+. You can tune it, or use it untuned
depending on the oscillator circuit you use. The secondary
should be center tapped with bias for the PA tubes injected
there, and the winding ends going to each tube.

> - what is the best (and authentic!) way to key the transmitter?
> Is cathode keying OK or would keying the crystal oscillator
> be better? When I eventually get a license, this thing has to
> be legal and sound good on the air!

Cathode keying would be authentic, but with a 0.5 watt oscillator,
you'll have a strong backwave. If you key the oscillator, you'll
get chirp. The best way is to use differential keying. You arrange
the circuit so that the oscillator is keyed on before the PA so
that the chirp will be over before transmitting, and the PA is
keyed off before the oscillator. There were complicated delay
circuits used years ago, but a pair of relays, one keying the
other, will do the job.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

633. Dielectric Grease, NOT!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-15 16:36:04 UTC
From: Waltk@PICA.ARMY.MIL
Message-ID: <9502151136.aa04690@COR5.PICA.ARMY.MIL>
Source record: 114282

Dielectric Grease, NOT!

Howdy. This should put an end to all the comments on my earlier posting on how to bond dissimilar metals. Someone (can't remember who or they'd be getting a personal copy of this memo) told me something I've never heard of - dielectric grease. I keep an open mind and love to learn new things, like the rest of you. So, I posed a question to the net. Well... the response was overwhelming.

I have used No-Alox(tm) and Penetrox(tm) for years on my yagis, and even in the service entrance in the house I built 10 years ago. Most wiring to new homes uses large aluminum cable, Cu is just too prohibitive in price for the application.

So, I want to lay to rest this business of dielectric grease, it doesn't exist and was a fig-newton of someone else's imagination.

If binding dissimilar metals, a conductive grease is what is prescribed. 73 de Walt - K2WK

PS: I would recommend to any novice getting on the air, that they also subscribe to the net. I've been in this hobby almost 30 years and am still learning from my esteemed (sometimes steamed) colleagues.

634. Re: Sources for frequency synthesizer kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-15 21:44:08 UTC
From: stevedas@aol.com
Message-ID: <3htsj8$6o4@newsbf02.news.aol.com>
Source record: 114284

I'm just curious what source you use to give the chip commands. Many of the more advanched chips use the SPI interface which always looked tough to develope with.

635. Re: sticking core disolvent ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-16 03:35:53 UTC
From: morgenstern1@delphi.com
Message-ID: <ZCwb0mZ.morgenstern1@delphi.com>
Source record: 114285

I would imagine that un-sticking the cores and not breaking them can be
an ellusive task. A solvent that I have used around plastics without harm
is kerosene. I will dissolve gumes, resins, waxes etc. Kerosene appears
to be an oily like solvent which is not harmfull to plastics. If you
are going to use a soldering iron as was suggested, I would first try it
on an isolated slug tuned coil from some old junked radio gear to get an idera
of heat damage coilf form distortion etc. Good luck
73's Bob WA2EAW

636. crystal needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-16 03:51:30 UTC
From: jancur@halcyon.com
Message-ID: <jancur-1502951951300001@192.0.2.1>
Source record: 114286

I'm almost finished building Mike Agsten's SP-750 QRP transciever kit. All
I need are some crystals. The frequency I prefer to use is 7110 kHz but
I'll take 7100-7500 kHz. The holder type can be an HC-25, HC-18, or HC-49
and it should have a tolerance of .005 or .01% for Amateur Radio
Use. Mode = Fundamental/Parallel, Load Capacity =
32pF. Does anybody have some of these?

TNX and 73,
Jon Jandoc, KC7BCW

637. Re: a little fantasy, QRP from Mt. Logan

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-16 03:54:59 UTC
From: morgenstern1@delphi.com
Message-ID: <ZAzYcAT.morgenstern1@delphi.com>
Source record: 114287

Grover Cleveland <groverc@gvgadg.gvg.tek.com> writes:

>The suggestion about kite antennas is a good one. They work really well
>on a mountaintop because you can be certain of enough breeze
>to keep them up. Stretch a counterpoise along the ground and
>you will do quite well.

I have used kite antennas or a few years also. The kite is a parfoil,
4 section. I have used it at the shore in Florida Where there is always
either a shore breeze or an ocean breeze. I have used wire from T.V.
yolks because it is cheap ($0.00) and light enough not to drag the kite
down. I have used VEEERY long wires which will behave like a many element
beem with a narrow lobe. When I have a shore breeze I am " beaming " to
Europe. My HW8 with 1 or 2 watts and a home brew tuner does wounders.
The parafoil kite has no firm members and so it can be balled-up or rolled-up
astuffed into a back pack. I am currently working on solar power for the Fla.
beach.

73's Bob WA2EAW

638. Re: AEA PK-88...Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-16 15:16:36 UTC
From: harisk@delphi.com
Message-ID: <ho7YEAc.harisk@delphi.com>
Source record: 114288

Hi,
AEA fax is: (206) 775-2340
Customer service: (206)775-7373
Compuserve 76702,1013

Haris.

639. Re: Looking for TNC schematic diagram

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-16 15:26:38 UTC
From: jdevenport@lanl.gov
Message-ID: <3hvqre$8l0@newshost.lanl.gov>
Source record: 114289

In article <1995Feb14.172449.20396@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) says:
>>I want to build a microprocessor-based TNC. Can anyone
>>give me a good suggestion.
>>73's Joop PA3ABA
I'd recommend using an existing microprocessor, such as the Commodore 64 or an IBM PC/clone, since very powerful shareware exists already for doing just what you want, and require only a rather elementary 1 or 2-IC modem to interface your computer to your radio to form a full function TNC that, for packet only, works better than most commercial TNC's IMHO. The software is called Digicom for the C-64 and Baycom for the IBM PC. If you have trouble finding sources for the software (many BBS's) let me know... you can get some of the earlier versions off Hamnet on Compuserve, also by landline from the 73 BBS... dunno how available they are in your part of the world, I could put them in our local anonymous FTP site if you like. I can also provide schematics for the simple modem needed.

Jim Devenport WB5AOX
".... The Christian Principle has not been tried and found wanting..... It has just not been TRIED."

640. Re: AEA PK-88...Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-16 15:34:14 UTC
From: jdevenport@lanl.gov
Message-ID: <3hvr9m$8l0@newshost.lanl.gov>
Source record: 114290

In article <9-gGlep56JVI066yn@calvin.stemnet.nf.ca>, ydawe@calvin.stemnet.nf.ca (Yvonne M. Dawe) says:
>I'm hoping that someone can help me solve a problem that I am having
>with an AEA PK-88 TNC.
<snip>
I'd suspect the power supply section .... either the power source
(likely a wall charger) or the internal 5 volt regulator.
Those are rather easy things to fix and commonly fail when left on all
the time. Hopefully it is as simple as that.
Jim Devenport WB5AOX
".... The Christian Principle has not been tried and found wanting......
It has just not been TRIED."

641. Re: 1296 beacon suggestions ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-16 17:44:27 UTC
From: Alf Green <alf@agreen.iac.honeywell.com>
Message-ID: <3i02tr$l6c@adm09.iac.honeywell.com>
Source record: 114291

hduff@humnet.westonia.com wrote:
>
>
>
> I'm putting together a beacon for 1296 Mhz for the Toronto area
> and would appreciate hearing from others who have done this.
> Suggestions/ Tips ???
>
> I've been thinking about the tradeoffs between minimizing line losses
> and maintaining reasonable frequency stability. I considered mast
> mounting the whole shooting match just below the antenna in a
> weatherproof box but the temperature change here in Toronto between
> winter and summer can be drastic and would probably have an adverse
> affect on the operating frequency, especially after the oscillator
> multiplication that gets you to 1296 Mhz.
> On the other hand, mounting the whole thing indoors would require a run
> of hardline about 50 or 60 feet or more so my 1 or 2 watts would be
> whittled down to milliwatts. Short of adding a brick amplifier and
> running 20 watts up the feedline and expecting a few watts out (which
> would exceed my budget for the project), I'd like to be more creative to
> accomplish the task.
>
> Also looking for omnidirectional horizontally polarized antenna designs.
>
> Many thanks ! Hugh Duff VA3TO/VE3OYH Toronto

I'd suggest putting the frequency reference in the shack. Buffer it
adequately and send this signal up the coax to the rest of the system
mounted near the antenna.
Assuming you're starting from a crystal oscillator in the 100MHz
range, the line loss would be fairly low, and low level amplification
would be cheap in any case.

Good luck,

Alf NU8I/G4ABB

642. Re: Dielectric Grease, NOT!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-17 01:51:03 UTC
From: Garry Foster <gmfoster@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950217014400.17067B-100000@peach.epix.net>
Source record: 114292

On 15 Feb 1995 Waltk@PICA.ARMY.MIL wrote:
> Dielectric Grease, NOT!
>
> So, I want to lay to rest this business of dielectric grease,
> it doesn't exist and was a fig-newton of someone else's imagination.
>
Well I have to disagree with this. Dieelectric greese most certianly does exist. Its just not what you want for joing two alum tubes together. Dielectric greese is an insulator and is widely used by tvro technecians to make F fittings water proof. Some disagree with its use and I have not decided on its merits. It is also used in some automoble distributers. Trouble is its purpose is to insulate and in the alum joining discussion a low resistance connection was desired.

Garry(WB0NNO)

643. Re: Looking for old dial cord

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-17 14:41:51 UTC
From: gregt@col.hp.com
Message-ID: <3i2cjf$9bk@nonews.col.hp.com>
Source record: 114294

stanwood (stanwood@tiac.net) wrote:
: I looking to buy spools of tightly braided cotton dial cord.

Depending on the qualities you need, heavy-duty braided fishing line
from a tackle shop (probably not available at your generic sporting goods
store) might do the job at considerably lower cost. Dial cord and braided
fishing line are similar in appearance (except for color) and exhibit almost
no stretch under tension.

Greg Tarcza

==
Greg Tarcza WA2OOD /
Hewlett-Packard Company Pikes /
P.O. Box 2197 Peak /-, /-,
Colorado Springs, CO 80901 Soaring / / / /
719-590-2471 Society / / /--/
/
gregt@col.hp.com (1995 President) /
==

644. Re: Dielectric Grease, NOT!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-17 14:54:17 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-1702950954170001@k4dii.ksc.nasa.gov>
Source record: 114295

In article <Pine.SUN.3.91.950217014400.17067B-100000@peach.epix.net>,
Garry Foster <gmfoster@grape.epix.net> wrote:
> .... Trouble is its purpose is to insulate and in the alum
> joining discussion a low resistance connection was desired.

Garry-

Use of a non-conductive grease for waterproofing connections, be it silicone, automotive or petroleum jelly, has been common for many years.

It seems that the pressure of spring-loaded contacts squeezes out the grease, allowing the metal contacts to touch. The grease MUST be non-conductive, in order to prevent shorting between non-touching conductors. (In the case of dis-similar metals, I worry that the reaction might contaminate the grease, making it conductive.)

Use of grease is messy for home applications. It would be of little value where corrosion was normally not a problem. However, it works well in a damp environment, such as in an automotive signal lamp with a cracked lens!

73, Fred, K4DII

645. Help with IC4AT Band modification - PLS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-17 22:40:42 UTC
From: ceham@w3eax.umd.edu
Message-ID: <3i38la$cn3@hecate.umd.edu>
Source record: 114296
Cross-posted to: rec.radio.amateur.equipment,rec.radio.swap,rec.radio.amateur.misc,rec.radio.amateur.homebrew,dc.ham-radio

Hi

I am looking for information and schematics on modifying
an ICOM 4AT that is in the upper UHF segment of the Band
(440.0 up) to the lower segment (436.0 ? - 439.99) There
were a few different chasis built for these bands,
and I would like to change the parts required and retune it
to cover 436 - 439.

I will pay for shipment and reasonable copy expenses.

If someone performes this types of modifications
for a living, I would also appreciate their
info, as I might consider paying someone to do this.

Thanks

Maurice
ceham@w3eax.umd.edu

646. Re: Dds

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-18 18:03:16 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <793130596snz@lfheller.demon.co.uk>
Source record: 114302

In article <792892553.AA00514@hamlink.hamlink.mn.org>
Jay.Craswell%f100.n282.z1@hamlink.hamlink.mn.org
"Jay Craswell" writes:

> I noticed a few messages about DDS chips and I thought I would put in
> my two cents worth. I played with the QualComm parts but quite $$$
> and the doc is PHD level stuff. The Harris part is much more
> inexpensive and I had no trouble getting it to play. I'm using it as my
> VFO now for a Drake TR7A. If anyone is interested I made up a bunch of
> boards (extra) that plug into a PC printer port. Software is written in
> A86 and does reasonable job of being a smart VFO. A friend is using the
> AMD part and likes it as it has an internal D/A but I did not care for
> the non Dip style package. 73 - Jay Craswell WB0VNE

What DAC are you using with the Harris NCO? I contacted Harris and they
recommended a Sony device. I ordered a couple before I got the documentation,
found that they needed ECL converters, and promptly lost interest 8-(.

73, Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

647. Where can I find a FSA2501

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-18 18:07:15 UTC
From: paulbreed@aol.com
Message-ID: <3i5d0j$k2d@newsbf02.news.aol.com>
Source record: 114298

I used to buy a diode pack from Digikey
It was an FSA2501 It contained 16 back to back diodes
arranged as a clamp. It was in a 14 Pin Dip package.

Does anyone know where I can buy 20 or so of them today?.

I believe that the manufacturor was fairchild/ not purchased by
national???

I would be very thankful for any help.

Paul Breed

648. Re: Digital Radio link ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-18 18:30:50 UTC
From: edc@cce.com
Message-ID: <1995Feb18.183050.10232@cce.com>
Source record: 114297

In article <3hghag$r7v@delphinium.cig.mot.com> wardml@picard.cig.mot.com (Matthew L. Ward) writes:

> Can anyone give me a suggestion as to a good frequency detection chip
> with a very fast response time ? Not DTMF (none of those IC's have a
> response time of > 20 msec, even at 4 bits per signal that's only 200
> bits/second)
>
> I am attempting to build an FSK/MSK digital datalink in the 80 MHz "free"
> band. I need a reponse time in the order of 1-5 milliseconds. Of course,
> a faster reponse time would always be better.
>
> Anybody have a IC that fits ? Or an old-fashioned analog circuit ?

You could do what the old PC cassette-tape interfaces did: at the transmitter you send a single 1200 Hz pulse for a '1' and a 2400 Hz pulse for a '0'. At the receiver you square up the received signal with a comparator (or just use a TTL input as the comparator) and measure the pulse width.

--
Ed Casas (edc@cce.com)

649. Re: Dds

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-19 01:18:53 UTC
From: stevedas@aol.com
Message-ID: <3i669t$pen@newsbf02.news.aol.com>
Source record: 114299

I also built a couple dds's from the Harris hsp45102 and they all worked first try, sort of after I got the timing for the instruction codes correct. I used an AD 9713B DA which is an expensive 12 bit unit but it has built in TTL to ECL converters. I think AD makes a less expensive 10 bit device with the same feature

650. $20 Weak Signal Challenge

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-19 01:42:50 UTC
From: ir000411@interramp.com
Message-ID: <3i67mq$p99@usenet.interramp.com>
Source record: 114300

Do you think you're good at pulling out that weak CW signal?
If you have a web browser, point it at my home page for a
challenge that can put $20 in your pocket:

http://www.webcom.com/~af9y/

de Mike, AF9Y

651. Re: Help with IC4AT Band modification - PLS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-19 04:03:42 UTC
From: Richard Hayman <hayman@access.digex.net>
Message-ID: <NEWTNews.11970.793170300.hayman@dca00539.slip.digex.net.204.91.204.91>
Source record: 114301
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,dc.ham-radio

Try the Vienna Winterfest next week. Last year someone was there doing mods
on handhelds. If he's not there, try Gaithersburg in the fall.

73,

Dick, K3DML

652. Transistor PA questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-19 06:55:45 UTC
From: rohrwerk@giskard.holonet.net
Message-ID: <3i6q1h$eq8@colossus.holonet.net>
Source record: 114305

I've been fiddling with a power amplifier for a while, starting with the Motorola 20 watt design that appears in schematic form only in the W1FB QRP NOTEBOOK. (Push-pull MRF476's drive a push-pull pair of MRF475's)

Well, I had a wonderful power oscillator at about 5 watts, and thus began numerous experiments with different ferrite baluns I had on hand, biasing schemes, running only the first pair for a while, etc.

I tried to run the MRF476's separately near their ratings (6 watts total), and got thermal runaway over 1 watt -- the 82 ohm series resistor to the bias diode was way too low. In experimenting with bias, klutzy testing with my scope probes, solder bridges, etc., I have gone through about 3 pairs of '476's! (ouch!)

Along the way, I got the locally available NTE replacements (near equivalents, maybe) for the 475's -- the NTE236. (Their book is WAY off in its suggestion of a sub for the MRF475!) It was interesting that, on a DC check with the diode test function of my DVM, they have a .7 volt diode barrier voltage between emitter (plus) and collector (minus). Does this imply a built-in protection diode? They work fine, putting out 6 watts (they're rated at 12 watts out apiece, so I have some reserve -- I don't want to blow more expensive transistors!) The package calls it an "NPN-T" transistor -- does that give a hint?

Was also thinking of putting in some MRF477's in the second stage (pinout different, but I can adjust my board). Any reason this should not work in the Motorola circuit, with care in biasing and drive? I will probably run them at 40 watts max out for the pair (rated 40 watts each) -- again, I'm skittish about popping out more transistors. I have an Amidon BLN-43-7051 core, which I hope is big enough!

John K0JD
Minneapolis, MN

653. Make whips? (solder stainless?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-19 10:28:33 UTC
From: ozone@primenet.com
Message-ID: <ozone.289.224243C0@primenet.com>
Source record: 114315

As I do a lot of messing around with doppler direction finders, I would like to be able to make my own whips - with either PL259 bases or (even better) BNC's. Unfortunately the whip wire that is available is apparently stainless steel or some equivalent unsolderable alloy. How can one put this into a PL259 (or even better a BNC :-)?

John Moore NJ7E - mailto:ozone@primenet.com - http://www.primenet.com/~ozone/
...Politicians are like diapers: both need to be periodically changed for the same reason...

654. DDS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-19 11:58:10 UTC
From: erichter@editec.artinet.de
Message-ID: <ii3RvALIBh107h@editec.artinet.de>
Source record: 114303

... I also build a DDS board which is a plug in card for a PC. But it is based on the Analog Devices Chip AD7008.

Here is some more info:

For those of you out there who struggled until now to build a precise and reliable NF/IF/HF source, my latest developement may be of interest:

- short PC plug in card
- a 50 Mhz DDS Generator (based on AD7008)
- 32 Bit resolution (0,011641532Hz!!!!)
- Frequ. output 0,011Hz to 15Mhz (20Mhz is possible)
- output power >13dBm into 50 Ohm
- 4 channel 12 Bit A/D converter (with pre-amp�s)
- high purity signal

- Test SW available (incl. Pascal Source code, allowing for fixed frequency setup and A/D test)

- Wobbulator SW allowing for any start/stopp frequency
build in adaptable error correction (non linearity of Demodulator heads)
Precise Raster Display to show all 4 channels in different colors
(resolution 1Hz!)
Power level readout (resolution 1dB)

This card is useful for (but not limitted to):

- NF-Testing (HiFi Bandwith, NF Filters)
- IF- Testing (smallest christal filters can be expanded over the total PC screen)
- HF Testing (Receiver Input Filters)
- VHF and UHF Testing with external mixers
- Reference Signal for High Resolution PLL circuits

The following complete support is available:

1) complete 76 page book describing all chips and circuit details
(circuit discription is currently in german, chips discription in english will be completely
available in english soon). Book comes wit Test SW.

2) professional Pc board with soldering stopp and Parts layout

3) Wobbulator SW

4) Complete Kits

5) Assembled and tested ready to plug in cards

655. Biasing RF power transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-20 03:33:09 UTC
From: jdc3538@ultb.isc.rit.edu
Message-ID: <1995Feb20.033309.25392@ultb.isc.rit.edu>
Source record: 114304

When biasing an RF power transistor for linear operation, is the end result a fixed base voltage or fixed current? The Motorola app note on biasing for linear operation (AR511) mentions a .63-.67 volt typical value. But construction projects say to adjust bias to a given current draw, say 100 ma.

Which view of it is right? And where does temperature compensation come in?

73...Jim N2VNO

656. Re: FeCL3 replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-20 08:11:57 UTC
From: claude@bauv111.bauv.unibw-muenchen.de
Message-ID: <claude.793267917@bauv111>
Source record: 114313

morrison@hal.cs.uiuc.edu (Vance Morrison) writes:

>Another alternative is to use electrolosis for your etchant. Simply
>use a a standard exectroplating bath (copper sulphate with a bit of
>sulphuric acid)) to remove most of the copper. Islands may form at
>the very end which can be cleaned up with standard etchant, but tilting
>the exectrodes, you can encourage the copper to be etched from the far
>side of the board to the place where the power connection is made.

This very interesting method has been proposed a long time ago.
Unfortunatly I could never see it working well. The islands formed
at some places very early and interuppted the electrical continuity.
They could only be removed with usual etchant, nearly resulting in an
usual eching process.

Is it possible to avoid these drawbacks today ? What is the used solution ?
--
Claude F. (claude@bauv106.bauv.unibw-muenchen.de)

This message may contain opinions which are not shared by my employer.
The facts can speak for themselves.

657. Re: Make whips? (solder stainless?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-20 10:01:11 UTC
From: kthompso@WichitaKS.HMPD.COM
Message-ID: <kthompso.448.000A0568@WichitaKS.HMPD.COM>
Source record: 114309

I have successfully used 3/32" brass welding rod. Put it in a hand drill (locked on) and use a file a the other end to neck down the rod to fit into the center conductor of a BNC cable connector. Fill the BNC cavity with epoxy and put on all the other metal hardware to hold in the glue. Four panel mount BNCs are on a plate over a 1/2" plywood base. I can send a bit image if you like.

In article <ozone.289.224243C0@primenet.com> ozone@primenet.com (John R. Moore) writes:>From: ozone@primenet.com (John R. Moore)>Subject: Make whips? (solder stainless?)>Date: Sun, 19 Feb 1995 10:28:33 LOCAL

>As I do a lot of messing around with doppler direction finders, I would like
>to be able to make my own whips - with either PL259 bases or (even better)
>BNC's. Unfortunately the whip wire that is available is apparently stainless
>steel or some equivalent unsolderable alloy. How can one put this into a PL259
>(or even better a BNC :-)?
>----
>John Moore NJ7E - mailto:ozone@primenet.com - http://www.primenet.com/~ozone/
>...Politicians are like diapers: both need to be periodically changed for the
>same reason...

658. crystal needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-20 11:39:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.778.546@acenet.com>
Source record: 114306

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

JEC>I'm almost finished building Mike Agsten's SP-750 QRP transciever kit. All
JEC>I need are some crystals. The frequency I prefer to use is 7110 kHz but
JEC>I'll take 7100-7500 kHz. The holder type can be an HC-25, HC-18, or HC-49
JEC>and it should have a tolerance of .005 or .01% for Amateur Radio
JEC>Use. Mode = Fundamental/Parallel, Load Capacity =
JEC>32pF. Does anybody have some of these?

JEC> TNX and 73,
JEC> Jon Jandoc, KC7BCW

Sources for crystals used in amateur radio:

Antique Radio Classified 508-371-0512 Write for free sample.
P.O. Box 802 Magazine. You'll find almost ANYTHING here
Carlisle, MA 01741 for older radios, obscure parts, tubes etc.

Cathodeon Crystals, Need phone number
A PYE Group Company
Linton,
Cambridgeshire
England (Need postal code) Crystals

Crystek Crystals 800-237-3061
2351/2371 Crystal Drive
Ft. Myers, FL 33907 Quartz Crystals

CW Crystals Inexpensive, but SLOW to respond.
570 N. Buffalo Street
Marshfield, MO 65706 (Crystals, $1.00 catalog)

International Crystal Mfg Co. 405-236-3741
10 North Lee Street Crystals!
Oklahoma City, OK 73102

ICM (International Crystal Manufacturing Co., Inc.) 800-426-9825
P.O. Box 26330: 701 W. Sheridan
Oklahoma City OK 73126-0330

JAN Crystals 800-526-9825: 813-936-2397
P.O. Box 06017: 2341 Crystal Drive: Crystals
Ft. Myers, FL 33906-6017

Petersen Radio Co. (712) 323-7539
2735 Avenue "A"
Council Bluffs, IA 51501 Crystals

Ryan Communications 412-368-3859
BOX 111E Camelot Road (QRP CW transmitter, ready made,)
Portersville, PA 16051 (and transmitter kits, crystals)

Velco Electronics (716) 924-2073
Address needed (716) 924-2136 = FAX
Crystals

I hope that helps you!

This list was prepared by AF4K, Brian Carling
Please send additional sources for inclusion in this list.
If you go to a hamfest and see someone selling crystals, please
get a card and send me their name, address and phone number.

AF4K @ W3INK
(301) 990-6070
brian.carling@acenet.com

~ SLMR 2.1a ~ Practice DELIBERATE kindness and unselfish acts of love!

659. Re: Biasing RF power transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-20 14:20:44 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <388249648wnr@ifwtech.demon.co.uk>
Source record: 114307

In article: <regnault_j_c-2002951124200001@mokuyoubi.srd.bt.co.uk>
regnault_j_c@BT-WEB.bt.co.uk
(JOHN REGNAULT) writes:
:
: In article <1995Feb20.033309.25392@ultb.isc.rit.edu>,
: jdc3538@ultb.isc.rit.edu (J.D. Cronin) wrote:
:
: > When biasing an RF power transistor for linear operation, is the end
: > result a fixed base voltage or fixed current? The Motorola app note
: > on biasing for linear operation (AR511) mentions a .63-.67 volt typical
: > value. But construction projects say to adjust bias to a given
: > current draw, say 100 ma.
: > Which view of it is right?
: >
: When you are biasing for linear opperation, the answer is almost fixed
: voltage. What you actually need to do is supply enough base bias current
: over the whole of the drive cycle. This may be two or five mA for the
: standing bias (giving the typical 100mA collector current) or up to 1A at
: the peak of the drive cycle(up to 15A collector current). As you may be
: able to guess from typical ib vs. Vb curves this is not stricly constant
: voltage but pretty close. Adjust your bias for 100mA or whatever the
: transistor manufacturer's recommended value is, but also check that your
: bias supply will work under full drive conditions.

To amplify what John says, it's very important to design the bias
supply to be able to deliver the maximum base current required at
peak RF drive power. Many commercial PAs don't do this, and the
transistor slides towards Class C on speech peaks. The rest of us
can hear the results all across the band!

The conventional bias circuit with a diode and a resistor is basically
a shunt regulator, and needs to be shunting many times more current
to ground than it's asked to deliver to the base. In other words, if
Ic = 15A and Ib = 1A, the bias circuit should be shunting several amps
to ground at all times. As I said, most commercial circuits fail
miserably to do this.

A much better answer is an electronic bias regulator which adjusts
itself according to the current demand. In that case the standing
(shunt) current in the base bias circuit need be only a little higher
than Ib_max. Motorola, Philips and other appplication notes give
suitable circuits.

: > And where does temperature compensation
: > come in?

:
: As the temperature of the base emitter junction in a transistor rises, the
: current drawn from a fixed voltage bias supply increases and consequently
: the collector current goes up.

Specifically, as the PA transistor junction heats up, its Vbe voltage drop decreases and the constant-voltage bias supply pushes more current into it. This in turn increases Ic and tends towards thermal runaway.

: Therefore to prevent the RF transistors
: going into thermal runaway the base bias supply requires temperature
: compensation to reduce the bias voltage when the RF transistor gets hot.

Usually this is a diode which is mounted on the heatsink close to the PA device, arranged so that the bias voltage drops when this diode's Vbe decreases. Better than a wire-ended diode is the diode made from a TO220 PNP transistor with base and collector connected together, and the collector tab bolted down to the heatsink. (Draping a wire-ended diode across the top of the PA transistor is really pretty pathetic.)

The problem is that the diode junction can never accurately track the temperature of the PA transistor junction, except over timescales of several minutes. Thermal runaway, on the other hand, can be all over within a few tens of seconds. Unless the PA is one of those rare and fancy devices with an on-chip temperature compensating diode, the only solution is a larger heatsink - yet another area in which many commercial PAs fall short.

Perhaps the best solution of all is to use RF power MOSFETs, which don't have the same thermal runaway habit as bipolars (they have other methods of suicide instead).

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

660. Re: 40 Meter Traps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-20 16:35:34 UTC
From: hoff@enterprise.america.com
Message-ID: <hoff.35.2F48C4D5@enterprise.america.com>
Source record: 114308

Would like to get a copy of the article in Dec 84 QST thats about making
40 meter traps. Is there anywhere on internet that might find it?
Thanks

W8MHH hoff@enterprise.america.com

661. Re: Help Wanted on Xmtr Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-20 18:23:44 UTC
From: zlau@arrl.org
Message-ID: <1995Feb20.182344.16298@arrl.org>
Source record: 114310

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: In article <3hr481$ljl@m.ehd.hwc.ca> gsymonds@hpb.hwc.ca
(Gordon Symonds) writes:
: >I need some help in designing a 1927s vintage CW transmitter.
: >I want to use a one tube crystal oscillator driving a pair of
: >P-P 10s with balanced input and output. My questions are:

: Cathode keying would be authentic, but with a 0.5 watt oscillator,
: you'll have a strong backwave. If you key the oscillator, you'll
: get chirp. The best way is to use differential keying. You arrange
: the circuit so that the oscillator is keyed on before the PA so
: that the chirp will be over before transmitting, and the PA is
: keyed off before the oscillator. There were complicated delay
: circuits used years ago, but a pair of relays, one keying the
: other, will do the job.

Didn't people use multiple contacts on a straight key to get
differential keying? I wouldn't recommend this now, since
it places hazardous voltages on the key, but standards were
different then. I suppose you could make a long insulating
lever and enclose most of the key in a plastic box.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

662. QRP Kit Makers - 2/2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-20 18:51:21 UTC
From: N5EM@aol.COM
Message-ID: <950220135120_27021434@aol.com>
Source record: 114311

Here is part 2:

>>> Continued from previous message
NOR-CAL QRP Club (916) 487-3580
c/o WA6GER @ KM6PX
3241 Eastwood Rd., QRPp magazine, NOR-CAL40, Sierra kit
Sacramento, CA 95821 Other nifty QRP kits & projects

North Country Radio (518) 854-9280
PO Box 53, Wykagyl Station,
New Rochelle, NY 10804-0053 ATV kits.

Novatech Instruments Inc. (206) 328-6902
1530 Eastlake Avenue East (206) 328-6904 = FAX
Seattle, WA 98102 Direct DIgital Synthesizer kit 2Hz-12MHz

Oak Hills Research (800) 842-3748 / (616) 796-1460 = Orders
Dick Witzke KE8KL (616) 796-0920 = Tech info.
20879 Madison Street (616) 796-6633 = FAX
Big Rapids, MI 49307 (20 & 40M CW QRP transceivers etc.)

Oatley ELectronics No phone number given
5 Landsdowne Parade
Oatley, Sydney,
New South Wales 2223
Australia Kits, parts, etc.

Pan-Com International (No phone listed)
Box 130
Paradise, CA 95967 Send $1 for catalog of 350 kits etc.

Penntek Electronics (717) 248-2507
14 Peace Dr. Boards, kits etc. including
Lewistown, PA 17044 The Neophyte Receiver, QST Feb 1988

Pervisell Ltd, Call 0494 443033 or Fax 0494 448236.
8 Temple End,
High Wycombe,
Bucks. FAX & RTTY Decoder kit 17 Pounds, UK
HP13 5DR. England

R.J. Portugal Need phone number!
52 Susan Lane Programmable AF/RF
North Haven, CT 06473 Sinewave generator kit 0-10 MHz $65

R & R Associates (213) 474-1315
3106 Glendon Avenue

Los Angeles, CA 90034
[Richard Rathburn, KB6NQ] "I mainly sell pc boards from QST, Radio Electronics, etc., and a few of in-house design. I also sell IC's,etc." Send a SASE every now and then for his most recent flyer & also has boards for some Motorola Application Notes.

Radio Devices (508) 480-0502
(Bob Levine KD1GG) Gel Cells, antennas
32 Queens View Road Hamcall CD-ROMs, Ramsey kits etc
Marlboro, MA 01752 checks/MO only, no credit cards.

Radiokit (603) 635-2235 FAX: (603) 635-2943
P.O. Box 973
169 Jeremy Hill Road RF components, variable caps, coils
Pelham, NH 03076 $1 catalog

Ramsey Electronics (716) 924-4560
793 Canning Parkway FAX: (716) 924-4555
Victor, NY 14564 (RCVR & QRP transmitter, keyer kits etc.)

Ryan Communications (412) 368-3859
BOX 111E
Camelot Road (QRP CW transmitter, ready made,)
Portersville, PA 16051 (and transmitter kits, crystals)

SCS No phone number given
P.O. Box 680
New Hartford, CT 06057 Morse keyboard kits

S & S Engineering (301) 416-0661
14102 Brown Road (301) 416-0963 = FAX
Smithsburg, MD 21783 ($270 ARK-4 CW transceiver kit etc.)

Small Wonder Labs (203) 667-3536
Dave Benson, NN1G
80 East Robbins Avenue
Newington, CT 06111 QRP transceiver kits for about $50

Sunset Electronics (No number listed)
12145 Alta Carmel Ct. Suite #250-139
San Diego, CA 92128 ("Build your own ham radio")

T.A.P.R. Inc. (817) 383-0000
8987-309 E. TANQUE VERDE Rd. # 337
Tucson, AZ 85749 TNC kits for packet radio etc.

Technologic Concepts No phone number given
1803 Mission Street #308 Internet: tlcdhconsult@delphi.com
Santa Cruz, CA 95060 Ramsey FX & Icom 22S conversion kits

Techsonic (610) 834-1978
1642 Butler Pike, Suite 127B
Conshohocken, PA 19428 QRP / QRPp transmitter kits 40,30,20m

Tejas RF Technology (713) 879-9300
P.O.Box 720331 FAX: (713) 879-9494
Houston TX 77272-0331 Tejas Backpacker-II QRP kit etc.

Ten-Tec (615) 453-7172 (800) 833-7373
1185 Dolly Parton Parkway FAX = (615) 428-4483
Sevierville, TN 37862 Great kits, accessories etc.
Internet: 74130.212@compuserve.com Eric Guinn or Gary Barber
$15.00 minimum

Tiare Publications (414) 248-4845
P.O. Box 493W
Lake Geneva, WI 53147 (Books on QRP etc.)

Townsend Electronics Inc. (219) 594-3661
Box 415 S (219) 594-5580
Pierceton, IN 46562 (Howes HF Kits from England)

W1FB
Box 250
Luther, MI 49656 QRP CW transmitter kits

Xandi Electronics (800) 336-7389
P.O. Box 25647
Tempe, AZ 85285 Kits, parts etc.

Brian Carling, AF4K
brian.carling@acenet.com
AF4K @ W3INK

Brian compiled this list. If you discover corrections please email Brian.

Thanks,

Ed - N5EM

663. QRP Kit Makers - Part 1/2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-20 18:52:56 UTC
From: N5EM@aol.COM
Message-ID: <950220135254_27023032@aol.com>
Source record: 114312

As I promised, even though it took a while. Good soldering.

"624 Kits" (803) 579-6262 day / 583-1304 eve.
171 Springlake Drive
Spartanburg, SC 29302 (QRP kits & accessories)

A & A Engineering (714) 952-2114
2521 W. La Palma #K Stas Andrzejewski, W6UCM (Keyer,
Anaheim, CA 92801 Battery charger, SELCALL, freq synth kits etc.)

C & S sales inc (800) 292-7711
1245 Rosewood ave
Deerfield Il 60015 Test gear, kits, $35 rcvr for 2m/6m etc.

Circuit Board Specialists June 1993 Mailed returned, no forwarding
address
P.O. Box 969
Pueblo, CO 81002 (Various kits & projects, P.C. boards)

Circuit Specialists Inc. (800) 528-1417
Box 3047
Scottsdale, AZ 85271 Electronic components incl. RF parts

Communication Concepts Inc. (513) 426-8600 or (513) 220-9677
508 Millstone Drive (513) 429-3811 = FAX
Xenia, OH 45385 (HF linear amp kits etc.)

CQ RADIO KITS (416) 775-9119
Box 1546
Bradford, ONTARIO
Canada L3Z 2B8 QRP xcvrs, rcvrs, keys etc.

Crystal set society (314) 725-1172
P.O. Box 3026
St. Louis, MO 63130 Handbook, projects, formulas

Cy-ance Kit, (501) 839-8293
14786 Slate Gap Road
West Fork, AR 72774 80 different kits

Dan's Small Parts And Kits (Formerly KA7QJY Components)
1935 S. 3rd W. #1
Missoula MT 59801
1-406-543-2872 SASE for a current list of parts. RF parts,
(801) 563-5173 (Danny Stevig)

DWM Enterprises (No number listed)
1709 N. West Avenue #103

Jackson, MI 49202 (Mobile SW converter & simple QRP plans)

DX Radio Supply (610) 273-7823
Box 360 Call or write for catalog
Wagontown, PA 19376 Kit retailer. Ramsey, etc.

Electrogadgets Inc.
P.O. Box 2065
Morris Township, NJ 07962 Digital voice recorder kits $20.00

Electronic Goldmine (602) 451-7454
P.O. Box 5408
Scottsdale, AZ 85261 Kits, parts etc.

Electronic Rainbow (317) 291-7262 / -7269 = FAX
6254 LaPas Trail
Indianapolis, IN 46268 Various electronics kits

Elktronics Northeast Co. (603) 525-4001
Rt. 1 Box 789
Hancock, NH 03449 VFO kit, RF amp, filters etc.)

Hambrew Magazine 1-800-5-HAM-RIG
c/o George De Grazio, WF0K
P.O. Box 260083 Quarterly Magazine for builders $10/year
Lakewood, CO 80226 HF, QRP, VHF, XMTRS, RCVRS, QRO, ANTENNAS

Hamtronics, Inc. (716) 392-9430 / - 9420 = FAX
65 Moul Road 10m, 6m, 4m, 2m, 220
Hilton, NY 14468-9535 Receiver kits, receivers, converters

C.M. Howes Communications (44) 327-60178
Eydon, Daventry,
Northants NN11 6PT
England QRP transmitters, receivers, misc. Also
sold by Townsend Electronics in the U.S.

Idiom Press (No phone given)
Box 1025
Geyserville, CA 95441 Computer controlled keyer kit

J Comm (716) 924-0422
793 Canning Parkway FAX (716) 924-4555
Victor, NY 14564 (QRP HT rigs for 80 - 6m, $350.00)
Computer interfaces etc.

Kanga US (N8ET) (419) 423-5643
3521 Spring Lake Drive Biggest & best catalog of QRP kits!
Findlay, OH 45840 QRP kits, projects etc.

KD4YBC No phone number given
197 Chickasaw Lane
Myrtle Beach, SC 29577 HF linear amplifier kits, 14V DC

KD4YBC No phone number given
197 Chicasaw Lane
Myrtle Beach, SC 29577 H.F. amplifier kits

Lake Electronics (44) 0602-382509 (Alan G4DVW)
7 Middleton Close
Nuthall
Nottingham NG16 1BX
England QRP kits, receivers, accessories etc.

Lectrokit No telephone [FAST response!]
401 W. Bogart Rd.
Sandusky, OH 44870 (QRP Transceiver kits, P.C. boards etc.)
>>> Continued to next message
--

664. Fix for loose IF slugs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-21 06:02:12 UTC
From: Wayne Hall <74361.2114@CompuServe.COM>
Message-ID: <3ibvl4$a6i$1@mhadf.production.compuserve.com>
Source record: 114314
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I have a vacuum tube transceiver whose former owner must have done too many alignments because the rf and if transformer slugs have become quite loose and the rig won't keep an alignment for long. I thought about the old trick of using wax to hold the slugs but I suspect the temperature in the rig may be too high for wax to hold. Has anyone tackled such a problem before?

Thanks,
Wayne Hall
WB4OGM

665. Re: Where to buy crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-21 15:19:06 UTC
From: TLJJ98A@prodigy.com
Message-ID: <3id09a$1a2k@usenetp1.news.prodigy.com>
Source record: 114170

Wow, you guys are really creating old-time crystal radios? My Grandfather had a radio-making business during the depression. When I was about 10 years old (1964) my dad and I were given a few boxes of Grandpas old radio parts. My dad and I then made our own crystal radio, using the technique of poking a cat's whisker onto different parts of the crystal. We used only hand made stuff. It was wild and worked very well. Before he died, Grandpa gave me all his old electricity encyclopedia that he had bought in 1914 and it tells how to make everything that was known then, including a crystal radio. Up until Grandpa died (1993), he used a crystal radio he had build a few years before, as well as a modern-day CB radio. He even used to make his own batteries and tubes from scratch!

Rick

666. Re: Question on Yagi Feed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-21 17:58:07 UTC
From: James <james@james.james.james.james.james.james.com>
Message-ID: <3id9jf$kpu@golf.ustores.missouri.edu>
Source record: 114316

=

How do you build a 20m yagi?

667. hello guys

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-21 18:03:41 UTC
From: slug@ciunix.uc.pt
Message-ID: <3id9tt$79h@gnu.mat.uc.pt>
Source record: 114317

Hello guys!

I get my ham licence last month...class B: here in PortugaL
is the maximum degree of operation that you can get
on the exam:)
Well, now i need you help:
-were can i get ARRL Amateur Handbook, and how much would it cost
-were to find good schematics and simulators programs
-tips, because i want to build my own Radio, and Antennas

I was a CB'er...no Power amplifiers or illegal stuff never
used! I' m a GOOD and respectable CB

CB:CQG9304 and others... Ham: CT1FOX

668. Re: HELP NEEDED QSK LINEAR CONVERSION

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-21 18:27:39 UTC
From: Grant Youngman <gyoungma@gtetel.com>
Message-ID: <3idbar$kkn@ceylon.gte.com>
Source record: 114168

wb4ijn@awod.com (Steve Thomason) wrote:
>
>
> Does anybody have any experience in converting mechanical relays in
> a linear for use with QSK? Pin diodes vs. vacuum relays? Sources
> of parts?
>
> I am going to build a solid state, no tune amplifier running around
> 600 watts PEP output and am going to power it from deep cycle batteries
> of from 12.8 to around 18 volts.
>
> Any suggestions or experiences would be appreciated.

You might consider purchasing the QSK-5PC module from Ameritron.
Single circuit board - not overly pricey... and it works very very
well.

73 .. Grant Youngman / NQ5T

669. Transistor Equivalents

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-22 01:15:33 UTC
From: ouspt@alinga.newcastle.edu.au
Message-ID: <3ie37l$id2@seagoon.newcastle.edu.au>
Source record: 114169

Hi All
I have been looking on the net for a site with transistor and IC
equivalents and specifications. I've only been on line for a short while
so perhaps I'm not doing the searches right.

My present interests are QRP Tranceivers which can be built without
special bits ie ferrite/iron powder cores, mixer IC's etc. These are
not available in my local Tandy or Dick Smith store.

Best regards and 73 from Steve VK2SPT
:x

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not available in my local Tandy Dick Smith

670. Re: Question on Yagi Feed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-23 00:11:56 UTC
From: dalex@eskimo.com
Message-ID: <D4FF7x.IJG@eskimo.com>
Source record: 114171

get an ARRL antenna hand book and look it up!

671. For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-23 02:28:17 UTC
From: snoopy@eri.erinet.com
Message-ID: <3igrs1$7b0@eri.erinet.com>
Source record: 114172

2-Meter ham radio

Realistic HTX-202

VHF-FM Handheld Transceiver

Included: Large-capacity nickle-cadmium batterie pack with charger,
Alkaline battery case, Rubber-duck Antenna, Telescoping Center-loaded
HT Antenna, etc.

Only 5 months old

$199.95 (send email for more info.)

672. Re: Searching for WB8DQT's software "morse.zip"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-23 04:27:39 UTC
From: e8626609@stud1.tuwien.ac.at
Message-ID: <e8626609.10.00498051@stud1.tuwien.ac.at>
Source record: 114079

>My father OE5LCO read in the magazine QST (January '95) the article
>"Quick and Easy CW with your PC" written by WB8DQT.

>He would like start this project, but there is also software necessary, which
>WB8DQT has written.

>The only problem is to get this software.

>It seems to be only available at following entries:

>- ARRL BBS 203-66-0578

There is an ARRL mirror at FTP server oak.oakland.edu.
I found "morse2.zip" in /pub3/hamradio/arrl/qst-binaries .

(Sorry for posting I have found the FAQs too late.)

Hans Czylok

673. Re: Transistor Equivalents

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-23 14:23:20 UTC
From: d.diamond@trl.oz.au
Message-ID: <d.diamond.180.000E6403@trl.oz.au>
Source record: 114175

In article <3ie37l$id2@seagoon.newcastle.edu.au> ouspt@alinga.newcastle.edu.au (Truscott S P) writes:
>Path:
>newsserver.trl.OZ.AU!harbinger.cc.monash.edu.au!news.cs.su.oz.au!metro!seagoon.n
>ewcastle.edu.au!alinga.newcastle.edu.au!ouspt
>From: ouspt@alinga.newcastle.edu.au (Truscott S P)
>Newsgroups: rec.radio.amateur.homebrew
>Subject: Transistor Equivalents
>Date: 22 Feb 1995 01:15:33 GMT
>Organization: The University of Newcastle
>Lines: 37
>Message-ID: <3ie37l$id2@seagoon.newcastle.edu.au>
>NNTP-Posting-Host: alinga.newcastle.edu.au
>X-Newsreader: TIN [version 1.2 PL2]

>Hi All
>I have been looking on the net for a site with transistor and IC
>equivalents and specifications. I've only been on line for a short while
>so perhaps I'm not doing the searches right.

>My present interests are QRP Tranceivers which can be built without
>special bits ie ferrite/iron powder cores, mixer IC's etc. These are
>not available in my local Tandy or Dick Smith store.

>Best regards and 73 from Steve VK2SPT
>:x

Greetings Steve.

Tandy and Dick Smith, as you know, have a limited range of radio type devices and IC's, which can rather "cramp your style" if you want to build circuits from QST etc. Trying to substitute so-called "equivalents" can be rather frustrating too. A good project writer will always try to use and specify devices which are available (at time of preparation), so why not simply take advantage of the information given? Buy your components mail order- it's easy and fun (a bit like receiving a little present in the mail- only you pay for it).

Like to build a neat little 80 M SSB/CW transceiver using easy to get parts? See "Amateur Radio" Oct 1993 (40 M version in preparation).

73, Drew, VK3XU. Telecom Australia Research Laboratories .
you don't have a Most good project pr, because they never are the equive.

674. Re: Digital Radio Link ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-23 19:06:32 UTC
From: tvr@cnmat.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Feb23110632@cnmat.CNMAT.Berkeley.EDU>
Source record: 114173

I believe the Motorola MC3362 (or newer version) will decode 1200 Baud FSK. It is a Dual Conversion rx, inexpensive and uses inexpensive parts. Uses common 10.7 IF filter then 455 Khz filter both in DigiKey catalog. Contact me if you need help finding parts.

However, 1200 bps packet uses AFSK, not FSK. Both QST and 73 Magazine have projects to make a packet modem, which then uses a software TNC (SoftKISS 1.8 on a Macintosh -- references upon request). If you want to talk to most of the folks doing packet these days (in this area at least), that's probably the best homebrew way of getting started. It's one IC and for the Mac, steals its power from their differential equivalent of RS232. (Add a timer IC if you want to run unattended, in case the CPU crashes with PTT asserted.)

I believe QST also has a receiver project using the MC3362, including PC artwork (get the corrected version, reference upon request), but that copy had been filched from my local library, so i haven't chased down that reference myself. I haven't had a chance to look, but i think Ramsey has a 2 meter receiver kit which might be a convenient way of getting the parts to get started with even if you choose not to use his design.

The first hetrodyne oscillator is left up to you as a project though.

If you do your own VCO, Motorola claims you can work the 440 band. The MC3363 is a slightly smarter chip, but you'll have to find a adapter to go from surface-mount to DIP. Needless to say, use a good ground-plane and be careful about layout.

Two questions:

Has anyone tried using the Motorola stuff at or above 9600 baud?

Anyone in the Bay Area interested in elmering me on this stuff? While i've hacked TTL using early CAD software, RF is new to me.

Motorola also makes transmitter chips which cover the 6M band, and i wonder if that might be an interesting place to experiment. In my area, the local band plan only lists four packet channels, but two are currently listed as experimental, as opposed to sixteen in 2M, all of which are committed. The 220 band has the same problem, but isn't subject to a 20 KHz bandwidth restriction.

The first hetrodyne oscillator is left up to you as a project though.

You can use the IC's VCO at 2M and below, and "the MC3363 [apparently the same VCO] can be used with the MC14515x series of CMOS PPL synthesizers

and the MC120xx series of ECL prescalers in VHF synthesized applications to 200 MHz".[[Motorola Telecommunications Device Data, p. 2-52]] Perhaps a simple 10-turn trim-pot might suffice for bench testing, at least to determine that receiving digital is worth pursuing via this route.

Good luck (and let me know what happens).

-- KD6PAG (a networking old-timer)

675. Building radio into computer - need advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-23 19:20:38 UTC
From: dbrennen@ix.netcom.com
Message-ID: <3iin66$a86@ixnews1.ix.netcom.com>
Source record: 114174
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.scanner,rec.radio.amateur.shortwave

I'm building an interface card for an IBM 486 as a school project. The card would be a radio frequency tuner that would be controlled by a window on the display. I want to include the standard FM band (I have a commercially made card that does this already), but would like it to tune 1 or 2 more bands that would be of interest to an average PC user (like weather or aircraft). What I need are suggestions on: which frequency bands to include, which electronically tunable chips to select, and any other ideas on ways to make this project work. Thanks for any help. Sean Manning.

676. Re: Air core coil in VFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-24 02:34:05 UTC
From: royle@tekgp4.cse.tek.com
Message-ID: <3ijgit$mvn@tekadm1.cse.tek.com>
Source record: 114176

randolph@est.enet.dec.com (Tom Randolph):

>Anyone ever experiment with air-core coils in the VFO tank?

>I'm in the planning stage of a 40m rcvr. I want to try to get rid of some of
>the drift problems associated with toroids in the VFO at this time.

>. . .

I did quite a few experiments with inductors some years ago, particularly looking for ones with low drift as VFO inductors. Here are some of the things I found:

1. Make sure you know what the sources of drift are. It's quite common to see a design which compensates lousy capacitors with a lousy inductor. This approach tends to be poorly repeatable. I've tried to minimize drift from all sources, and came up with a simple oscillator I used in my little "Optimized" QRP rig. (See the '94 Handbook or a couple of issues before that. Note that there's an error in the buffer circuit in the '92 Handbook.) Good-quality NPO ceramic capacitors were found to have the lowest drift.

2. In general, air core inductors aren't the best. This is because unless they're quite large, they tend to have lower Q than a properly-designed toroid. Also, solenoidal inductors produce a large field. Besides the problems of crosstalk, coupling into shields, ground planes, and other objects lowers the Q, sometimes severely. Lower Q increases heating and therefore drift.

3. The best material I found for an inductor was type 6 powdered iron. Type 7 (not available when I did my experiments) has a slightly lower specified temperature coefficient, but has lower permeability. This might result in a lower-Q inductor, which could offset or negate the gain due to the lower tempco. Wes Hayward, W7ZOI had an article in QST a year or two ago outlining simple ways to do good, repeatable measurements of oscillator drift.

4. I couldn't find a ferrite which came anywhere near the powdered iron in low-drift characteristics.

5. The design I ended up with is quite repeatable and exhibits about 200 Hz warmup drift at 7 MHz. This can be compensated if desired with a small amount of polystyrene capacitance as part of the tank C.

6. There are very few materials you can coat a coil with without lowering the Q very noticeably. Among the ones which will lower the Q substantially are epoxy, hot-melt glue, and acetic-acid-curing RTV. It's best to leave the coil uncoated.

Hope this helps.

73,
Roy Lewallen, W7EL
roy.lewallen@tek.com

677. Transistor Equivalents

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-24 12:28:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.832.546@acenet.com>
Source record: 114177

From: brian.carling@acenet.com.us

Please E-mail a copy of the info to me if you get any good replies on
this! Thanks - Brian, AF4K

TSP>Hi All
TSP>I have been looking on the net for a site with transistor and IC
TSP>equivalents and specifications. I've only been on line for a short while
TSP>so perhaps I'm not doing the searches right.

TSP>My present interests are QRP Tranceivers which can be built without
TSP>special bits ie ferrite/iron powder cores, mixer IC's etc. These are
TSP>not available in my local Tandy or Dick Smith store.

\\\\\ XXXXX /////
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oOOO(_)OOOo oOOO(_)OOOo oOOO(_)OOOo
brian.carling@acenet.com.us in Maryland USA
Amateur Radio AF4K

SLMR 2.1a Adopt BABIES, not manatees!

678. Re: Need VN10KM Data sheet.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-24 14:43:17 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <793636997snz@lfheller.demon.co.uk>
Source record: 114178

In article <3imab0$39k@newsbf02.news.aol.com> jimn0oct@aol.com "JimN0OCT" writes:

> Anybody have the data sheet for a VN10KM--a popular FET in britain, and
> available locally to me cheap. Would like to do some work with this
> beastie for QRP stuff, but none of my references have the device listed.
>
> Would appreciate the data on it. Either reply here or email is fine.

Ptot (max) 1 W
Vds (max) 60 V
Vdg (max) 60 V
Vgs (max) 5 V
Gate threshold voltage 0.3 to 2.5 V
Igss (max) 10 uA
Forward transconductance 200 mS
Id (max) 0.5 A
Idss (max) 10 uA
Max I/P cap. 48 pF

I don't have a data sheet, but found this in a Maplin catalogue.
Unlike the VN66AF, which is given as 600 MHz, the max. freq. isn't given,
but it should be quite suitable for HF, like the VN66, which is often
used for QRP, I think.

73, Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

679. Re: Soldering Copper to Aluminum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-24 16:03:32 UTC
From: dickrb@lsid.hp.com
Message-ID: <D4IHxx.7yn@hpcvsnz.cv.hp.com>
Source record: 114179

Hello

Sorry to inform you but you CAN solder copper to aluminum!!

I have done it many times using a heavy-duty soldering iron, common solder and some hi-temp oil to provide a barrier to atmospheric gasses.

de w7wkr

680. Re: Looking for Thin Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-24 19:29:42 UTC
From: fageolb@freenet1.scri.fsu.edu
Message-ID: <3ilc36$hal@freenet3.scri.fsu.edu>
Source record: 114180

such small wire is usually used in electronic discharge machining.
I can get some for u I think - pls advise particulars
Bill - KA9A

--
Bill Fageol

fageolb@freenet.fsu.edu
KA9A@W9INX.IN

681. Re: Soldering Copper to Aluminum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-24 20:48:44 UTC
From: gcouger@jsun.okstate.edu
Message-ID: <3ilgnc$j83@bubba.ucc.okstate.edu>
Source record: 114181

In article <phb.793651582@melpar>,
Paul H. Bock <phb@syseng1.melpar.esys.com> wrote:
>there is special solder with an anti-oxidant flux which can be used,
>but I've never seen or bought any.

I have tried every special solder for AL I could find. They all work to some degree. They all have two failings. They are brittle and they are "short" they go very quickly from solid to liquid. You can not make a "bead" like you can with brass and to a lesser extent solder.

Most have less resistance to crosion than AL or solder. I also suspect that there could be electroletic crosion(sp) problems.

Most are stronger than AL.

Gordon AB5DG

682. Re: Convert CB to 10m for listening?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-24 21:13:49 UTC
From: R0264@info.onet.edu
Message-ID: <1734FE442S86.R0264@info.onet.edu>
Source record: 114182

In article <3i8vuf$6tb@tahoma.cwu.edu>
calhoun@tahoma.cwu.edu (Dave Calhoun) writes:

>
>I have my GREAT-GRANDFATHERS heathkit cb at my house. It has a socket on
>the front for inserting crystals. I would like to know if it will be
>possible to use this cb for listening to 10m when it gets good again. If
>it is possible how would I do it? Thanks,
>dave
>
Heathkit stuff usually comes with some documentation, and most users
tend to hang on to it. If you can find out the frequencies of the
original CB crystals, you might be able to figure out what
crystals you need to convert from CB (26.9 to about 27.4 Mhz) to
10 meters (28.0 to ... 29.something). It may have used 3rd
overtone crystals, about 9 Mhz, and it may have used heterodyning,
so sums and differences might have been involved in getting into
the CB range. Phil Emerson, AA8JO.

683. 500 MHz prescaler

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-24 22:40:19 UTC
From: csummers@bnr.ca
Message-ID: <3iln8j$imf@batph8.bnr.ca>
Source record: 114183

Hi, I would like to know if anyone has a design for a 500 Mhz -> 50Mhz prescaler (ie /10), for a frequency counter. TTL/CMOS voltages desired.
Thanks
KS4IT
--
Chuck Summers
Bell Northern Research, Inc.
705 Westech Drive
Atlanta, GA 30092
(404)246-2706

684. "W7ZOI" mod to R2 preamp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-25 04:19:03 UTC
From: rohrwerk@orac.holonet.net
Message-ID: <3imb3n$4j1@colossus.holonet.net>
Source record: 114184

December 1994 QRPp has an article by John Liebenrood, K7RO, on his transceivers using the Rick Campbell R1/R2 receivers and T2 exciter.

I am scratching my head about his suggested modification to the preamp after the diode ring mixers that claims to "reduce the noise figure from 20 dB to 12 dB".

It's even attributed to Wes Hayward! Shall we genuflect? ;) Well, this skeptic has some doubts before accepting this on faith.

The original circuit is just like W7EL's "Optimized QRP Transceiver" -- a common-base 50 ohm preamp, an active decoupler transistor, and an emitter follower.

The modification suggested in John's article basically makes the second stage a common emitter amp, thus increasing the gain. But does this reduce the "noise figure", ladies and gentlemen? Something sounds fishy, or maybe some terms were used loosely.

Rick said most of that high noise figure (the amount greater than the 12 dB or so attributed to the mixer loss and preamp noise) was due to diode flicker noise below a 10 kHz IF. If this were so, additional gain after the mixer and first preamp stage would not change this!

Is it possible that under some circumstances this extra gain would override the noise of succeeding stages? If this were so, it would seem risky because of the overload margin of the stages following (in the R2, at least, where the preamps are followed by opamp audio phasing networks).

Comments?

John Seboldt, K0JD
Minneapolis, MN

685. Want Baycom TNC Info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-25 06:12:00 UTC
From: nroskop@du.edu
Message-ID: <3imhng$beg@cassandra.cair.du.edu>
Source record: 114185

Keywords:

I am interested in information regarding the Baycom/pac type modems. What internal freq. do they run at, What does each of the parts do,, does anyone have a parts list, or have stories of building such items, or know where I might find information. I am thinking of building this for my engineering honors project and need information and schematics. Please help me.

Any information cn be emailed to <<nroskop@du.edu>>

Thanks in advance for all the timely replies.

Goodday Nathan J. Roskop <<n0wpg>>

686. Want Baycom TNC Info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-25 06:24:10 UTC
From: nroskop@du.edu
Message-ID: <3imiea$r77@cassandra.cair.du.edu>
Source record: 114186

Sorry that the message got cut off. It did on my viewer. So I will post my
message again.
I am interested in doing an honors project where I can build such
a modem like the baycom/pac TNC. If you have any informtion, parts list, schematics,
descriptions of each part and thier function, building experiences, or anything that might
be of help please email <<nroskop@du.edu>> with all replies.
schematics, descriptions of each part an d their function, buildin experiences
or any thing that might be of help please email <<nroskop@du.edu>>
Thanks in advance for the timely replies

Nathan J. Roskop >>n0wpg<<

As a quick side note. I am starting an amateur radio club here at the
University of Denver. Anyone's previous experiences with this type of thing
would be appreciated. Or any questions from the local Denverites.
ZZ
ZZ

687. Re: Soldering Copper to Aluminum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-25 11:46:36 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb25.114636.2954@ke4zv.atl.ga.us>
Source record: 114187

In article <D4IHxx.7yn@hpcvsnz.cv.hp.com> dickrb@lsid.hp.com (Dick Bingham) writes:
>Sorry to inform you but you CAN solder copper to aluminum!!
>
>I have done it many times using a heavy-duty soldering iron, common
>solder and some hi-temp oil to provide a barrier to atmospheric
>gasses.

Absolutely, the oil's the trick. Scratch the aluminum bright under
the oil to get rid of the oxide coating, tin the aluminum with a
hot iron and regular solder *through the oil*, clean off the oil,
and then solder as normal. This is a great way to make soldered
connections to aluminum chassis.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

688. ARRL Radio Designer Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-25 15:18:59 UTC
From: paulg@gate.net
Message-ID: <3inhp3$1grr@tequesta.gate.net>
Source record: 114188

Does anyone have the ARRL's "Radio Designer" software? I am trying to get my hands on a copy, and I don't know where to get it. Is there a newsgroup that would be more appropriate for this question? I'd appreciate any guidance you could give me.

Thanks,

PaulG

689. Re: Convert CB to 10m for listening?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-26 12:08:28 UTC
From: jlockwd@ix.netcom.com
Message-ID: <3ipqvs$9ic@ixnews3.ix.netcom.com>
Source record: 114189

In <frederick.mckenzie-1-2102951625540001@k4dii.ksc.nasa.gov>
frederick.mckenzie-1@kmail.ksc.nasa.gov (Fred McKenzie) writes:

>
>
>There is some AM activity above 29 MHz. It is mostly converted CB
>sets,

I believe you'll find it's mostly heavy, 'Murriken ahrn from the '50s
and '60s with names like Johnson, Heath, Globe on their front panels.
However converted CB sets work great when there is a band opening.

29.0 seems to be the general AM calling frequency. There is AM activity
from 29.0 to 29.2

73,

Jim Lockwood - km6nk/4

690. mmics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-26 16:26:43 UTC
From: hduff@humnet.westonia.com
Message-ID: <7770233817302@humnet.westonia.com>
Source record: 114190

>
> anyone know of a good source for mmic devices?
> ---------
> Fidonet: Stephen Thurber 1:109/239
> Internet: Stephen.Thurber@f239.n109.z1.fidonet.org
>

Sources for MMIC devices:

DownEast Microwave
954 Rt.519, Frenchtown, NewJersey 08825
phone: 908 996-3584 FAX: 908 996-3702

Microwave components of Michigan
P.O. Box 1697, Taylor, Michigan 48180
Sorry...no phone number

73 Hugh Duff VA3TO/VE3OYH Toronto

 NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---

691. New Bbs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-26 19:16:50 UTC
From: Chris.Ogg@f418.n109.z1.fidonet.org
Message-ID: <6c3_9502262002@blkcat.fidonet.org>
Source record: 114193

```
a new bbs is here check it out 301-294-2422
---------
Fidonet: Chris Ogg 1:109/418
Internet: Chris.Ogg@f418.n109.z1.fidonet.org
```

692. PIC beacon keyer cct.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-26 23:23:49 UTC
From: hduff@humnet.westonia.com
Message-ID: <7770-279123702@humnet.westonia.com>
Source record: 114191

For anyone interested, I have made available a text file including
assembly source code for a PIC16C54RC based single chip beacon
keyer circuit. Requires a PIC assembler and programmer.

FTP to humnet.humberc.on.ca
and go into the HAMRADIO directory. The file is called BCN_KEYR.ZIP

73 Hugh Duff VA3TO/VE3OYH Toronto

• NFX v1.3 [000] Graphic Offline Mail Reader.

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---

693. [WANTED] 5KHz receiver circuit...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-27 00:41:03 UTC
From: peterh@adacel.com.au
Message-ID: <peterh.793845597@server>
Source record: 114192
Cross-posted to: sci.electronics,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi,

I'm after a circuit design for a 5KHz receiver. It needs to be
a compact and low-power. It's detecting a 5KHz pulse that's
being generated from a very weak transmitting source.

Does anybody have such a circuit or is able to point me in the
right direction. My digital knowledge is good, my analog and rf
not so good.

Thanks in advance.

Peter.

--

Peter Homann email: peterh@adacel.com.au
Adacel Pty Ltd Work : (03) 596-2991
250 Bay St, Brighton 3186, VIC, AUSTRALIA Fax : (03) 596-2960

694. Re: Air core coil in VFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-27 13:32:08 UTC
From: randolph@est.enet.dec.com
Message-ID: <3it6d5$7fl@mrnews.mro.dec.com>
Source record: 114198

In article <3ijgit$mvn@tekadm1.cse.tek.com>, royle@tekgp4.cse.tek.com (Roy W Lewallen) writes...
>randolph@est.enet.dec.com (Tom Randolph):
>
>>Anyone ever experiment with air-core coils in the VFO tank?
>
>I did quite a few experiments with inductors some years ago, particularly
>looking for ones with low drift as VFO inductors. Here are some of the
>things I found:
>Roy Lewallen, W7EL

Thanks, Roy, and everyone else who responded. This is exactly the kind of info I was looking for.

I understand the drawbacks of solenoidal inductors, and am planning the VFO box/board layout to account for them (yup, it'll be pretty big and mostly empty). We have an HP impedance analyzer here at work that I'm planning to use to check the Q of the final coil. If I can't get decent results, I might go back to a #6 material toroid.

-Tom R. N1OOQ randolph@est.enet.dec.com

695. Re: kits 2/2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-27 17:56:23 UTC
From: adams@chuck.dallas.sgi.com
Message-ID: <D4o75z.9@odin.corp.sgi.com>
Source record: 114194

In article <2a6.725.546@acenet.com>, brian.carling@acenet.com (Brian Carling) writes:
|> >>> Continued from previous message
|> Oak Hills Research (800) 842-3748 / (616) 796-1460 = Orders
|> Dick Witzke KE8KL (616) 796-0920 = Tech info.
|> 20879 Madison Street (616) 796-6633 = FAX
|> Big Rapids, MI 49307 (20 & 40M CW QRP transceivers etc.)
|>
...snip snip...
|> Brian Carling, AF4K
|> brian.carling@acenet.com
|> ---
|> • SLMR 2.1a • Who'd a thunk it?!

I have asked Mr Carling several times to change this but
to no avail....

The two numbers listed in the first line for Oak Hills Research,
(800) 842-3748 and (616) 796-1460 are no longer any good and
have not been for almost a year. Please make note of this
in your copy if you happen to keep the list.

I have no ties to OHR, other than all the money I've spent on
all their kits. :-) Good quality and good prices with their
current pricing.

dit dit

--

Chuck Adams K5FO CP-60 adams@sgi.com

696. Re: Thyristor info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-27 18:45:35 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-2702951345350001@k4dii.ksc.nasa.gov>
Source record: 114195

In article <62289209wnr@ifwtech.demon.co.uk>, G3SEK@ifwtech.demon.co.uk wrote:
> It's a N260CH24, made by Westcode - certainly not a maker
> I've heard of before.

Ian-

From the D. A. T. A. Thyristor Volume:

Westcode Semiconductors Ltd.
P. O. Box 57 Chippenham
Wiltshire, SN15 1JL
United Kingdom
44 (249) 444-524
FAX: 44 (249) 659-448
TLX: 44751

I can't read the N260CH24 data column headings. It looks like it can
stand 2.4KV and 880 Amps, and is in a TO-200AC package. I suggest you
contact Westcode for more reliable data!

73, Fred, K4DII

697. Anyone using Radio Shack voice recorder chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-27 20:21:48 UTC
From: rossi@VFL.Paramax.COM
Message-ID: <1995Feb27.202148.4282@VFL.Paramax.COM>
Source record: 114196

Anyone on here using the digital voice recorder chip that Radio Shack has been selling? I forget the number. It will record/playback up to 20 seconds of audio. Normally sells for about $20 but last week my local RS had them on sale for $12... so I bought one.

I hooked it up over the weekend. Neat little chip. Non-volatile too. You can also cascade the chips for longer recording times.

It has a 6.4 KHz sample rate yet I would judge the overall audio quality as being at least good telephone quality or better. With an external amp/speaker it sounded pretty decent... even with music.

Anyone else playing with this chip? Not sure how much longer they are on sale.

Pete Rossi - WA3NNA
rossi@vfl.paramax.com
Unisys Corporation - Government Systems Group
Valley Forge Engineering Center - Paoli, Pennsylvania

698. Rhode's Communications Receiver Book Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-27 20:22:40 UTC
From: jsoft@MCS.COM
Message-ID: <3itcag$c86@Mercury.mcs.com>
Source record: 114197

I thried to orderRhode's book on Comm Receivers and was told it was out of print. Anyone want to sell be one?

--Joe Jesson

699. Re: Rohde's Communications Receiver Book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-27 22:31:38 UTC
From: dsweeney@vt.edu
Message-ID: <dsweeney.2.001687AF@vt.edu>
Source record: 114205

Rohde and Bucher, "Communications Receivers: Principles and Design" is listed in OPAMP Technical Book's current catalog. I recently purchased a copy of Zverev "Handbook of Filter Synthesis" from them after reading a number of postings that suggested that it was out of print. It may be, but OPAMP had a copy. BTW, you don't want to know what it cost!

OPAMP is in Los Angeles: (800) 4-BOOKS-1 or (800) 468-4322.

Standard disclaimer: my only connection with OPAMP is they get my money once in awhile. Hope this may be of value.

73 de WA4LPR
Dennis Sweeney
dsweeney@vt.edu

700. Source for building a simple autopatch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-27 22:32:43 UTC
From: jho@xilinx.COM
Message-ID: <199502272232.AA05219@clemenza.xilinx.com>
Source record: 114199

Dear Netter,

Does any know if there is anywhere that I can
find some info to build an simple autopatch for
V/UHF duplex operation?

I have seen some commercial products such as
CSI model PPV, CS800 etc. They are too fancy
to me.

tnx

73,

jonathan/ab6ls

701. Re: Ten-Tec 6m Xvrtr ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-27 22:56:20 UTC
From: res@cmprime.cis.att.com
Message-ID: <D4oL1w.qM@nntpa.cb.att.com>
Source record: 114200

I have one of the kits (unassembled) and 2 of my friends have them
assembled but we are a little slow in getting them tuned up.
The quality is very high. The cases are good too.
Ten Tec says the reason they put them on 20 meters was the proliferation
of compatible QRP kits available for 20 m. (I guess they are right
about that, but what about the Radio Shack 10 meter rigs which would
make great drivers for them).

Also, the docs are fantastic. There is a LOT of work that has gone into
the documentation. Very easy to use. Its a spiral bound book, lays
flat. Impressive.

Rick KT2Q

702. Re: Anyone using Radio Shack voice recorder chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-27 23:33:41 UTC
From: ddillon@csulb.edu
Message-ID: <3itngl$ref@garuda.csulb.edu>
Source record: 114201

Pete Rossi (rossi@VFL.Paramax.COM) wrote:
: Anyone on here using the digital voice recorder chip that Radio Shack
: has been selling? I forget the number. It will record/playback up to
: 20 seconds of audio. Normally sells for about $20 but last week my
: local RS had them on sale for $12... so I bought one.

: I hooked it up over the weekend. Neat little chip. Non-volatile too.
: You can also cascade the chips for longer recording times.

: It has a 6.4 KHz sample rate yet I would judge the overall audio quality
: as being at least good telephone quality or better. With an external
: amp/speaker it sounded pretty decent... even with music.

: Anyone else playing with this chip? Not sure how much longer they are
: on sale.
Yeah, I hve been playing with the chip for a while. There are a
umber of members in the local amateur radio club that I belong to that
are using the chip as a generator for the sound for the hidden
transmitter box for T-hunting. There is a circuit in a past 73 magazine
article that everyone is getting the schematic from.
good luck with the chip, and 73.

703. RE: SOLDERING COPPER TO A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 00:28:28 UTC
From: goodwin@kaiwan009.kaiwan.com
Message-ID: <3itqnc$j23@kaiwan009.kaiwan.com>
Source record: 114202

gary>Newsgroups: rec.radio.amateur.homebrew
gary>Path:
gary>kaiwan.kaiwan.com!wetware!nntp-hub.barrnet.net!olivea!charnel.ecst.csuchico.edu!nic-n
ac.CSU.net!usc!cs.utexas.edu!swrinde!gatech!kd4nc!ke4zv!gary
gary>From: gary@ke4zv.atl.ga.us (Gary Coffman)
gary>Subject: Re: Soldering Copper to Aluminum
gary>Message-ID: <1995Feb25.114636.2954@ke4zv.atl.ga.us>
gary>Reply-To: gary@ke4zv.atl.ga.us (Gary Coffman)
gary>Organization: Destructive Testing Systems
gary>References: <augxt01-240295174443@47.226.128.144>
gary><D4IHxx.7yn@hpcvsnz.cv.hp.com> Date: Sat, 25 Feb 1995 11:46:36 GMT
gary>Lines: 19
gary>Xref: kaiwan.kaiwan.com rec.radio.amateur.homebrew:6616

gary>In article <D4IHxx.7yn@hpcvsnz.cv.hp.com> dickrb@lsid.hp.com (Dick Bingham)
gary>writes: >Sorry to inform you but you CAN solder copper to aluminum!!
>
>I have done it many times using a heavy-duty soldering iron, common
>solder and some hi-temp oil to provide a barrier to atmospheric
>gasses.

gary>Absolutely, the oil's the trick. Scratch the aluminum bright under
gary>the oil to get rid of the oxide coating, tin the aluminum with a
gary>hot iron and regular solder *through the oil*, clean off the oil,
gary>and then solder as normal. This is a great way to make soldered
gary>connections to aluminum chassis.

Thanks Gary, for the more detailed explanation of Dick's suggestion. I
WILL be trying this one. Any suggestions on what type of oil to use?

73 de Larry, KC6WOG

 MR/2 2.03 NR 9 out of 10 rottweilers surveyed prefer Jehovah's Witnesses.

704. Re: mmics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 01:34:00 UTC
From: micron3@aol.com
Message-ID: <3itui8$ga9@newsbf02.news.aol.com>
Source record: 114203

Microwave components of Michigan
P.O. Box 1697, Taylor, Michigan 48180
(313) 753-4581

They carry a variety of MMICS, call Norm for specifics.

Terry

PS I don't work for or have any association with Microwave components of Michigan, I just buy stuff from him. I have always recieved excelent customer service from Norm.

705. Cure for noisy roller inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 05:53:56 UTC
From: mjsilva@ix.netcom.com
Message-ID: <3iudpk$obv@ixnews3.ix.netcom.com>
Source record: 114204

When I crank the roller inductor in my antenna tuner it creates quite a racket (electrical, not mechanical) in my receiver. I can live with it, but if there's a simple cure I'd like to hear about it. Thanks.

73,
Mike, KK6GM

706. Anyone seen Sound Blaster to Phone ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 07:49:33 UTC
From: sam@ccnet.com
Message-ID: <3iukid$4rc@ccnet.ccnet.com>
Source record: 114206

Hi, I'm not a ham, but my friend (who is) suggested that I ask here. I am trying to hook up a standard Creative Labs sound blaster card to a phone line, both talk and listen sides (I also hope to generate touch tones with the SB's FM generator). Any information/article references appreciated.

```
-------------------------------------------------------------------------------
| JUST SAY NO -- TO THE GIF (Greed Is Fundamental) FORMAT. |
| SEND "STEALTH STANDARDS" BACK TO HELL WHERE THEY CAME FROM. |
-------------------------------------------------------------------------------
| Get slip access for shell prices with TIA ! |
| Microwave: Def: Device used in the manufacture of rubber goods. |
| Fuzzy logic: Def: Method of engineering taught by several universities. |
| Segmentation: Def: A small box used to keep programmers in. |
| Get a life ! Now available for very reasonable terms and prices. |
| |
| SAM is sam@ccnet.com |
-------------------------------------------------------------------------------
```

707. Re: [WANTED] 5KHz receiver circuit...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 12:30:58 UTC
From: richardm@zeta.org.au
Message-ID: <3iv522$2s5@godzilla.zeta.org.au>
Source record: 114215
Cross-posted to: sci.electronics,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <peterh.793845597@server>,
Peter Homann <peterh@adacel.com.au> wrote:
>Hi,
>
>I'm after a circuit design for a 5KHz receiver. It needs to be
>a compact and low-power. It's detecting a 5KHz pulse that's
>being generated from a very weak transmitting source.

You might like to check out the article "Communicating Underground" (or some such) in the December 1994 issue of Electronics World & Wireless World. The article contains a transmitter and receiver operating at 874 Hz (not kHz, nor MHz, just plain Hz!) for cave work... It might help you along the road.

73 Richard VK2SKY

708. Re: CA 3189 AFC Inprovement: No signal state?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 12:45:48 UTC
From: ponion@wally.srd.bt.co.uk
Message-ID: <3iv5ts$27n@pheidippides.axion.bt.co.uk>
Source record: 114207

moritz@ipers1.e-technik.uni-stuttgart.de wrote:
: Why would you want to improve it?

: IF the discriminator coil is properly tuned, the AFC output
: is nice and linear. Only you have to feed it into your front
: end in the right way (low pass filter, attenuation...)

: Good Luck, 73, Moritz DL5UH

On another point, why does the AFC o/p float up to supply rail when no signal is applied?
I would have expected it to sit mid-rail. Is the correct?

Peter Onion. ponion@srd.bt.co.uk
G0DZB

709. Re: Where to get ant relay for linear amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 14:26:49 UTC
From: Grant Youngman <gyoungma@gtetel.com>
Message-ID: <3ivbr9$efg@ceylon.gte.com>
Source record: 114208

dara@physics.att.com (Shel Darack) wrote:
>
> I have an old linear that I used with dow key 110vac relays. I'd
> like to install an antenna relay inside at a reasonable voltage
> (don't think I should use 110 vac relays with a modern rig)
> I also want to switch bias voltage to the 811 tubes during receive.
> Any sources for a suitable relay? Maybe I can revive that old
> linear before its capacitors completely die.
> Shel WA2UBK dara@physics.att.com
>
Henry Radio carries a line of Japanese relays similar to the Dow-Ley
style - probably available with auxilliary contacts.

Also I.C.E. has a line of antenna switching relays, but I don't think
they have aux contacts.

I use an old Dow-Key DK-60 with a 110vac coil and have had no
trouble with it at typical (120v) line voltage.

73 .. Grant/NQ5T

710. Re: Cure for noisy roller inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 15:44:57 UTC
From: hawley@aries.scs.uiuc.edu
Message-ID: <hawley.793986297@aries>
Source record: 114209

mjsilva@ix.netcom.com (michael silva) writes:

>When I crank the roller inductor in my antenna tuner it creates quite a
>racket (electrical, not mechanical) in my receiver. I can live with it,
>but if there's a simple cure I'd like to hear about it. Thanks.

>73,
>Mike, KK6GM
Try cleaning the coil (and the roller) with a spare amount of contact
cleaner on a lintless cloth. Leave nothing on the roller or coil when
you are done. Check the tension of the roller against the coil. Clean
the rod the roller spins on....and the contacts against the coil end.
I could go on.....I think you get the idea.

Chuck Hawley, KE9UW in Urbana, Illinois
hawley@aries.scs.uiuc.edu
School of Chemical Sciences, Electronic Services
University of Illinois, Urbana-Champaign

711. Re: Changing frequency of crystals, possible?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 16:34:44 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb28.163444.15848@ke4zv.atl.ga.us>
Source record: 114122

In article <1995Feb27.154444@vyh.fi> raateland@vyh.fi (Arjen Raateland) writes:
>
>FT-243 crystals can be etched and re-assembled w/o plating, because
>it's just a crystal slab pressed in between two metal plates. Still,
>it isn't an easy job. The crystal could be less active after etching
>or not want to oscillate any more at all. Ham magazines of the 50's
>and 60's should be a good source of information on how to do it.
>
>If you make a mark on the crystal slab from the FT-243 case with a
>pencil the frequency will go down, etching will move it up.

Comet cleanser makes a good mild abrasive for grinding crystals.
Use a sheet of glass as a working surface, and go slowly, rinsing
and testing often to avoid overshooting the desired frequency.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

712. Re: SOLDERING COPPER TO A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 16:38:23 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Feb28.163823.15927@ke4zv.atl.ga.us>
Source record: 114125

In article <3itqnc$j23@kaiwan009.kaiwan.com> goodwin@kaiwan009.kaiwan.com (Larry Goodwin) writes:
>
>gary>Absolutely, the oil's the trick. Scratch the aluminum bright under
>gary>the oil to get rid of the oxide coating, tin the aluminum with a
>gary>hot iron and regular solder *through the oil*, clean off the oil,
>gary>and then solder as normal. This is a great way to make soldered
>gary>connections to aluminum chassis.
>
>Thanks Gary, for the more detailed explanation of Dick's suggestion. I
>*WILL* be trying this one. Any suggestions on what type of oil to use?

Any high temp oil will work. Transformer oil is great, but you can get
by with ordinary motor oil, though it will smoke a bit.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

713. Re: Rohde's Communications Receiver Book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 16:46:43 UTC
From: kmccoy@dna.metronet.com
Message-ID: <D4pyLv.G2A@dna.metronet.com>
Source record: 114210

In article <dsweeney.2.001687AF@vt.edu>,
Dennis Sweeney <dsweeney@vt.edu> wrote:
>Rohde and Bucher, "Communications Receivers: Principles and Design" is listed

Try Argus Book Department
6151 Powers Ferry Road, NW
Atlanta, GA 30339-2941

(404) 618-0398 phone
(404) 618-0347 fax

I recall paying around $90 for my copy. Good luck!

73 de KJ5PM,

-- Kevin McCoy kmccoy@dna.metronet.com

714. Changing frequency of cry

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 17:23:00 UTC
From: Tom.Hammond@f67.n289.z1.fidonet.org
Message-ID: <493_9503012222@woodybbs.com>
Source record: 114213

AN>Just a quick question. Is it possible to change the frequency of
>crystal by sanding/filing them etc? I have some crystals for a low
>frequency and would like to make them oscillate at a higher
>frequency... can I do this?

Yep, it's possible... not necessarily EASY, but possible.

We used to 'move' crystals up 'n down the band, by hundreds of kHz, but
I never had much luck in moving them over widely divergent frequencies.

To LOWER a crystal's frequency, you can often do so by VERY LIGHTLY
rubbing a pencil lead (or piece of solder) across the face of the
crystal... to make it heavier, and thus slower to oscillate. It's
best to place your "mark" on that portion of the xtal where the pressure
plates DO NOT touch!

To INCREASE a crystal's frequency, you can grind it a bit thinner by
making a THIN paste of toothpaste (or abrasive cleanser) and water,
putting a little puddle on a FLAT glass plate and then placing the xtal
in the middle of the puddle and LIGHTLY sliding it in a figure-eight
pattern a few times. WASH it off, dry it, install it and see what it
took you.

It's all a cut 'n try process... as much magic as anything. Be prepared
for failure(s). I have had a lot... It's fun, but takes time,
patience, and the resolve to start over... and over.. and over...

73 - Tom Hammond N0SS
* LAKOTA v1.4
--
|Fidonet: Tom Hammond 1:289/67
|Internet: Tom.Hammond@f67.n289.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

715. Unibit Drill Bits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 17:27:00 UTC
From: Tom.Hammond@f67.n289.z1.fidonet.org
Message-ID: <494_9503012222@woodybbs.com>
Source record: 114214

N5>These seem to be the four Unibits. This mfg also makes single
>size hole cutters up to over an inch that do not cut multiple size
>holes, so be careful ordering over the phone. Get the catalog in
>your hand to you can look at details like shank size, and the
>various in-between sizes that are cut from one end to the
>other.

One of the very nicest things I've found about Unibits is that they work
extermely well on thin materials, as opposed to most regular bits which
will tear them to pieces.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--
|Fidonet: Tom Hammond 1:289/67
|Internet: Tom.Hammond@f67.n289.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

716. Re: Anyone using Radio Shack voice recorder chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 19:07:49 UTC
From: Samuel Guccione <sguccion@outland.dtcc.edu>
Message-ID: <Pine.SV4.3.91.950228140418.4472G-100000@outland.dtcc.edu>
Source record: 114124

On Mon, 27 Feb 1995, Pete Rossi wrote:
> Anyone on here using the digital voice recorder chip that Radio Shack
> has been selling? I forget the number. It will record/playback up to
> 20 seconds of audio. Normally sells for about $20 but last week my
> local RS had them on sale for $12... so I bought one.
>
> Pete Rossi - WA3NNA
> rossi@vfl.paramax.com

Pete, I use this chip in the fox transmitter controller. Article was in
73 magazine. I have built three of them. You are correct, it is a very
neat chip. The local RS had them on sale also and I bought one. Decided
to go back and get some more and guess what - they were $20.

Oh well. It was worth the $20 to have a voice id for fox transmitter.
BTW I have also recorded CW as an IDer.

Last point, the circuit in 73 magazine has a problem and does not work as
published. The chip would not record with the connections shown in diagram.

Have fun with it.

Sam K3BY

717. GPS and Flux gate boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 19:11:00 UTC
From: Samuel Guccione <sguccion@outland.dtcc.edu>
Message-ID: <Pine.SV4.3.91.950228140943.4472H-100000@outland.dtcc.edu>
Source record: 114126

Anyone have a source of inexpensive GPS and/or flux gate boards (or kits?). Reply here or to SGUCCION@OUTLAND.DTCC.EDU

Sam K3BY

718. Re: Rohde's Communications Receiver Book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 20:08:41 UTC
From: novatech@eskimo.com
Message-ID: <D4q7yI.34A@eskimo.com>
Source record: 114123

dsweeney@vt.edu (Dennis Sweeney) writes:

>Rohde and Bucher, "Communications Receivers: Principles and Design" is listed
>in OPAMP Technical Book's current catalog. I recently purchased a copy of
>Zverev "Handbook of Filter Synthesis" from them after reading a number of
>postings that suggested that it was out of print. It may be, but OPAMP had a
>copy. BTW, you don't want to know what it cost!

>OPAMP is in Los Angeles: (800) 4-BOOKS-1 or (800) 468-4322.

>Standard disclaimer: my only connection with OPAMP is they get my money once
>in awhile. Hope this may be of value.

>73 de WA4LPR
>Dennis Sweeney
>dsweeney@vt.edu

both good books to have on the shelf. For those who can't find Zverev,
try Williams and Taylor. They include lots of stuff from Zverev and new
stuff (like digital filters). Powells in Portland might be a good bet
to find these books (ping@technical.powells.portland.or.us for how to
order info.)

--
Steven D. Swift, P.E. (novatech@eskimo.com)
NOVATECH INSTRUMENTS, INC. 1530 Eastlake Avenue East, Suite 303
206 328 6902, FAX 206 328 6904 Seattle, Washington 98102 USA

719. Re: Anyone using Radio Shack voice recorder chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 22:05:56 UTC
From: n1ist@netcom.com
Message-ID: <n1istD4qDDx.2nv@netcom.com>
Source record: 114211

In article <Pine.SV4.3.91.950228140418.4472G-100000@outland.dtcc.edu> Samuel Guccione <sguccion@outland.dtcc.edu> writes:
-On Mon, 27 Feb 1995, Pete Rossi wrote:
-> Anyone on here using the digital voice recorder chip that Radio Shack
-> has been selling?

For an even cheaper solution, look for my article in the April issue of QST. I have used the board from a Hallmark card ($7.95) to make a DVK, and you can easily convert it to a fox/beacon with a 555 timer. This is the same unit used in the little foxes described in the latest 73.

/mike
--
\|/ Michael L. Ardai N1IST Teradyne ATB, Boston MA
-*- ---
/|\ ardai@maven.dnet.teradyne.com n1ist@netcom.com

720. Re: Anyone using Radio Shack voice recorder chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-02-28 22:06:22 UTC
From: vanduyne@NorthNet.org
Message-ID: <b9vKlehQKq9H078yn@northnet.org>
Source record: 114212

In article <1995Feb27.202148.4282@VFL.Paramax.COM>,
rossi@VFL.Paramax.COM (Pete Rossi) wrote:

> Anyone on here using the digital voice recorder chip that Radio Shack
> has been selling? I forget the number. It will record/playback up to
> 20 seconds of audio. Normally sells for about $20 but last week my
> local RS had them on sale for $12... so I bought one.

Hello, Pete. I got one last summer to play with. My club used it as
a CQ generator in the idle times when we were running a special event
station. It worked fine. I haven't had it inline lately, though.

I've been playing with automated CQing with my computer and
soundblaster card... As long as it's there, I might as well use it.

==========
Playing Guitar, Running The Radio, Staring Down The Computer,
Teaching Music... Is there any other way?
Andy VanDuyne aka n2psl aka vanduyne@northnet.org
==========

721. Re: Changing frequency of crystals, possible?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 00:01:09 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D4qIpy.F7G@news.hawaii.edu>
Source record: 114135

rossi@VFL.Paramax.COM (Pete Rossi) writes:

>I have done this several times. Comet or Ajax cleanser and a piece of glass.
>Wet a little cleanser to make a thin paste and rub the crystal element around
>in it. Rub a few strokes in each direction up/down, left/right, and circular.
>Just a few on each side then clean the crystal, dry, reassemble, and test.
>It is very easy (and safe) to raise a crystal frequency this way.

A figure 8 motion works the best since you're not favoring just
one direction over another.

My 1965 edition of the ARRL book UNDERSTANDING AMATEUR RADIO has
several pages devoted to this technique.

Jeff NH6IL

722. HELP !! Gunnplexer video link...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 01:32:16 UTC
From: mikey@gnv.ifas.ufl.edu
Message-ID: <1995Feb28.203216.6248@tower>
Source record: 114127

I am looking for help with a pesky problem using 10 GHz Gunnplexers for a wide-band video microwave link. I am having difficulty getting LOW (yes, that's LOW frequency) response. The high freq components look great, color looks good, and a multiburst test signal looks good out to over 10 MHz of video response. The problem is that the video sync tips recovered by the TVRO receiver at the receive end of the link are severely rounded off and there is severe tilt in the low frequency components of the vertical interval. Please reply to my personal e-mail address: Mikey@gnv.ifas.ufl.edu

The idea is to use a Gunnplexer at both link ends, and a standard TVRO receiver at the receive end of the link. Instead of the 18 - 26 MHz wide-band FM video signal coming from the usual satellite system LNB and downconverted to a 950 - 1450 MHz IF, the receive-side IF is derived directly from the mixer port on the receive Gunnplexer. With the two Gunnplexer freqs offset by whatever the desired IF is (in my case 10.250 GHz on one end, and 10.320 GHz on the other results in a 70 MHz IF at the mixer output port).

This 70 MHz FM wide-band IF can then be amplified and fed directly into the IF input of a standard satellite TVRO receiver, and the video recovered in the normal way by the PLL demod. The FM video bandwidth appears to be about right (20 MHz or so) when looking at the receive end g-plexer IF output with a spectrum analyzer.

The IF level at the g-plexer mixer output (after amplification) with a 70 MHz broadband amp is just the same as what would normally be seen when the receiver is looking at a satellite via the TVRO dish and the BDC.

The linearity of g-plexers is claimed to be excellent out to over 100 MHz or so, as long as the varactor voltage swing (0-20 VDC max) is not too close to either end of the varactor voltage limits.

The varactor is driven (FM modulated) by a video buffer amp to about 6 volts P/P. The modulating video from the buffer amp is decoupled by a 470 uF wet-slug tantalum, and DC bias is derived via a 10-turn pot to establish the center operating frequency of the Gunnplexer. The modulating voltage swings from 8 - 15 VDC at the varactor input.

Basically, we just turned up the video drive voltage until we had about the right (18 - 20 MHz) deviation. Because the video buffer/driver amp is very low impedance (a few ohms) we can look directly on the varactor input with a scope probe and see that the video looks perfect there.

A multiburst test signal viewed at the varactor input also looks excellent, with SUPER high freq response out to the highest multiburst band (10 MHz), and the sync and low freq components of the vertical interval also look excellent.

HERE'S THE PROBLEM...: the recovered video from the satellite receiver at the far end of the link has VERY BAD LOW FREQUENCY RESPONSE. The sync tips are severely rounded and low in amplitude, and the low frequency components of the vertical interval have severe tilt and distortion. The net result is that receivers / monitors on the receive end will not lock up and are too unstable to use. We thought the problem might have been a bad TVRO receiver, so other satellite receivers were tried and the result is the same. All the satellite receivers tried gave the same results. If any one has any suggestions to solve the problem it would be most appreciated.

By the way, the Gunnplexer mfgr claims that the frequency response of the gunplexers is essentially DC to over 100 MHz. As I mentioned above, the video modulating signal directly at the varactor input terminal looks excellent... good sync, good vertical interval integrity. The inclusion of a pre-emphasis circuit at the output of the video driver had no effect (good or bad) on the low frequency components. Anybody got any ideas...???

It has been suggested that the TVRO receiver circuitry which is designed to remove the effect of the 30 Hz dispersion (dither) added to the signal at the satellite transmitter is the culprit, because we are not adding any dither/dispersion and the circuitry doesn't behave properly. I am also told that the 30 Hz dither was only required for a few years, and is no longer required or used, but I am unable to confirm this yet.

Please reply to my personal e-mail address listed below...

Mikey@gnv.ifas.ufl.edu

Thanks, Mike Baker WA4HFR Gainesville, Florida

Nominee for Board of Directors,
National Rifle Association

723. Re: ARRL Radio Designer Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 02:43:22 UTC
From: gfiber@halcyon.com
Message-ID: <3j0n0a$i8c@news.halcyon.com>
Source record: 114136

In article <3inhp3$1grr@tequesta.gate.net>, paulg@gate.net (Paul Galloway) says:
>
>Does anyone have the ARRL's "Radio Designer" software? I am trying to
>get my hands on a copy, and I don't know where to get it. Is there a
>newsgroup that would be more appropriate for this question? I'd
>appreciate any guidance you could give me.
>
>Thanks,
>
>PaulG
The ARRL sells this software for $150.00 per copy. I also believe you could find out more by contacting arrl.org here on internet.

724. Copying MDT Messages?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 02:44:43 UTC
From: cnfederat@aol.com
Message-ID: <3j0n2r$3vl@newsbf02.news.aol.com>
Source record: 114134

Is there a FAQ or other text available for those interested in Mobile Data Terminal (MDT) listening? I am interested in copying 800Mhz trunked traffic that uses the Motorolla protocols, and would like to have a PC emulate the modem/TNC if possible, but a dedicated hardware/software approach would certainly be welcome as well.
Thanks in advance, Cnfederat@aol.com.

725. Re: Anyone using Radio Shack voice recorder chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 02:51:16 UTC
From: markem@primenet.com
Message-ID: <markem.50.0024F542@primenet.com>
Source record: 114137

I have one I'll sell for $10. I bought it a while back and never got around to doing anything with it. In its original package opened only to take out the data sheet. It's a 276-1325. Price sticker on it is $17.95 but I think I got it for less.

I know this isn't the swap group but this seemed like a good place to throw this in.

73... Mark AA7TA

726. Motorola Beltclip Mod for FT-530

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 07:03:27 UTC
From: sgyee@ramp.com
Message-ID: <3j167v$4b9@taz.ramp.com>
Source record: 114148

[Article crossposted from rec.radio.amateur.misc]
[Author was Steve Yee]
[Posted on 1 Mar 1995 00:01:44 -0700]

[Article crossposted from rec.radio.amateur.equipment]
[Author was Steve Yee]
[Posted on 27 Feb 1995 07:45:05 GMT]

There was a brief mention about the use of a Motorola Belt Clip with
a Yaesu FT-530 Dual Band HT. Does anyone have details about
which belt clip is used ? Or is this a black hole mod mentioned
just to kill bandwidth ???

Thanks, and 73's

Steve

---
sgyee@phx.ramp.com	Become a member of the largest
71431.2137@compuserve.com	street gang in America.....
Amateur Radio Callsign: KC7ALZ	- THE COPS !! -

| Final Thought of the Day: If ignorace is bliss, why are so many |
| people unhappy ? |
---

727. Yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 12:36:19 UTC
From: mark1@bnr.co.uk
Message-ID: <MARK1.95Mar1123619@bhl3h20.bnr.co.uk>
Source record: 114216

Hi,

How pratical would it be to build a Yagi to operate at the 1.8GHz Euro-PCN frequencies? It has been suggested that a high gain outdoor Yagi with some low loss coax and an indoor antenna, would make a good passive repeater. The intention is to improve (or create) indoor coverage.

Would it work? How do you build a Yagi for 1.8GHz?

Thanks,
--


```
==============================================================================
| Mark Pearson
| BNR Europe Ltd
\ | | _ \ | 140 Greenway
/ | _` | _| |/ ___/ -_) _` | _| __' _ \ '_ \ | Harlow Business Park
_| _\__,_|_| _ \_ _| \___\__,_|_|_| ___)___/_| _| | Harlow, Essex. CM19 5QD
| Tel +44-1279-405688
| Email M.Pearson@bnr.co.uk
==============================================================================
```

728. Re: HV Silver Mica Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 14:26:56 UTC
From: w8jitom@aol.com
Message-ID: <3j207g$abj@newsbf02.news.aol.com>
Source record: 114217

Ameritron still uses them. They even stock snubber micas that handle much more current than regular micas.

729. Re: GPS and Flux gate boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 15:50:40 UTC
From: Samuel Guccione <sguccion@outland.dtcc.edu>
Message-ID: <Pine.SV4.3.91.950301105003.11004B-100000@outland.dtcc.edu>
Source record: 114118

On Tue, 28 Feb 1995, William A Moyes wrote:

> : Anyone have a source of inexpensive GPS and/or flux gate boards (or
>
> If you get any info about a cheap GPS system/board tell me.
>
> -William Moyes

OK will do!

730. Re: Changing frequency of crystals, possible?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 17:47:54 UTC
From: lascal@magritte.its.rpi.edu
Message-ID: <3j2c0a$sjl@usenet.rpi.edu>
Source record: 114119

I suppose this is all true, but I have one comment to interject that I haven't seen (pardon if I missed it).

As far as long term stability, what one can do (got this from my friend WA2AAU) is to let the crystal oscillate for a few months.... stick it in the corner and forget about it. He does this even for expensive factory bought crystals sometimes (for multiplier/microwave work). It apparently is a good way to let the crystal "shake off" any particles left over after grinding. I suppose YMMV.

The point I guess would be:
a) clean it after grinding as good as you can
b) let it run for a LONG time
c) set it on frequency after that time (trim circuit, not xtal)
if you're close enough to where you want to be.

-Lance

--
Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @ Rensselaer
http://www.rpi.edu/~lascal/
Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342

731. repeater receiver voter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 18:52:15 UTC
From: "David W. Bourque" <dbourque@ub.com>
Message-ID: <D4rz33.K3D@pippen.ub.com>
Source record: 114121
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I need some help. Of course, why else would I be posting a message.
A few years back I remember reading an article about a receiver
voter based upon the noise present on the audio. I believe it was
in 73 magazine. It was either that one or QST and I can't find it
in any back issue of QST that I have. Wouldn't you know I don't
keep my back issues of 73 so I have no way of checking. At any rate,
can someone point me to ANY article on receiver voters. I'm also
interested in any personal opionions about commercially made voters.
Thanks, any information would be greatly appreciated.
73 de WB1FLD
David Bourque

732. Re: Anyone using Radio Shack voice recorder chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 21:25:15 UTC
From: swick@huey.x.org
Message-ID: <3j2onr$skt@public.x.org>
Source record: 114120

From: rossi@VFL.Paramax.COM (Pete Rossi)
Date: Mon, 27 Feb 1995 20:21:48 GMT

I hooked it up over the weekend. Neat little chip. Non-volatile too.
You can also cascade the chips for longer recording times.

Yep; fun chip. I built a gift for a local blind ham out of one of 'em
last fall. When I get the time I plan to see if QST is interested in
a beginner's construction article on the thingy I made. (Probably too
simple for QEX! :-)

Best features for me: non-volatile storage & wide range of supply voltage.

The couple of mic's I grabbed seemed to give lower output levels than
the 400mW output amp would have led me to expect. I didn't do a lot
of playing around as I was in a hurry to finish the project. Did you
have this experience?

de Ralph, kd1sm
kd1sm@x.org Internet
kd1sm@iii.net Internet
kd1sm@kd1sm.ampr.org AMPRnet
kd1sm@k1ugm.#ema.ma.usa AX.25

733. Re: SOLDERING COPPER TO A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 21:49:02 UTC
From: sorgatz@avatar.tti.com
Message-ID: <1995Mar1.214902.2567@ttinews.tti.com>
Source record: 114141

In article <3itqnc$j23@kaiwan009.kaiwan.com> goodwin@kaiwan009.kaiwan.com (Larry Goodwin) writes:
>gary>Newsgroups: rec.radio.amateur.homebrew
>
>gary>In article <D4IHxx.7yn@hpcvsnz.cv.hp.com> dickrb@lsid.hp.com (Dick Bingham)
>gary>writes: >Sorry to inform you but you CAN solder copper to aluminum!!
>>
>>I have done it many times using a heavy-duty soldering iron, common
>>solder and some hi-temp oil to provide a barrier to atmospheric
>>gasses.
>
>gary>Absolutely, the oil's the trick. Scratch the aluminum bright under
>gary>the oil to get rid of the oxide coating, tin the aluminum with a
>gary>hot iron and regular solder *through the oil*, clean off the oil,
>gary>and then solder as normal. This is a great way to make soldered
>gary>connections to aluminum chassis.
>
>Thanks Gary, for the more detailed explanation of Dick's suggestion. I
>*WILL* be trying this one. Any suggestions on what type of oil to use?
>
>73 de Larry, KC6WOG
>
>---
> • MR/2 2.03 NR • 9 out of 10 rottweilers surveyed prefer Jehovah's Witnesses.
>

I'll bet you a Pete's Wicked Ale that KB6WBO would say to use Mobil 1!!

..actually I tried this using some plain 3-in-1 and it works aok.

-Avatar-> (aka: Erik K. Sorgatz) KB6LUY +------------------------------+
TTI(es@soldev.tti.com)or: sorgatz@avatar.tti.com *Eliminate net-spam & cascades!*
3100 Ocean Park Blvd. Santa Monica, CA 90405 +------------------------------+
(THE OPINIONS EXPRESSED DO NOT REFLECT THE VIEWS OF CITICORP OR ITS MANAGEMENT!)

734. Silver Paint for Staking Trimmers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 22:07:22 UTC
From: robboma@aol.com
Message-ID: <3j2r6q$f6i@newsbf02.news.aol.com>
Source record: 114143

Does anyone know of a good manufacturer or supplier of silver paint? I need this to stake some 400 MHz helical resonator filters. The helical manufacurer, Toko, recommends the use of silver paint to keep the top trimmer screw from moving.

Thanks,

Bob
WB3DBL

735. Re: Air core coil in VFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-01 23:25:31 UTC
From: Larry Kenan <larry.kenan@SanDiegoCA.NCR.COM>
Message-ID: <D4sBqK.LK4@lcpd2.SanDiegoCA.ATTGIS.COM>
Source record: 114129

>In article <D4FBqu.Crq@hpcvsnz.cv.hp.com> Tom Bruhns writes:
>Tom Randolph (randolph@est.enet.dec.com) wrote:
>
>: Given this, I've been playing with simple air-core construction methods.
..
>
>I'd suggest you use a polystyrene bottle--they often are anyway--and glue
>made from polystyrene dissolved in a solvent. Is GC "Q-dope" still
>available?

Yes General Cement still makes Q-dope.
I bought some within the last year.

Larry Kenan - KD6CKR

736. Re: Changing frequency of crystals, possible?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-02 08:00:08 UTC
From: jdow@BIX.com
Message-ID: <3j3tu8$ctv@news2.delphi.com>
Source record: 114128

In article <D4qIpy.F7G@news.hawaii.edu>, jeffrey@math.hawaii.edu wrote:
>rossi@VFL.Paramax.COM (Pete Rossi) writes:
>
>>I have done this several times. Comet or Ajax cleanser and a piece of glass.
>>Wet a little cleanser to make a thin paste and rub the crystal element around
>>in it. Rub a few strokes in each direction up/down, left/right, and circular.
>>Just a few on each side then clean the crystal, dry, reassemble, and test.
>>It is very easy (and safe) to raise a crystal frequency this way.
>
>A figure 8 motion works the best since you're not favoring just
>one direction over another.
>
>My 1965 edition of the ARRL book UNDERSTANDING AMATEUR RADIO has
>several pages devoted to this technique.
>
>Jeff NH6IL

Your biggest problem is losing parallelism on the two sides of the crystal. This lowers Q fairly rapidly.
{^_^} Joanne Dow The Wizardess

737. Re: Yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-02 12:02:43 UTC
From: gordy@gbscomms.win-uk.net
Message-ID: <57@gbscomms.win-uk.net>
Source record: 114130

In article <MARK1.95Mar1123619@bhl3h20.bnr.co.uk>, Mark Pearson (mark1@bnr.co.uk) writes:
>How pratical would it be to build a Yagi to operate at the 1.8GHz Euro-PCN
>frequencies? It has been suggested that a high gain outdoor Yagi with some
>Would it work? How do you build a Yagi for 1.8GHz?
>
Yep, it will work, but with 3 reservations:

a) yagi-uda's at 1.8GHz are very hard to build. The dimensions are so
small that it makes it very critical.

b) Low-loss coax. Hmmmm. If you pick up a weak signal in the
antenna, feed it thru coax, then try to re-emit it into the room,
there is a LOT of loss involved. The coax should be VERY low loss.
It's hard to imagine a passive repeater system at 1.8GHz that will
make a lot of difference unless the antenna is placed "in the clear"
on a roof or so, giving a problem of a longer run of coax. :-(

c) you may have to be very close (in the near field even) to the
indoor antenna/"repeater outlet" to make it work. Give it a go
though!

Try a helix antenna. They are relatively small and easy to set up
for 1.8GHz. They look like a flat reflector, with a spiral protruding
from the center travelling towards the target. Gain is OK-ish, but
depends on the length/ratio/pitch/frequency. Try the ARRL Antenna
Book for more info. Sorry, but I can't find mine at the mo and it's
out of date anyways. There is an interesting 4-square helix talked
about in the book, and it works very well. We used one a few years
ago for a link at 1.5GHz for a commercial job.

Good luck

Gordy G7HQB

--
SIGint

738. Re: Rhode's Communications Receiver Book Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-02 14:52:30 UTC
From: d.diamond@trl.oz.au
Message-ID: <d.diamond.181.000EE075@trl.oz.au>
Source record: 114147

In article <3itcag$c86@Mercury.mcs.com> jsoft@MCS.COM (Joseph Jesson) writes:
>Path:
>newsserver.trl.OZ.AU!harbinger.cc.monash.edu.au!newshost.marcam.com!news.kei.com
>!ddsw1!not-for-mail
>From: jsoft@MCS.COM (Joseph Jesson)
>Newsgroups: rec.radio.amateur.homebrew
>Subject: Rhode's Communications Receiver Book Wanted
>Date: 27 Feb 1995 14:22:40 -0600
>Organization: /usr/lib/news/organi[sz]ation
>Lines: 7
>Message-ID: <3itcag$c86@Mercury.mcs.com>
>NNTP-Posting-Host: mercury.mcs.com

> I thried to orderRhode's book on Comm Receivers and was told it was out of
>print. Anyone want to sell be one?

--Joe Jesson

Hi Joe.

Have read the book to which (I think) you refer (but I don't own a copy).
However, much of what Rohde (and Bucher) have to say in this text is covered
in Rohde's recent series in QST. Specifically;

"Recent Advances in Shortwave Receiver Design"- QST Nov 92. Also...
"Key Components of Modern Receiver Design" Pts 1, 2, 3- QST May, Jun, Jul '94.
And finally;
" Key Components... A second Look"- QST Dec '94.

73, Drew, VK3XU. Telecom Australia Research Laboratories.

739. Re: ARRL Radio Designer Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-02 19:46:05 UTC
From: paulg@gate.net
Message-ID: <3j579t$1uoi@tequesta.gate.net>
Source record: 114151

Paul Galloway (paulg@gate.net) wrote:
: Does anyone have the ARRL's "Radio Designer" software? I am trying to
: get my hands on a copy, and I don't know where to get it. Is there a
: newsgroup that would be more appropriate for this question? I'd
: appreciate any guidance you could give me.

: Thanks,

: PaulG

Thanks to all who responded here and via Email. I have ordered the
software and am anxiously awaiting its arrival. :)

PaulG

740. Instruments required for QRP building

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-02 21:59:13 UTC
From: William Barnes <wbarnes@earth.geology.ubc.ca>
Message-ID: <3j5f3h$7oq@nntp.ucs.ubc.ca>
Source record: 114131

My electronic construction experience is largely limited to sound system amps, pre-amps and tuners in the dim, distant past, but I am starting to get enthused again and would like to dip my toes into the QRP waters, hopefully without encountering any piranhas. At present my equipment is limited to a good digital multimeter, but I realize I'll have to acquire or have access to a frequency counter and 'scope. What else will I need? I would like to get into this without ending up spending as much as I would on a top of the line HF transceiver. I realize this is a somewhat open ended question, and that it depends on what I build and whether I go with a kit or start from bare schematics, but would appreciate some of the wisdom of the net.

73 de VE7MEW (Bill)

741. Re: Instruments required for QRP building

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-02 23:19:01 UTC
From: gcouger@jsun.okstate.edu
Message-ID: <3j5jp5$ocq@bubba.ucc.okstate.edu>
Source record: 114139

In article <3j5f3h$7oq@nntp.ucs.ubc.ca>,
William Barnes <wbarnes@earth.geology.ubc.ca> wrote:
>My electronic construction experience is largely limited to sound
>system amps, pre-amps and tuners in the dim, distant past, but I am
>starting to get enthused again and would like to dip my toes into the
>QRP waters, hopefully without encountering any piranhas. At present my
>equipment is limited to a good digital multimeter, but I realize I'll
>have to acquire or have access to a frequency counter and 'scope. What
>else will I need? I would like to get into this without ending up
>spending as much as I would on a top of the line HF transceiver. I
>realize this is a somewhat open ended question, and that it depends on
>what I build and whether I go with a kit or start from bare schematics,
>but would appreciate some of the wisdom of the net.

As a kid we got by with a multimeter, a reciver and xtal ear phone.
The reciver served as a audio oscope and the ear phone as a scope
at audio frequencies. A light bulb was a power meter. We just tuned
every thing to max output and let it go. We were using tubes but
the solid state stuff is easier to use. We didn't have ferrite and
powdered iron cores so we rewound if cans and used air core coils.

My suggestion is if you have a reciver just build a simple xmiter
to start and go from there.

Good luck
Gordon AB5DG

Gordon Couger
Biosystems & Agricultural Engineering
Oklahoma State University
114 Ag Hall, Stillwater, OK 74074
gcouger@olesun.agen.okstate.edu 405-744-9763 day 624-2855 evenings
I do not speak for my employer

742. Re: ham radio wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-03 01:29:57 UTC
From: Rusty.Lotter@diakonos.iaccess.za
Message-ID: <e1c_9503041606@diakonos.iaccess.za>
Source record: 114152

Hello Alissa,

We would love to help you but live on the other side of the world!
Perhaps it would be a good idea to write to, or phone the American
Radio Relay League in Hartford, where their HQ is. Good luck. ZS1WQ

-=> Quoting UUCP to All <=-

UU> From: adevlin@lynx.dac.neu.edu (alissa devlin)
UU> Subject: ham radio wanted
UU> Organization: Northeastern University, Boston, MA. 02115, USA

UU> i am a 14 year old kid who does not have a lot of money and i would
UU> like to get into the ham radio hobby for as little as possible. I am
UU> going to get the no-code technical class licens so if you are selling a
UU> radio that is capable of covering that licenses priveledges please
UU> e-mail me. or point me in the right direction.

UU> thanks in advance,
UU> adevlin@lynx.neu.edu

UU> -!-
UU> ! Origin: Northeastern University, Boston, MA. 02115, USA (8:79/1)

--
|FMLYNET: Rusty Lotter 8:79/0
|Internet: Rusty.Lotter@diakonos.iaccess.za
|
| Standard disclaimer: The views of this user are strictly his own.
| FMLYNET SA <> INTERNET GATEWAY at Diakonos BBS

743. Re: Cure for noisy roller inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-03 01:55:32 UTC
From: davew@cruzio.com
Message-ID: <D4uDCn.wC@cruzio.com>
Source record: 114157

In article <3iudpk$obv@ixnews3.ix.netcom.com>, mjsilva@ix.netcom.com (michael silva) writes:
> When I crank the roller inductor in my antenna tuner it creates quite a
> racket (electrical, not mechanical) in my receiver. I can live with it,
> but if there's a simple cure I'd like to hear about it. Thanks.
>
> 73,
> Mike, KK6GM
>

Same thing happens to me. I go in with some contact cleaner every so often
and clean off the windings and the roller wheel.

73 de Dave KD6TO
.

--
Dave Wells KD6TO davew@cruzio.com

744. MPSA20

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-03 02:51:00 UTC
From: Stephen.Thurber@f239.n109.z1.fidonet.org
Message-ID: <94c_9503030609@blkcat.fidonet.org>
Source record: 114140

can anyone suggest a good substitute for MPSA20. The application is a
3.395 mhz. first I.F. amplifier.
thanks.

Fidonet: Stephen Thurber 1:109/239
Internet: Stephen.Thurber@f239.n109.z1.fidonet.org

745. Gunnplexers in radar rangeing

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-03 03:27:48 UTC
From: vinyn1vc@aol.com
Message-ID: <3j62bk$75p@newsbf02.news.aol.com>
Source record: 114132

I would like to chat with anybody who has played with gunnplexers on 10 ghz
using FM-CW modulation to measure the distance (range) of a stationary or moving object. I can hear echos, but they are buried in many harmonics and find it difficult to impossible to single out a given frequency for a particular object.
Has anyone developed a circuit using FM-CW or any other method to measure range with a gunnplexer or other form of low power at 10 ghz?

Vince Coppola N1VC
203-583-1191

746. Re: Yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-03 03:53:11 UTC
From: ka2rdo@aol.com
Message-ID: <3j63r7$7lu@newsbf02.news.aol.com>
Source record: 114133

Another consideration is a small Parabolic dish with ANY of the following feeds:
1) Dual dipole/reflector (very small, convenient to build)

2)"coffee can" style feed (using juice tin or copper flashing with probe)

3)Splash plate style feed (most difficult to build- not far off from dipole/reflector in terms of gain)

These, coupled to a fairly small dish (>40 cms) should offer decent gain without all the mechanical hassles found in theconstruction of a yagi for the uWaves.
Most of these designs can be found in the ARRL Microwave Designers Handbook, or in any number of "technical" VHF/UHF compendiums. Perhaps this is another way to solve the problem and hassle of "getting gain on 1.8GHz!

Best Wishes,

Mark, KA2RDO

747. Re: Sorgatz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-03 04:01:27 UTC
From: DRLee@ix.netcom.com
Message-ID: <3j64an$pn2@ixnews4.ix.netcom.com>
Source record: 114138

In <3j15gl$88t@newsbf02.news.aol.com> douglas213@aol.com (Douglas213) writes:

>
>Subject: Erik K. Sorgatz, Is any one else tired of this person attacking
>everyone.
>From: kato@qnet.com (Perry Chamberlain)
>Date: 28 Feb 1995 23:44:48 GMT
>Message-ID: <3j0chh$5l0@mandolin.qnet.com>
>
>(Sorry! Here is correct version:
>
>
>Howdy, is just me or is anyone else a little tired of this ham personally
>attacking anything that moves, and throws in a collection of juvenile
>insults while he is at it.
>I personally have blocked all postings as of today with his name, Email me
>
>if you want to know how to do this....
>73 de perry
>by the way, the name to watch out for is Erik K. Sorgatz
>
>

No I'm not ..... sounds like a personel problem to me.
Besides i dont subscribe to the ostrich
principal. thanks anyway.

73,s Dennis

748. Re: repeater receiver voter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-03 06:38:28 UTC
From: gfiber@halcyon.com
Message-ID: <3j6dh4$3bo@news.halcyon.com>
Source record: 114158
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <D4rz33.K3D@pippen.ub.com>, "David W. Bourque" <dbourque@ub.com> says:
>
>I need some help. Of course, why else would I be posting a message.
>A few years back I remember reading an article about a receiver
>voter based upon the noise present on the audio. I believe it was
>in 73 magazine. It was either that one or QST and I can't find it
>in any back issue of QST that I have. Wouldn't you know I don't
>keep my back issues of 73 so I have no way of checking. At any rate,
>can someone point me to ANY article on receiver voters. I'm also
>interested in any personal opionions about commercially made voters.
>Thanks, any information would be greatly appreciated.
>73 de WB1FLD
>David Bourque
>
David,

Bob heil made a voter for one of his systems. As i remember it
could do 3 receivers. I believe it was written up in Ham radio magazine
in the mid 1980's. As you may know Ham radio magazine is out of print.
But CQ Magazine purchased most of the Ham Radio magazine group.
You may have some luck there. Also have heard that the voter made by Doug Hall is very
good.

Gary

749. Re: Anyone using Radio Shack voice recorder chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-03 12:54:53 UTC
From: jdc@cci.com
Message-ID: <D4v7vH.84n@sunsrvr6.cci.com>
Source record: 114142

In article <n1istD4qDDx.2nv@netcom.com>,
Michael L. Ardai <n1ist@netcom.com> wrote:
>In article <Pine.SV4.3.91.950228140418.4472G-100000@outland.dtcc.edu> Samuel Guccione
<sguccion@outland.dtcc.edu> writes:
>-On Mon, 27 Feb 1995, Pete Rossi wrote:
>-> Anyone on here using the digital voice recorder chip that Radio Shack
>-> has been selling?
>
>For an even cheaper solution, look for my article in the April issue of QST.
>I have used the board from a Hallmark card ($7.95) to make a DVK, and you
>can easily convert it to a fox/beacon with a 555 timer. This is the same
>unit used in the little foxes described in the latest 73.

The Hallmark talking card is great. The stock microphone (piezoelectric
disk glued to cardboard) isn't the best. An electret mike gives much better
sound quality. Use the standard hookup, supplying DC through a resistor
and audio through a blocking cap. It sure saved my voice in the January
VHF contest...

On a related note, have any of you had you Hallmark card "slow down"?
For a while it sounded like a 78 RPM record played at 33 1/3. The
batteries were OK, too.

73...Jim N2VNO

>
>/mike
>--
>\|/ Michael L. Ardai N1IST Teradyne ATB, Boston MA
>-*- ---
>/|\ ardai@maven.dnet.teradyne.com n1ist@netcom.com

750. Re: ARRL Radio Designer Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-03 15:37:54 UTC
From: jbloom@arrl.org
Message-ID: <1995Mar3.153754.5784@arrl.org>
Source record: 114144

Paul Galloway (paulg@gate.net) wrote:
: Does anyone have the ARRL's "Radio Designer" software? I am trying to
: get my hands on a copy, and I don't know where to get it. Is there a
: newsgroup that would be more appropriate for this question? I'd
: appreciate any guidance you could give me.

ARRL Radio Designer is available from ARRL, 225 Main Street,
Newington, CT 06111 (tel: 203-666-1541)

Price is $150 + $5 shipping (UPS). Requires Windows 3.1, 8-MBytes of
RAM and 5-MBytes of free hard-disk space. A math coprocessor (387
coprocessor, or a 486DX or Pentium processor) is strongly recommended.
--
Jon Bloom KE3Z jbloom@arrl.org

751. Re: ARRL Radio Designer Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-03 19:34:50 UTC
From: dtiller@rmc.edu
Message-ID: <3j7r0q$6lp@gnd0.rmc.edu>
Source record: 114146

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: In article <3inhp3$1grr@tequesta.gate.net> paulg@gate.net (Paul Galloway) writes:
: >Does anyone have the ARRL's "Radio Designer" software? I am trying to
: >get my hands on a copy, and I don't know where to get it. Is there a
: >newsgroup that would be more appropriate for this question? I'd
: >appreciate any guidance you could give me.

: I have it. It's great.

Paul: Look in every construction article in QST or QEX - they're all ads
for their software.

Gary: I remember reading that the Radio Designer doesn't model non-linear
components. How can you get around this to make useful RF circuits
when the most necessary functions like mixing, limiting, etc involve
non-linear behavior? I'd love to have something that I can learn
with and prevent trial and error soldering if it'll be useful - it
sounds like a great freshman-class program to model simple stuff.
Please tell me I'm wrong!
--
David Tiller | Network Administrator | ICBM: 33d 42' 43.75" N |
dtiller@rmc.edu | n2kau/4 | Randolph-Macon College| 77d 31' 32.19" W |
Remember: someday, somewhere, when you least expect it a man with a microphone|
may step up to you and say, "What's the frequency, Kenneth???!!!" |

752. PIC beacon keyer cct.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-04 01:37:52 UTC
From: hduff@humnet.westonia.com
Message-ID: <7779-233667701@humnet.westonia.com>
Source record: 114167

Interested in a cheap and simple keyer circuit for a beacon ?
Based on the Microchip PIC16C54RC 18 pin microcontroller. Total cost
should be less than $8. Great for Ham Radio or "lowfer" beacons.
User configurable CW speed. Can accomodate a very lengthy (or short)
message without the need to "fill" empty space as in some clocked EPROM
designs. Very little wiring required for the hardware.
I have made the file containing PIC source code and documentation
available to the public domain.

FTP to humnet.humberc.on.ca and download the file "BCN_KEYR.ZIP" in the
HAMRADIO directory.

73 Hugh Duff VA3TO/VE3OYH Toronto

 NFX v1.3 [000] Stop the world, I wanna get off !

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---

753. Re: SOLDERING COPPER TO A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-04 02:35:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.940.546@acenet.com>
Source record: 114145

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

Rick, this is exciting news! I can see the return of the
"BEER CAN VERTICAL"s of the 1950s and 60s!!

Imagine all of those "recycled" soda pop cans beieng made into
ham antennas! Why not? I mean. If this product does what you say, I
could take about 45 or 50 used cold drink cans and smolder them
together with this stuff and have me a nice 31 to 32 ft long mast
with a really broad bandwidth for 40m DXing!

RW>There is a fairly new solder available that bonds quite readily to
RW>aluminum. It melts at 750 degrees and requires a propane torch, but
RW>is just about as easy to use as regular solder on copper. Be careful
RW>with the heat, as regular aluminum melts at ~1200 or so. Use only enough
RW>heat to melt the alloy.

RW>The alloy is mostly Aluminum/Silicon, and I've seen it in my local
RW>hardware store as "aluminum solder". I imagine that it would bond to
RW>copper just fine.

RW>I saw a demo of this stuff where a nailhole was punched in the bottom of
RW>a thin coke can. The hole was repaired by "floating" a skin of solder
RW>over the hole. After it had cooled, the repair was so strong that you
RW>could not punch a second hole in it. If you persisted, the can would
RW>end up tearing somewhere else outside of the patched region.

RW>Last weekend, I repaired all my aluminum window screens which had cracked
RW>at the corners of the frame - worked "slick as a whistle".

RW>This would probably be a less messy approach than trying to solder under
RW>a layer of smoking oil.

&#65533; SLMR 2.1a &#65533; Practice DELIBERATE kindness and unselfish acts of love!

754. Questions abour Rhode's QST Articles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-04 02:54:00 UTC
From: Stephen.Thurber@f239.n109.z1.fidonet.org
Message-ID: <f7d_9503040606@blkcat.fidonet.org>
Source record: 114149

if you will send me page 30 of the article (on mixer) I'll build one up
and tell you how it works.

Fidonet: Stephen Thurber 1:109/239
Internet: Stephen.Thurber@f239.n109.z1.fidonet.org

755. Re: Questions abour Rhode's QST Articles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-04 02:57:00 UTC
From: Stephen.Thurber@f239.n109.z1.fidonet.org
Message-ID: <f7e_9503040606@blkcat.fidonet.org>
Source record: 114150

what was the original transistor used in the mixer (I think you said
PN2179 was a substitute).

Fidonet: Stephen Thurber 1:109/239
Internet: Stephen.Thurber@f239.n109.z1.fidonet.org

756. IRF-510

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-04 10:00:00 UTC
From: Stephen.Thurber@f239.n109.z1.fidonet.org
Message-ID: <63c_9503041246@blkcat.fidonet.org>
Source record: 114156

Anyone have any thoughts as to whether an IRF-510 would make a
reasonable substitute for an IRF-511 in a 14 mhz 5 watt amplifier
(single ended, tuned circuit -- not broadband).

Fidonet: Stephen Thurber 1:109/239
Internet: Stephen.Thurber@f239.n109.z1.fidonet.org

757. MPSA20

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-04 11:42:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.948.546@acenet.com>
Source record: 114164

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

Stephen, can you or anyone else reading this suggest some good substitutes for a pair of GE transistors used in an audio complimentary driver circuit?

They are GE-18 and GE-21 transzippers and come in the round metal cans TO-3 or is it TO-5 ? Anyway that is the same case a 2N3553 comes in.

Any helpful suggestions would be appreciated. Meanwhile I need to go rummage through the junkbox!

I am also looking for a good deal on 75 pF , 80 pF or 100 pF miniature air variable capacitors, tiny 0.1 uF and 0.01 uF decoupling caps 25V. I also need 51 pF, 390 pF and 430 pF silver mica capacitors as small as possible, and some 2.7 pF NPO capacitors. 2N4416 FET & 2N3553 transistors. Amidon T-50-6, FT-37-43, T-50-2, T-68-2

Can anyone suggest places to get these?
---

758. Re: ARRL Radio Designer Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-04 15:15:52 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Mar4.151552.3493@ke4zv.atl.ga.us>
Source record: 114153

In article <3j7r0q$6lp@gnd0.rmc.edu> dtiller@rmc.edu (David Tiller) writes:
>
>Gary: I remember reading that the Radio Designer doesn't model non-linear
> components. How can you get around this to make useful RF circuits
> when the most necessary functions like mixing, limiting, etc involve
> non-linear behavior? I'd love to have something that I can learn
> with and prevent trial and error soldering if it'll be useful - it
> sounds like a great freshman-class program to model simple stuff.
> Please tell me I'm wrong!

Radio Designer isn't a radio *simulator*. It doesn't model non-linear stages, but it can help you *design* them. For example, Hayward shows you how to transform a Colpitts oscillator so that you can use small signal analysis to design it. Now an oscillator is very non-linear, but you don't need to run a Taylor series to design one. You do need to do network calculations, MAG calculations, etc that Radio Designer will handle.

It would certainly be useful to be able to model non-linear behavior, but programs to do that cost thousands, have long run times, and still only give approximate answers. Radio Designer is a design tool that, like MathCad, can help you design circuits more easily than pencil and paper methods. But it doesn't take all the work out of the process. You still have to use your own ability to understand the circuit, interpret device parameters, and divide it into logical sections for design.

Radio Designer doesn't address such fundamentals as biasing, power supply limits, or non-linear device behavior. You have to deal with those issues separately. You may think that's a serious limitation, and to an extent it is, but compared to pencil and paper it's a major step forward. You can use Radio Designer to model a mixer diplexer termination and determine reflection coeficients. You can use Radio Designer to model an input network or explore the effects of coupling coefficients on the bandwidth of an IF stage. You can use Radio Designer to develop a double stub tuner. You can't use Radio Designer to model the spurious output of a linear power amplifier, but you can use it to design an output matching network. You can't use Radio Designer to model the third order intercept of a receiver preamp, but you can use it to determine if the preamp will be stable over a range of terminations.

Radio Designer doesn't offer you a VR radio, but it can act as an assistant in designing much of the circuitry of a real radio. It's more than a toy. I really wish it would handle DC circuit behavior, but it doesn't (I can do that by ordinary hand analysis, but I shouldn't

have to. It should be able to deal with an output signal hitting a power supply rail, or solve resistor networks [though you can fake that]).

I understand why it doesn't try to deal with non-linear device parameters. There are no ordinary equations that fit most real device curves. You still have to do a piecewise fit to actual device measurements in most cases. The ideal square law isn't either ideal or square in the real world, so modeling it really wouldn't tell you much of use. The real model for non-linear devices would require a table driven numerical simulation that would result in run times so large as to make the program useless, IE you could build and test the circuit before the simulation would complete on a desktop computer, or result in simplified answers that might be untrustworthy.

I find Radio Designer a useful design aid. It can be a real time saver. Instead of tediously hand calculating circuit values, or grabbing something out of a cookbook and tweaking it on the bench, I can do a real design and have a good idea how the circuit is going to perform before I build it. I still have to tweak on the bench, but much less so, and with a better idea of what will happen when I do. (Alas, Radio Designer can also be a real time sink. I've spent hours just playing with it, tweaking this and that to see what happens.)

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

759. Re: Crystal Radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-04 15:17:44 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D4x95K.ECv@news.hawaii.edu>
Source record: 114068

In article <3id09a$1a2k@usenetp1.news.prodigy.com> TLJJ98A@prodigy.com (Earl Drehmer) writes:
>Wow, you guys are really creating old-time crystal radios? My
>Grandfather had a radio-making business during the depression. When I
>was about 10 years old (1964) my dad and I were given a few boxes of
>Grandpas old radio parts. My dad and I then made our own crystal radio,
>using the technique of poking a cat's whisker onto different parts of the
>crystal. We used only hand made stuff. It was wild and worked very well.
> Before he died, Grandpa gave me all his old electricity encyclopedia
>that he had bought in 1914 and it tells how to make everything that was
>known then, including a crystal radio. Up until Grandpa died (1993), he
>used a crystal radio he had build a few years before, as well as a modern-
>day CB radio. He even used to make his own batteries and tubes from
>scratch!

In the lastest Amateur Radio Trader magazine there's an ad for the
XTAL SET SOCIETY newsletter; seems like they have a lot of *serious*
homebrew articles. They even publish the CRYSTAL SET HANDBOOK.

The XTAL Set Society
P.O. Box 3026
St. Louis, MO 63130
314-725-1172

Jeff NH6IL

760. Re: SOLDERING COPPER TO A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-04 20:19:46 UTC
From: billh@computek.net
Message-ID: <3jai12$6r5@canton.charm.net>
Source record: 114155

> walker@opus.hpl.hp.com (Rick Walker) writes:
> : >gary writes: Sorry to inform you but you CAN solder copper to aluminum!!

There is a solder paste available from NEO-PRODUCTS
7509 KINGSTON PIKE, SUITE 127
KNOXVILLE, TN 37919

I've seen a demo and it works fine with a butane or propane torch, just follow instructions.

Bill Heishman, N5HNN

761. Re: 2 Meter Conversion Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-04 21:55:31 UTC
From: cliff52@aol.com
Message-ID: <3jankj$6jg@newsbf02.news.aol.com>
Source record: 114154

I found an old Wilson radiotelephone, model 1500, very cheap at a garage sale. It is crystal controlled - I called Jan Crystals in Florida - they even had the equations for sizing the crystals. I had to repeak the multiplier chain, but I got 50 watts out at 146.88...I haven't touched the receive side, so it is a little noisy, but usable. Anyway, since this is a different model, this info may be for moral support only - I called around for a tech manual, but it seems that the Wilson company was bought out / I was unable to locate anything. Good luck...

762. PCM Encoding

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-05 06:44:08 UTC
From: norton@coral.bucknell.edu
Message-ID: <3jbmjo$h18@coral.bucknell.edu>
Source record: 114159

Greetings folks:
Anybody know of good PCM circuits/chips that would work well for a small airborne, battery powered transmitter? Thanks for the help.

Greg Norton 96
EE Bucknell University
norton@bucknell.edu

763. Re: ham radio wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-05 09:32:19 UTC
From: Rusty.Lotter@diakonos.iaccess.za
Message-ID: <0b4_9503082105@diakonos.iaccess.za>
Source record: 114108

Hello Alissa,

We would love to help you but live on the other side of the world!
Perhaps it would be a good idea to write to, or phone the American
Radio Relay League in Hartford, where their HQ is. Good luck. ZS1WQ
rusty@iaccess.za

--
|FMLYNET: Rusty Lotter 8:79/0
|Internet: Rusty.Lotter@diakonos.iaccess.za
|
| Standard disclaimer: The views of this user are strictly his own.
| FMLYNET SA <> INTERNET GATEWAY at Diakonos BBS

764. Re: Instruments required for QRP building

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-05 09:35:26 UTC
From: Rusty.Lotter@diakonos.iaccess.za
Message-ID: <0b5_9503082105@diakonos.iaccess.za>
Source record: 114109

Hello William,
It is interesting reading your message regarding your desire in wanting to get into QRP. This is a facet of our hobby which more Hams seem to be turning to. Mike ZS1RMS, one of our local club members, is busy constructing a QRP CW/SSB rig and we plan to have this available in kit form in the not too distant future. Let us know whether you would be interested. It'l probably be a non-profit project. Possibly you could get the instruction manual from us and obtain the components there in BC.

Please pass my greetings on to VE7FNP who I had daily skeds with some time back.

73,

ZS1WQ

rusty@diakonos.iaccess.za
-=> Quoting UUCP to All <=-

... Failure is success, if we learn from it.
--
|FMLYNET: Rusty Lotter 8:79/0
|Internet: Rusty.Lotter@diakonos.iaccess.za
|
| Standard disclaimer: The views of this user are strictly his own.
| FMLYNET SA <> INTERNET GATEWAY at Diakonos BBS

765. MPSA20

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-05 11:35:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.965.546@acenet.com>
Source record: 114160

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

BC>I am also looking for a good deal on 75 pF , 80 pF or 100 pF miniature
BC>air variable capacitors, tiny 0.1 uF and 0.01 uF decoupling caps 25V.
BC>I also need 51 pF, 390 pF and 430 pF silver mica capacitors as small as
BC>possible, and some 2.7 pF NPO capacitors.

Ooops, just noticed that I need several other NP0 capacitor values.
Anyone know where to buy these in small quantities?

• SLMR 2.1a • What THIS country needs now is COUNTY CRICKET!!!

766. BOSCH 70cm mobile phone

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-05 12:56:50 UTC
From: pdvroome@iaehv.nl
Message-ID: <pdvroome.1.000CF2E9@iaehv.nl>
Source record: 114161

Can someone help me with programming information for the BOSCH FSO 457
70cm mobile phone. Specially on selecting the frequencies and output power.

Thanks in advance
Peter de Vroome // PE1DTN

767. ICOM Computer Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-05 14:36:21 UTC
From: bberg99828@aol.com
Message-ID: <3jci95$gm0@newsbf02.news.aol.com>
Source record: 114162

Hi, I'm looking for information on how to connect an ICOM R7100 receiver to my
computer. I know that ICOM has a C-IV computer interface but I hardly think its worth a hundred bucks. Can anyone provide my with a shematic of this animal.
or maybe another manufacturer of this type of device. Or just basic information about the circuit.....Has anyone built one of these???
Please E-Mail
Bob B
Shelton CT
bberg99828@aol.com

768. Re: [WANTED] 5KHz receiver circuit...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-05 16:46:30 UTC
From: ctyoung@mtu.edu
Message-ID: <3jcpt6$14p@geofac7.geo>
Source record: 114163
Cross-posted to: sci.electronics,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Peter Homann (peterh@adacel.com.au) wrote:
: Hi,
:
: I'm after a circuit design for a 5KHz receiver. It needs to be
: a compact and low-power. It's detecting a 5KHz pulse that's
: being generated from a very weak transmitting source.
:
: Does anybody have such a circuit or is able to point me in the
: right direction. My digital knowledge is good, my analog and rf
: not so good.
:
: Thanks in advance.
:
: Peter.
:
: --
: ____
: Peter Homann email: peterh@adacel.com.au
: Adacel Pty Ltd Work : (03) 596-2991
: 250 Bay St, Brighton 3186, VIC, AUSTRALIA Fax : (03) 596-2960

Peter:

You're talking KILOHERTZ here, right? 5000 HZ? Like, audio frequency?

I was playing with this last week, being interested in listening to distant lightning.

Here's what I did. I bought a ferrite rod from Amidon. (They advertise in ham magazines. The rod is 7.5 in long and 0.5 in in diameter. I wound it with about Two layers of about 18 guage wire (1.0 mm dia ?)m `. or about 500 turns. I used a capacitor of about .045 mfd connected in parallel with the coil to make it resonate at about 7.5 Khz. You will want to use a little more capacitance to get it to resonate at 5 KHZ . I connected this to a 15 ft long piece of skinny coax and then to a phono plug. I plugged this into my battery operated tape recorder. I could hear the signals from distant lightning just fine.

I did my recording "out of town", at least a half mile distant from a small power line. The big interference in this band is powerlines. If you are a city dweller, you'll have to get way out of town to play with 5KHx emag.

Have fun, and let me know what you get to work.

Chuck Young. ctyoung@mtu.edu

769. Novice and Technician Amateur Radio Licensing Course

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-06 05:07:05 UTC
From: wfspar@qnet.com
Message-ID: <3je59p$5db@cello.qnet.com>
Source record: 114069

A 10-week amateur radio licensing course will start April 25 in Lancaster, CA. The class will prepare students to pass Novice and Technician entry level FCC examinations. Applications and date sheet can be requested from Bill Welsh, 45527 Third St. East, Lancaster, CA 93535-1802.

770. for sale : dewalt power drill

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-06 12:26:18 UTC
From: jason.lee@chessboard.com
Message-ID: <jason.lee-0603951226180001@csmaclab-mac28.uchicago.edu>
Source record: 114075

```
For sale or trade: A good working dewalt power drill
E-mail me for the details.
asking $120.00 (I payed over $300.00)
Please make a bid today:-)
-Jason L. Lee
jason.lee@chessboard.com

--
The message is posted via Newswatcher from a computer in the University of Chicago's
Ryerson Maclab
```

771. Variable Caps in Oil

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-06 13:36:56 UTC
From: clarke@acme.ucf.edu
Message-ID: <3jf35o$4q2@news.cc.ucf.edu>
Source record: 114071
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

I have been contemplating the problem of coming up with a 200 pfd variable cap with a fairly high voltage rating for use in an antenna tuner.

I have 100 pfd and I was thinking about putting some plastic between the plates to up the C when I thought of oil.

Could I run the capacitor in an oil bath and effectively get 2 or 3 x the capacity and probably higher breakdown?

Or does oil have an awful power factor at RF?

Tom Clarke
KE4VFH

772. Re: GPS and Flux gate boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-06 14:41:16 UTC
From: smasters@bzy.gmu.edu
Message-ID: <3jf6uc$4cp@portal.gmu.edu>
Source record: 114165

```
: Samuel Guccione (sguccion@outland.dtcc.edu) wrote:
: :
: : Anyone have a source of inexpensive GPS and/or flux gate boards (or
: : kits?). Reply here or to SGUCCION@OUTLAND.DTCC.EDU

Precision Navigation out of California makes an entire line of
flux-gate products. Many of these were designed to be integrated into a
GPS package. They also have a 3axis version for VR apps, but the cost is
prohibitive ($800).
For $50 though you can get one that has 2 axises and a 2 degree
accuracy.

73,
Shawn
KE4GHS
```

773. Connectors for Hardline

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-06 15:55:20 UTC
From: Waltk@pica.army.mil
Message-ID: <9503061055.aa10897@COR5.PICA.ARMY.MIL>
Source record: 114166

VK4DJS writes:

I DONT KNOW THE CORRECT WAY TO REPLY TO THIS REQUEST SO I HOPE YOU WILL
PASS THIS ON TO THE CORRECT PERSON FOR ME. IN AUSTRALIA WE HAVE A COMPANY
CALLED "UTILUX" AND THEY SPECIALIZE IN ELECTRIC CONTROL AND CONNECTORS.
SOME OF THESE ARE SPECIAL OR SPECIALLY MADE. THE ONE I AM THINKING OF IS A
TYPE TO CONNECT ALUMINUM TO COPPER.THE BASIC METHOD IS TO MOUNT ONE PIECE
IN A HIGH SPEED LATHE AND BUTT THE OTHER UP TO IT. THE FRICTION FUSES THEM
TOGETHER. TO ALLOW THE ALUMINUM TO MAKE A GOOD ELECTRICAL CONNOUT ALL GASES
(AIR,ETC).WE HAVE A SOLDER PASTE OVER HERE AND I GUESS YOU
WILL ALSO HAVE SOMETHING SIMILIAR OVER THERE.I WAS THINKING WHEN I WAS
READING YOUR REQUEST THAT MAYBE SOME PASTE AND GRINDING COMPOUND WOULD BE
WHAT YOU WOULD NEED. THE UTILUX MIXTURE IS USED WHEN CRIMPING WITH HIGH
PRESSURE HYDRAULICS IS AVAILABLE.THIS SEALS IN EVERYTHING.I HAVE NOT USED
UNT ONE PIECE
IN A HIGH SPEED LATHE AND BUTT THE OTHER UP TO IT.
THE MIXTURE I DESCRIBED(SOLDER PASTE/GRINDING COMPOUND)BUT MAYBE YOU CAN
THEN SOLDERTHE TWO DISSIMILIAR METALS.HAVE FUN AND LET ME KNOW HOW YOU GOT
ON.

VK4DJS:

Thanx for taking the time to share your experiences from "down under"
with the problem of dissimilar metals and making appropriate connections.
We use a product here that goes under several trade names that is
used just for that purpose (PENETROX or NAOLOX). I've seen quite a bit
of advice on this problem that I posed to the net. The products available
here are similar to the "goo" you describe. Its typically used in the
electrical business to connect service entrance cable, which is Aluminum
to a junction box that is usually fabricated with brass. Then copper
wire is connected to the junction box and run through the residence.

I have successfully used these products in antenna construction and
the seem to work OK, albeit they are a grease and have the tendency
to allow/promote slippage. Next antenna system I work on I will
experiment with adding metal shavings to the product and create a
mixture that has a lower viscosity and try to prevent the slippage
problem. The typical residential connection box is not in an
environment that is subject to the ravages of Mother Nature as
is an amateur antenna.

I like your approach to the connection problem using torque to ensure
a secure *mehanical* bond. Early in my ham career a wise old sage use
to mutter the follwoing to this young squirt: "The best electrical
connection is a solid mechanical connection." I guess this holds
true based on your experiences. A a good mechanical connection implies

that all gases are vacated and the chance of oxidation is eliminated.
If you can please elaborate of the following:

MOUNT ONE PIECE IN A HIGH SPEED LATHE AND BUTT THE OTHER UP TO IT.

How is this done, exactly? I guess one could use a common drill
appropriatel slowed down and secured in a vice? What do you thin?

Again many Thanx & 73 de Walt - K2WK

.....
73 de Walt Kornienko - K2WK Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
!!!!!!!!!!!!!!!!!!!!!!!!!!! G O F R C !!!!!!!!!!!!!!!!!!!!!!!!!!!
_____

774. Re: IRF-510

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-06 20:16:29 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-0603951516290001@k4dii.ksc.nasa.gov>
Source record: 114080

In article <63c_9503041246@blkcat.fidonet.org>,
Stephen.Thurber@f239.n109.z1.fidonet.org (Stephen Thurber) wrote:
> Anyone have any thoughts as to whether an IRF-510 would make a
> reasonable substitute for an IRF-511 in a 14 mhz 5 watt amplifier
> (single ended, tuned circuit -- not broadband).

Stephen-

According to a 1981/82 International Rectifier Semiconductor Data manual,
the two parts are the same except for voltage. Where the IRF-511 is rated
at 60 volts, the IRF-510 is rated at 100 volts. Therefore, the IRF-510
would appear to be superior.

73, Fred, K4DII

775. 6 meters/transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-06 20:21:40 UTC
From: wa5whn@mack.rt66.com
Message-ID: <3jfqsk$lti@mack.rt66.com>
Source record: 114078

Has anyone built the new Ten-Tec 6 meters transverter kit yet ? If so, any comments about the design & stability (spectral purity, et al). I was thinking of mating this product up with a Ten-Tec 555 Scout.

Thanks...Jay

776. Re: MPSA20

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-06 20:46:50 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-0603951546500001@k4dii.ksc.nasa.gov>
Source record: 114081

In article <94c_9503030609@blkcat.fidonet.org>,
Stephen.Thurber@f239.n109.z1.fidonet.org (Stephen Thurber) wrote:
> can anyone suggest a good substitute for MPSA20. The application is a
> 3.395 mhz. first I.F. amplifier.

Stephen-

The MPS-A20 may have a color dot or stripe somewhere on the body, that indicates its DC gain. From an old Motorola manual:

Min. hFE Max.
Red 40 400
White 80 400
Green 100 200
Blue 120 300
Yellow 150 300

I don't see anything else unusual about the MPS-A20. If the original part happens to have the red color code, almost any NPN transistor may work, if you can fit it in! The 2N3904 and 2N4401 are reasonably close, and should be easy to find.

73, Fred, K4DII

777. GE transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 00:17:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.985.546@acenet.com>
Source record: 114070

From: brian.carling@acenet.com
Newsgroups: rec.radio.amateur.homebrew

Does anyone out there have a semiconductor cross-reference???
Please tell me if you can find any NTE or ECG etc. equivalents
for the GE-18 and GE-21 complimentary drivers that I have here
from an audio amplifier. they are both shot and I need to
find substitutes that I can buy today for these oldie goldies.
They look like a 2N3053 or some such in a round metal can.

Please reply here or to:
brian.carling@acenet.com
73 de AF4K

• SLMR 2.1a • Practice DELIBERATE kindness and unselfish acts of love!

778. Re: 6 meters/transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 01:29:04 UTC
From: harrisok@vax.sonoma.edu
Message-ID: <1995Mar6.172904.1@vax.sonoma.edu>
Source record: 114083

In article <3jfqsk$lti@mack.rt66.com>, wa5whn@mack.rt66.com (Jay Miller) writes:

> Has anyone built the new Ten-Tec 6 meters transverter kit yet ?

I haven't even been able to get a catalog out of Ten-Tec... Waiting for a
couple of months now.

Ken

--

Ken Harrison harrisok@sonoma.edu Ham: N6MHG
~~~~~~
"Money is better than poverty, if only for financial reasons." -- Woody Allen
~~~~~~

779. Original Ideas Required for Radio Receiver :)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 02:14:55 UTC
From: misc200@csc.canterbury.ac.nz
Message-ID: <1995Mar7.141455@cantva>
Source record: 114082

Hola Everyone,

I'm a third year undergraduate at the university of Canterbury NZ, and
I need some help.

I decided to do a comms paper this year, it has one project : design
and make your own radio. Fine easy you say... except that the marker likes
original ideas.

Last year one of the students taking the course spent a fairly
substantial sum of money to build a radio complete with surround sound etc.
etc. He got about 90%, but a smart young fellow built a crystal set and got
92%. The reason he got such a high mark was because he made his own diode out
of some sought of crystal he requisitioned from physics.

So my problem is to find an original idea for a radio which falls into
these catergories (in order of importance).

1: It needs to be original, I thought of extending the idea of the
crystal set a little by making my own tuning capacitor out of some of those old
fashioned razor blades (has anyone tried this?). Someone built a 'Co-hearer'
radio last year, that got good marks. Does anyone know of any unusaul am
receivers (the older the technology the better), or know of any books
describing early radio recievers?

2: The idea has to be reasonably easy to understand by an ignorant
undergrad, and has to be reasonably easy to implement.

3: I'd prefer it if I don't have to take out a mortgage ;)

Cheers,

Stephen Simpson

PS. Please email my elec account as I read it more frequently.

email : SimpsoSW@Elec.Canterbury.ac.NZ

780. Re: FS * * * AA nicads * * *

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 03:28:32 UTC
From: internet <karyn10848@delphi.com>
Message-ID: <5A+6lrQ.karyn10848@delphi.com>
Source record: 114087

I'll take a chance on 10. Do you have any soldertails? Just let
me know who gets the check.
Karyn.

781. IBEGROUP Seeks electronic expertise

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 08:07:59 UTC
From: ah991@FreeNet.Carleton.CA
Message-ID: <D5299C.Iu9@freenet.carleton.ca>
Source record: 114074

The non-profit IBEGROUP (Internet Biomedical Engineering Group) is developing an IBM PC compatible 32/128/256 channel high performance biomedical data acquisition system to facilitate EEG/ERP brain research at universities and hospitals.

Launched on January 4, 1995, the group's membership has grown to about 60 professionals from 15 countries. Currently we are creating R&D teams and could use additional expertise in the following areas:

* Analog and Digital design (especially ultra low noise analog)
* Mixed analog/digital VLSI and FPLDs development
* High speed, 10BaseFL, serial communications
* IBM PC hardware/software interfacing (embedded and host IBM PC)
* Power supply (we are using inductive power transfer)
* Prototyping sites (universities/hospitals/colleges/student groups)
* EEG/ERP (Researchers who help us define desirable DAS features)

We believe this to be the first Internet based distributed product development project. We invite you to participate in this unusual and challenging project. It will not make you rich but you will be contributing to a good cause, learn some new technologies and make world wide contacts.

Your participation can range from email consultation to active R&D work. Project communications are conducted on several listserv mailing lists.

To join this project and/or learn more about it please complete the questionair below and email it to:

Herman van den Bergen, CET
IBEGROUP Project Coordinator
vdbergen@acadvm1.uottawa.ca

---------- cut here ----------

IBEGROUP REGISTRATION FORM

Please take a minute and answer the questions below and/or attach your resume. We need the information to assess our engineering resources and to determine in what areas we have to search for more expertise. Your cooperation will be much appreciated!

Do we have your permission to add the information below to our expertise database (accessible by all participants)?
Please answer Yes or No:

Name:
Title:
1st Email address:
2nd Email address:
Home address:
Tel:
Fax:

Employer or self employed:
Company name and address:
Tel:
Fax:

1. Would you like to be part of the Project Management team
(please elaborate)?

2. Please describe as fully as you can your experience in your
preferred area of participation:

3. Would your employer be interested in supporting this project
(please explain why)?

4. What is your experience in biomedical equipment design?

5. Do you have prototyping/testing experience?

6. What resources do you have that could help us with our
project (i.e. labs, workshops, testing facilities, team
support, company support, etc.)?

7. Would you like to develop a DAS system for your own
laboratory or do you know others who do?

8. We invite other comments:

--

Herman van den Bergen, University of Ottawa, Ottawa, Ontario, CANADA
Email: vdbergen@acadvm1.uottawa.ca or vdbergen@aix1.uottawa.ca
IBEGROUP (Internet Biomedical Engineering Group) Project Coordinator

782. Re: ARRL Radio Designer Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 10:07:11 UTC
From: randolph@est.enet.dec.com
Message-ID: <3jhtca$7ch@mrnews.mro.dec.com>
Source record: 114076

In article <3jec5j$1dch@tuba.aix.calpoly.edu>, rheiss@tuba.aix.calpoly.edu (Robert Everitt Heiss) writes...
>The evaluation version of PSPICE is less expensive than Radio Designer,
>runs in less memory, and is fast enough to simulate the final stages of
>a transmitter on a lowly 387SX-16.
>Robert Heiss KO6KA

SPICE is pretty good... we have some fancy commercial versions of it here at work. The MAJOR problem with SPICE, though, is getting decent models of active devices, i.e. you want to design a class C final amp with an MRF475 transistor. Unless your version of SPICE happened to come with a model of an MRF475, you're pretty much hosed, unless you're prepared to measure complex impedances at operating frequency and translate them into a model. Even if it came with the model, you might still be hosed... who knows whether the model is any good above DC?

SPICE is great for passive circuits, like LC filters.

-Tom R. N1OOQ randolph@est.enet.dec.com

783. antenna design info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 11:14:03 UTC
From: dave@news.IntNet.net
Message-ID: <3jhf5r$gs0@xcalibur.IntNet.net>
Source record: 114072

Hi all, I have a little question for this group. Does anyone know of an ftp site or web site that we hams can coonct to that has info on building antennas ? I'm looking for plans mostly for wefax antennas, Like turnstyles,quaddrifilars, eggbeaters, ect. I have the ARRL antenna book, but there isn't to much on these antennas. Thanks, Dave KO4GA

784. satelite Comm.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 11:58:07 UTC
From: riksv@nts.mh.se
Message-ID: <3jhhog$d97@fizban.solace.mh.se>
Source record: 114073

I am a redio amateur and want to start up with satelite comm. on 144 / 340 Mhz.
I want to start with a low budget equipment. Please give me information on what
hardware i need and which results i can obtain.

Mail me at: riksv@nts.mh.se

- Sven

785. data twta thomson th3655 Siemens yh1022

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 17:18:43 UTC
From: estafnl@euronet.nl
Message-ID: <estafnl.3.0011505C@euronet.nl>
Source record: 114077

I'm lloking for data of A Traveling wAVE TUBE AMPLIFIER from Thomson CSF.
The type number is TH3655.
I'm also looking for data of a siemens twta type yh1022.
If anyone could help, it would be very nice.
They will be used for 10ghz eme at pa3csg grouep (on6jz pe1kxh)
73 Jac pe1kxh

786. UHF mixer- IC or discrete

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 17:49:38 UTC
From: gordy@gbscomms.win-uk.net
Message-ID: <166@gbscomms.win-uk.net>
Source record: 114091

Hi all,

I'm trying to brew up fixed freq, xtal controlled rcvrs for 430-440 Mhz. The IF o/p is intended to be an FM IC (anything cheap enough), and I was wondering if anyone had any good ideas for the mixer. It has to be cheap, chearful, and repeatable. Cost HAS to be low, because they are for standby use, and the cheaper the better. 3-4 dollars is about the max we can go to.

How about some cellfone mixer IC's - any good? or are they optimised for too high freqs. Or would a ring diode mixer be better-bearing in mind that complex transformers are definitely out! (any good/cheap diodes to use?) IF will be anywhere between 10.7 and 75 Mhz, depending on the IF stage IC used.

Any ideas, observations, recommendations?

thanks-

Gordy G7HQB

--
SIGint, geddit?

787. Original Ideas Required for Radio Receiver :)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 18:42:52 UTC
From: gsymonds@hpb.hwc.ca
Message-ID: <3ji9fc$1a0@m.ehd.hwc.ca>
Source record: 114094

Why don't you go one better and build a self-powered radio? You can use two tuned circuits with crystal detectors to form + and - power supplies to power a single (germanium) transistor audio amplifier. You will need a *high* efficiency speaker like an old horn (earphone with bell).

Oddly enough, you only need one aerial for both power supplies and the radio itself.

The first one of these I saw had a crystal detector followed by a single transistor audio amplifier.

All kinds of advantages - you listen or free, absorb the stations you hate (tune the power supply to them!) and show how clever you are!

This is guaranteed to attract attention. One caution - as the guy who wrote this up in the ARCA journal (Bud Bedker) correctly discovered, it is a good idea to included an on/off switch for when you get tired of listening to it.

788. HV CAPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 19:01:12 UTC
From: dlubing@msn.fullfeed.com
Message-ID: <dlubing.43.001305AE@msn.fullfeed.com>
Source record: 114098

I NEED HV CAPS. WDC OF 15KV TO 60KV .01 TO .4 MFD.
THANKS DENNIS

789. Re: Anyone using Radio Shack voice recorder chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 19:35:50 UTC
From: zlau@arrl.org
Message-ID: <1995Mar7.193550.3008@arrl.org>
Source record: 114093

Ralph R. Swick (swick@huey.x.org) wrote:

: Yep; fun chip. I built a gift for a local blind ham out of one of 'em
: last fall. When I get the time I plan to see if QST is interested in
: a beginner's construction article on the thingy I made. (Probably too
: simple for QEX! :-)

Two Cautions:

1. QST published the ChipTalker back in December 1991--how much different
is your version?

2. I know amateurs like to wait till Radio Shack closes out interesting
parts--lot cheaper if you wait. But, this means that there might not
be any left by the time you write up a construction project.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

790. Re: Original Ideas Required for Radio Receiver :)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 20:59:49 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <794609989snz@lfheller.demon.co.uk>
Source record: 114095

In article <1995Mar7.141455@cantva>
misc200@csc.canterbury.ac.nz "Stephen William Simpson" writes:

> So my problem is to find an original idea for a radio which falls into
> these catergories (in order of importance).
>
> 1: It needs to be original, I thought of extending the idea of the
> crystal set a little by making my own tuning capacitor out of some of those old
> fashioned razor blades (has anyone tried this?). Someone built a 'Co-hearer'
> radio last year, that got good marks. Does anyone know of any unusaul am
> receivers (the older the technology the better), or know of any books
> describing early radio recievers?
>
> 2: The idea has to be reasonably easy to understand by an ignorant
> undergrad, and has to be reasonably easy to implement.
>
> 3: I'd prefer it if I don't have to take out a mortgage ;)

How about making your own point-contact transistor and using that as
the basis for a single-transistor Rx? If someone got high marks for making
his own diode you should get even more for a transistor. 8-)

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

791. Re: Instruments required for QRP building

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-07 22:29:22 UTC
From: zlau@arrl.org
Message-ID: <1995Mar7.222922.8237@arrl.org>
Source record: 114084

VE7MEW William Barnes (wbarnes@earth.geology.ubc.ca) wrote:
: My electronic construction experience is largely limited to sound
: system amps, pre-amps and tuners in the dim, distant past, but I am
: starting to get enthused again and would like to dip my toes into the
: QRP waters, hopefully without encountering any piranhas. At present my
: equipment is limited to a good digital multimeter, but I realize I'll
: have to acquire or have access to a frequency counter and 'scope. What

Not necessarily. I've built a lot of stuff without needing either
a counter or a scope. Actually, the best piece of test equipment is
actually a good general coverage HF transciever. It can act as both
a signal generator and a spectrum analyzer. I'd consider the counter
to be a luxury for QRP work--notice that the popular QRP frequencies
are rather far from the band edges :-). Yeah, I know about UK novices...

Similarly, the scope is nice to have, but it probably won't tell you
all that much more than a cheap RF probe/multimeter for routine QRP
work. Not $$$ worth of info, anyway.

In my opinion, the smart way to build things is in little building
blocks. You get each little block working before going on to the
next one. You can typically test each block with the transceiver
and the RF probe/multimeter. If a block refuses to work, try
someone else's design or another approach.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

792. Weather Balloon QRP Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 00:10:49 UTC
From: Mark Winters <markwi@wordperfect.com>
Message-ID: <3jism9$ijo@grok.provo.Novell.COM>
Source record: 114099

I'm interested in sending up a weather balloon along with a simple transmitter. (I may send up a camera with the balloon as well, but that's another story...) The balloon could go as high as 100,000 ft. (about 19 miles). The transmitter would be used to send down information such as altitude and temperature, and would also be used to track the balloon down once it lands. I would like the transmitter to be as simple and inexpensive as possible, since I might lose the whole thing in the process.

I notice in an article in the March 95 issue of CQ (p. 104) is a schematic for a simple QRP transmitter that looks like it might do what I need. Since I'm a complete newbie at building transmitters, however, I had the following questions:

1. Would the circuit shown in the CQ article be powerful enough to send a line-of-sight signal as far as I need it to? If not, can someone recommend a source for a circuit that can do this?

2. The circuit shown in Fig. 2 of the article doesn't have values for all of the components labeled. (Maybe these values are obvious to others -- I said I was a newbie!) What capacitance value should be used for the variable (tuning) capacitor? Also, what should be used for the coil that interfaces the antenna to the rest of the circuit?

Any help or a pointer in the right direction would be appreciated. Also, if anyone knows of a group in my area (Utah) that is already doing this, could you e-mail me with a contact person?

Thanks,

Mark Winters
markwi@wordperfect.com

793. Re: HELP !! Gunnplexer video link...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 00:39:15 UTC
From: AC4OP@ix.netcom.com
Message-ID: <3jiubj$c57@ixnews2.ix.netcom.com>
Source record: 114096

In <1995Feb28.203216.6248@tower> mikey@gnv.ifas.ufl.edu (Mike Baker) writes:

>
>HERE'S THE PROBLEM...: the recovered video from the satellite
>receiver at the far end of the link has VERY BAD LOW FREQUENCY
>RESPONSE. The sync tips are severely rounded and low in
>amplitude, and the low frequency components of the vertical
>interval have severe tilt and distortion. The net result is
>that receivers / monitors on the receive end will not lock up
>and are too unstable to use. We thought the problem might
>have been a bad TVRO receiver, so other satellite receivers
>were tried and the result is the same. All the satellite
>receivers tried gave the same results. If any one has any
>suggestions to solve the problem it would be most appreciated.

I had a similar problem a few months ago. I tried to mix a ~1 GHz FMTV modulated PLL source with a ~9GHz source to get a signal out, at 10 GHz. I used a modified Ku band LNB into a satellite receiver to recover the video. The video out of the receiver looked great but would NOT lock. I fixed the problem by adding a Pre-emphasis filter and optimizing the way I feed video into the VCO.

73's
AC4OP

794. Re: UHF mixer- IC or discrete

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 00:52:47 UTC
From: AC4OP@ix.netcom.com
Message-ID: <3jiv4v$cec@ixnews2.ix.netcom.com>
Source record: 114097

In <166@gbscomms.win-uk.net> gordy@gbscomms.win-uk.net (Gordon B. Slater) writes:

>
>Hi all,
>
>I'm trying to brew up fixed freq, xtal controlled rcvrs for 430-440 Mhz. The IF o/p
>is intended to be an FM IC (anything cheap enough), and I was wondering if anyone
>had any good ideas for the mixer. It has to be cheap, chearful, and repeatable. Cost
>HAS to be low, because they are for standby use, and the cheaper the better. 3-4
>dollars is about the max we can go to.
>
>How about some cellfone mixer IC's - any good? or are they optimised for too high
>freqs. Or would a ring diode mixer be better-bearing in mind that complex
>transformers are definitely out! (any good/cheap diodes to use?) IF will be anywhere
>between 10.7 and 75 Mhz, depending on the IF stage IC used.
>

I would recommend using some of the cheaper Mini CIrcuits Lab mixers. I think you can get some of their surface mount (j-lead) versions for less than $3 US. They work great at that frequency and have 50 Ohm in and Out Z's.These mixers can be ordered dirrectly from MCL. Another possibility is to use a Signetics NE602 Chip. The mixer on this chip will work to over 500 MHz and will give you satisfactory performance. The built-in oscillator circuitry; however, will not work above 200MHz so you will have to use an external oscillator into the chip. This chip will also be easier to interface to the FM IF chips in the market due to it's higher impedances.

The double balance mixer will definitely work better because of it's higher intercept point, but the NE602 is cheaper.

73's
pieter.ibelings@sciatl.com
ac40p@ix.netcom.com

795. Need source for 1N295 diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 01:24:34 UTC
From: dgf@netcom.com
Message-ID: <dgfD53L8y.5Hz@netcom.com>
Source record: 114086

I'm in need of a small quantity (a dozen?) 1N295 diode. Can't find in any of my catalogs. Any suggestions? Have any you would part with?

73 Dave WB0GAZ dgf@netcom.com

796. high frequency

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 01:50:44 UTC
From: cerussi albert e <cerussi@uxa.cso.uiuc.edu>
Message-ID: <Pine.DYN.3.91.950307194729.16661A-100000@uxa.cso.uiuc.edu>
Source record: 114085

I am looking for a good source about building circuits in the 100 MHz or above range. Does anyone know of a good book or whatever for learing about working in this frequency range. Specifically, I am looking to intensity modulate some light sources. Any help about construction, etc would be greatly appreciated. Thanks!

A. Cerussi

797. Re: Instruments required for QRP building

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 05:06:22 UTC
From: "Bill Heishman", Dallas
Message-ID: <3jje0e$c8n@news.computek.net>
Source record: 114103

> zlau@arrl.org (Zack Lau (KH6CP)) writes:
> VE7MEW William Barnes (wbarnes@earth.geology.ubc.ca) wrote:
> :t I realize I'll
> : have to acquire or have access to a frequency counter and 'scope. What
>
> Not necessarily. I've built a lot of stuff without needing either
> a counter or a scope. Actually, the best piece of test equipment is
> actually a good general coverage HF transciever. It can act as both
> a signal generator and a spectrum analyzer.
> next one. You can typically test each block with the transceiver
> and the RF probe/multimeter. If a block refuses to work, try
> someone else's design or another approach.
> --
> Zack Lau KH6CP/1
>>>>
I second the motion, a good reciever is the best piece of test equipment you can have. As a first project or two, one might build some of the qrp swr/wattmeter circuits that are in the Hamradio Handbook. There are also some ideas in "Qrp Classics" published by the ARRL.

Also read anything Zack writes, he's been doing this a while.

Bill Heishman, N5HNN

798. Re: Changing frequency of crystals, possible?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 05:12:17 UTC
From: w9sz@prairienet.org
Message-ID: <3jjebh$gte@vixen.cso.uiuc.edu>
Source record: 114105

I did some of this with FT-243 crystals back in 1967-68 (back when I was a Novice, and Novices had to use crystal-controlled transmitters and had one-year non-renewable licenses!)

Generally, I remember I could move a crystal (40-meter) about 5 kHz up by grinding with a very fine abrasive before I lost it. It seemed to do fine for a couple kHz and then get more and more sluggish.

There was an etchant that could be used too, I believe it was ammonium bifluoride. However, it rounded off the edges of the crystal blank and gave me worse results than the abrasive grinding.

I hope this helps!

73, Zack W9SZ

799. Source for 503 kHz Ceramic Resonator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 05:18:27 UTC
From: Barry Newberger <bsn@fusion.ph.utexas.edu>
Message-ID: <3jjen3$cbg@geraldo.cc.utexas.edu>
Source record: 114104

Can someone suggest a source for a 503 kHz ceramic resonator
for TV project I'm working on?

Please reply via e-mail to bsn@fusion.ph.utexas.edu

Thanks,
W5KH

800. RIDE TO KULPSVILLE WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 05:27:09 UTC
From: h2osport@intac.com
Message-ID: <3jjf7d$o3u@uucp.intac.com>
Source record: 114102

HI ALL!
ARE YOU GOING TO ATTEND THE SWL WINTERFEST '95? AS MOST OF YOU KNOW THE
FEST WILL BE HELD AT THE HOLIDAY INN IN KULPSVILLE, PA. WHAT I'M LOOKING
FOR IS A RIDE FROM THE BERGEN COUNTY AREA OF NEW JERSEY! I'M A VISUALLY
IMPAIRED PERSON A (VIP) WHO WISHES TO ATTEND! I AM WILLING TO PAY FOR THE
FUEL ONE WAY! ATTACHED IS THE INFO ON THE FEST! i WOULD APPRECIATE A QUICK
RESPONCE ON THIS, AS THE FEST IS ON THE 16TH OF THIS MONTH!!!!! PLEASE
EMAIL H2OSPORT@INTAC.COM
THANK YOU
JOHN J. ABBAMONT
KA2HOI

801. Re: SOLDERING COPPER TO A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 06:00:24 UTC
From: w9sz@prairienet.org
Message-ID: <3jjh5o$nlc@vixen.cso.uiuc.edu>
Source record: 114088

In a previous article, walker@opus.hpl.hp.com (Rick Walker) says:

>
>There is a fairly new solder available that bonds quite readily to
>aluminum. It melts at 750 degrees and requires a propane torch, but
>is just about as easy to use as regular solder on copper. Be careful
>with the heat, as regular aluminum melts at ~1200 or so. Use only enough
>heat to melt the alloy.
>
>
>I saw a demo of this stuff where a nailhole was punched in the bottom of
>a thin coke can. The hole was repaired by "floating" a skin of solder
>over the hole. After it had cooled, the repair was so strong that you
>could not punch a second hole in it. If you persisted, the can would
>end up tearing somewhere else outside of the patched region.
>

I saw this same demonstration at Dayton a couple years ago and was so
impressed I bought some of it...I have used quite a bit of it so far and it
really works great!

The comnpany selling it was:
A-16 Products
1199 Coschocton
Waterford MI 48327
(ph) 313-682-8778

I have also used another product I bought at a local hamfest, called
SAL-MET flux. It is messier and has to be cleaned thoroughly after
soldering, but it DOES do a good job of soldering aluminum to many
other metals (copper, steel, brass.) The address on the label is:
Henry Mfg.
117 S Crawford St
Danville IL 61832

Hope this helps!

73, Zack W9SZ

802. oil for caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 08:14:05 UTC
From: dcadd@luc.ac.BE
Message-ID: <9503080814.AA04317@alpha>
Source record: 114107

Greetings, Thomas, from a dripping wet Diepenbeek in N.E. Belgium!

I think you might give paraffin a try. Paraffin molecules are just short versions of polythene molecules, and if polythene makes a good dielectric, paraffin should do so too. Oils as such are frequently esters of fatty acids (you guessed - I work in a chemistry department!) and as such have polar groups which can give rise to HF losses. Ordinary paraffin should be OK, don't know how the medicinal grade differs.

Hope this helps, 73

Duncan ON/G0UTY G-QRP 8117
"That was inedible muck - and there wasn't enough of it! Bleugh!"
Sir Henry Rawlinson (also gouty)

803. Re: MPSA20

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 10:33:39 UTC
From: randolph@est.enet.dec.com
Message-ID: <3jkiq3$6m2@mrnews.mro.dec.com>
Source record: 114090

In article <frederick.mckenzie-1-0603951546500001@k4dii.ksc.nasa.gov>,
frederick.mckenzie-1@kmail.ksc.nasa.gov (Fred McKenzie) writes...
>The MPS-A20 may have a color dot or stripe somewhere on the body, that
>indicates its DC gain. From an old Motorola manual:
>73, Fred, K4DII

This brings up another question: A lot of Moto TO92 package transistors out of
junked AM/FM type radios and TV sets have as many as 3 color bands on the back.
Anyone know what that's all about?

-Tom R. N1OOQ randolph@est.enet.dec.com

804. Re: UHF mixer- IC or discrete

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 11:32:16 UTC
From: Joe Rocci <rocci@netaxs.com>
Message-ID: <3jk4k0$6bk@netaxs.com>
Source record: 114110

> In <166@gbscomms.win-uk.net> gordy@gbscomms.win-uk.net (Gordon B.
> Slater) writes:
>
> >
> >Hi all,
> >
> >I'm trying to brew up fixed freq, xtal controlled rcvrs for 430-440
> Mhz. The IF o/p
> >is intended to be an FM IC (anything cheap enough), and I was wondering
> if anyone
> >had any good ideas for the mixer. It has to be cheap, chearful, and
> repeatable. Cost
> >HAS to be low, because they are for standby use, and the cheaper the
> better. 3-4
> >dollars is about the max we can go to.

Check out the upc2756 and upc2757 downconverter IC's from NEC. These
are 2 GHz chips which have a local oscillator, mixer, and mixer post-amp,
all for under $2.00! There are other chips in the family which have up
to 70 dB of post mixer IF gain and AGC.
The only problem for the experimenter is that these are fine pitch
SMD parts...a little difficult to handle, but not impossible.

Joe
WA3CMQ

805. Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 11:55:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.996.546@acenet.com>
Source record: 114101

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

Hi all - I found a source of VERY reasonably priced parts for building
your own electronic equipment:
KA7QJY Components
Box 3893
Logan, UT 84323
(801) 563-5173

You can send him an SASE for a catalog, or I think he can FAX
it to you.

His prices are about half what everyone else charges, and he caters
to QRP builders, but also has many other parts available.
---

806. Re: Variable Caps in Oil

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 12:11:42 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Mar8.121142.57464@ucl.ac.uk>
Source record: 114089

In article 4q2@news.cc.ucf.edu, clarke@acme.ucf.edu (Thomas Clarke) writes:
> I have been contemplating the problem of coming up with a 200 pfd
> variable cap with a fairly high voltage rating for use in an antenna
> tuner.
>
> I have 100 pfd and I was thinking about putting some plastic between
> the plates to up the C when I thought of oil.
>
> Could I run the capacitor in an oil bath and effectively get 2 or 3 x
> the capacity and probably higher breakdown?
>
> Or does oil have an awful power factor at RF?
>
> Tom Clarke
> KE4VFH
>

I once had the same problem when designing a 3.6kW (twin 4CX1000A) linear amp. I found a spray can from RS in the UK. Cant remember what it was called, but it had an ability to withstand something like (guessing) 50kV /mm. Its RF propeties were said to be good. It was black and had to be sprayed on then heated for some time (24 hrs for best results) at about 100 deg C. I used a lab oven at work, but remeber thinking it was the sort of temp you could get in a domestic oven.

The amp has never worked too well, so I cant say how good the cap was at very high RF voltages. It was an output coupling cap and had no troubles at 800W out.

I considered oil, but a spay can seems much easier.

davek

807. Re: ICOM Computer Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-08 16:35:33 UTC
From: mfield@ix.netcom.com
Message-ID: <3jkmcl$g9n@ixnews3.ix.netcom.com>
Source record: 114092

In <3jci95$gm0@newsbf02.news.aol.com> bberg99828@aol.com (BBerg99828) writes:

>
>Hi, I'm looking for information on how to connect an ICOM R7100 receiver
>to my
>computer. I know that ICOM has a C-IV computer interface but I hardly
>think its worth a hundred bucks. Can anyone provide my with a shematic of
>this animal.
>or maybe another manufacturer of this type of device. Or just basic
>information about the circuit.....Has anyone built one of these???
>Please E-Mail
>Bob B
>Shelton CT
>bberg99828@aol.com
>

There have been several schematics and design projects in QST over the last few years. Sorry I don't remember the issues.

You're right that the ICOM interface price is OUTRAGEOUS! The interface is simple. The electronics is a Maxim 232 chip and a voltage regulator as I remember. Even with all new parts it should cost less than $20.00

Bye.Dave

808. Re: oil for caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 02:05:30 UTC
From: royle@tekgp4.cse.tek.com
Message-ID: <3jlnpa$gh2@tekadm1.cse.tek.com>
Source record: 114116

dcadd@luc.ac.BE (Duncan Cadd):

>I think you might give paraffin a try. . . .

Before you Yanks go out and start trying to melt wax into your capacitors:

"Paraffin" in the Queen's English is "kerosene" to us Yanks. (And "polythene"
is what we call "polyethylene".)

. . . and "knock me up" is perfectly innocent, a "bugger" is bad indeed,
but that's another story. Sometimes it seems we're two nations separated by
a common language. . .

73 to all you guys, gals, blokes, and birds,
Roy Lewallen, W7EL
Roy.Lewallen@tek.com

809. Re: GE transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 03:30:04 UTC
From: "Alfred J. McWhorter" <72335.725@CompuServe.COM>
Message-ID: <3jlsns$2fk$1@mhadg.production.compuserve.com>
Source record: 114100

ge-18=ecg128, ge-21=ecg159 according to my book. I did however
recognise ecg159 as a to92 (plastic) package so I don't know if
it is an exact MECHANICAL replacement. Check your pinouts before
you try them!
Al KD4TMW

810. Re: Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 05:56:16 UTC
From: mjsilva@ix.netcom.com
Message-ID: <3jm5a0$957@ixnews1.ix.netcom.com>
Source record: 114106

In <2a6.996.546@acenet.com> brian.carling@acenet.com (Brian Carling) writes:

>
>Newsgroups: rec.radio.amateur.homebrew
>From: brian.carling@acenet.com
>
>Hi all - I found a source of VERY reasonably priced parts for building
>your own electronic equipment:
>KA7QJY Components
>Box 3893
>Logan, UT 84323
>(801) 563-5173
>
Isn't this the old address of Dan's Small Parts & Kits? Or am I just especially confused tonight?

Mike, KK6GM

811. Weather Satellite Receving System FROM 73 march 95

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 06:03:20 UTC
From: henryb@waterw.com
Message-ID: <D55stL.Cxn@waterw.com>
Source record: 114019

Has anyone put together this system, how is it working for you? And can some one send me a schematic of a good 137-138 MHz FM receiver with 40 KHz BW that I can use for this system.

Is the shareware package of JVFAX 6.0 on the net if so can someone give me a FTP site and path or mail it to my.

Thanks for your help

Henry Batchelor

812. Re: Instruments required for QRP building

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 15:48:21 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Mar9.154821.27741@ke4zv.atl.ga.us>
Source record: 114112

In article <1995Mar7.222922.8237@arrl.org> zlau@arrl.org (Zack Lau (KH6CP)) writes:
>Not necessarily. I've built a lot of stuff without needing either
>a counter or a scope. Actually, the best piece of test equipment is
>actually a good general coverage HF transciever. It can act as both
>a signal generator and a spectrum analyzer. I'd consider the counter
>to be a luxury for QRP work--notice that the popular QRP frequencies
>are rather far from the band edges :-). Yeah, I know about UK novices...
>
>Similarly, the scope is nice to have, but it probably won't tell you
>all that much more than a cheap RF probe/multimeter for routine QRP
>work. Not $$$ worth of info, anyway.
>
>In my opinion, the smart way to build things is in little building
>blocks. You get each little block working before going on to the
>next one. You can typically test each block with the transceiver
>and the RF probe/multimeter. If a block refuses to work, try
>someone else's design or another approach.

I agree with everything Zack says (wow, a first). In particular,
I find a counter practically worthless and rarely heat mine up.
Your commercial transceiver will do double duty to determine
frequencies, or you use the spectrum analyser. However, a scope and a
spectrum analyser are *so* useful, I'd make an effort to acquire them.

Good ones are showing up on the surplus market, and at hamfests, at
really attractive prices these days. Even if it's a huge old boat anchor,
as long as it works, it'll be mighty handy on the bench. A calibrated
signal generator is also useful, and I've found them at hamfests for
as little as $25-$45 dollars (tube type table benders), but a commercial
transceiver equipped with a 30 db tap, a dummy load, and a step attenuator,
can do just as well. You can build all those bits yourself.

There are usually ways around the lack of a particular piece of test
equipment, but having good test equipment makes things so much nicer
that you'll tend to work at the bench a lot more. (You'll also curse
all those spurs you didn't know you had a lot more, but the rest of
us will thank you for finding and fixing them.)

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

813. Re: Variable Caps in Oil

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 15:58:28 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D56KDI.IAA@hpqmoea.sqf.hp.com>
Source record: 114111
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Thomas Clarke (clarke@acme.ucf.edu) wrote:

: Could I run the capacitor in an oil bath and effectively get 2 or 3 x
: the capacity and probably higher breakdown?

In theory, yes. This has been done in some old military/naval gear.
I know of one semiconductor kilowatt linear that was immersed, heat
sinks and all in a sealed, oil-filled container with external fins.

Bubbles and contamination can limit breakdown voltage to less than
dry air rating

: Or does oil have an awful power factor at RF?

No, at least not the right oil. Look at the ARRL handbook section on
oil-immersed dummy loads for oils.

What does go wrong, is that the oil can nicely lubricate the sliding
contact of your capacitor. Just where you don't want an oil film, you
need wipers with plenty of contact force

Very very messy... ;-)

Cheers
David

814. Re: oil for caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 16:02:44 UTC
From: MA.SPX@forsythe.stanford.edu
Message-ID: <3jn8r5$m7p@morrow.stanford.edu>
Source record: 114022

In article <3jlnpa$gh2@tekadm1.cse.tek.com>,
royle@tekgp4.cse.tek.com (Roy W Lewallen) writes:
>dcadd@luc.ac.BE (Duncan Cadd):
>
> >I think you might give paraffin a try. . . .
>
>Before you Yanks go out and start trying to melt wax into your capacitors:
>
>"Paraffin" in the Queen's English is "kerosene" to us Yanks. (And "polythene"
>is what we call "polyethylene".)
>
Well, this is true for the UK, BUT in Belgium, "BE", paraffin is
solid Paraffin Wax, used for medical specimen preparation and making
candles.

Stephen

815. Re: Original Ideas Required for Radio Receiver :)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 17:27:07 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D56oH8.JBx@hpqmoea.sqf.hp.com>
Source record: 114113

Stephen William Simpson (misc200@csc.canterbury.ac.nz) wrote:
: Hola Everyone,

: I'm a third year undergraduate at the university of Canterbury NZ, and
: I need some help.

: I decided to do a comms paper this year, it has one project : design
: and make your own radio. Fine easy you say... except that the marker likes
: original ideas.

Then you must think of your own idea, or else it won't be original.

That other bloke's surround-sound job was probably little more than
the result of a lot of money, a lot of hours work, and the diligent
reading of published designs/applications notes. Creativity level: low

The guy with the crystal set was smart enough to choose something of
a sensible scale, and did it in a way that is unusual today. Duplicating
his effort even with a home-made capacitor is now not very original.
Your marker is doing his best to help you, he is trying to get you to
explore, not follow.

If he said "make" rather than "build" or "assemble", what proportion
of components should be homebrew?

What sort of lab equipment do you have access to? think
physics/mechanical more than electronic..

Your choice should be bold, not gung-ho, so that even an unsuccessful
attempt is meritorious rather than foolhardy.

It's the 50th anniversary of the freeing of Colditz, some prisoners of
war built their own radios out of whatever they could get their hands
on. What difference could modern knowledge make?

Espionage agencies put radios, usually simple transmitters, into
innocuous objects. You could elect for modern components and let your
sense of humour loose on choice of housing.

Could you make a radio using technology of an age earlier than the
discovery of radio waves? (I've just had a crazy image of how the
Spanish inquisition would have made a variable capacitor, and a
point-contact transistor from ancient Egypt... I might just have a go at
this myself, just for a laugh, and as a conversation piece for the local
radio club)

These are examples, but, I'm sorry, I've spoiled their originality by
suggesting them. Go and read some old books and magazines, go looking

for inspiration in unlikely places. Cooking up something entirely on your own, without anyone else helping is great fun. Turn over stones, kiss frogs, there's inspiration out there and no-one can ever predict where. The right idea will make you smile.

Cheers
David GM4ZNX

816. Idiom Press CW keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 21:53:24 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <419811791wnr@ifwtech.demon.co.uk>
Source record: 114024

Having heard good things about the keyer-on-a-chip featured in the
1995 ARRL Handbook, I'm considering ordering a kit.

Please can anyone closer than England confirm the info in the
Handbook?

Idiom Press, Box 1025, Geyserville, CA 95441-1025
Price $45 + $3 s/h to as US mailing address.

Do they have a fax number - and do they take credit cards?

Thanks for your help.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

817. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 22:53:44 UTC
From: mack@mails.imed.COM
Message-ID: <9502097947.AA794797351@mails.imed.com>
Source record: 114026

VE7MEW William Barnes (wbarnes@earth.geology.ubc.ca) wrote:
: My electronic construction experience is largely limited to sound
: system amps, pre-amps and tuners in the dim, distant past, but I am
: starting to get enthused again and would like to dip my toes into the
: QRP waters, hopefully without encountering any piranhas. At present my
: equipment is limited to a good digital multimeter, but I realize I'll
: have to acquire or have access to a frequency counter and 'scope. What
Zack Lau Replied:
Similarly, the scope is nice to have, but it probably won't tell you
all that much more than a cheap RF probe/multimeter for routine QRP
work. Not $$$ worth of info, anyway.

I agree with Zack, but I would say it differently. I own 2 scopes, but I NEVER use them for RF work. They are handy sometimes for simple digital and audio type things. I have 200 MHz Digital Storage scopes available here at work and I find the RF tools (like the spectrum analyser) of 100 times the worth of the scope. The scopes most hams can afford (including me) just aren't good past about 20 MHz, so your money is better spent elsewhere.

I agree with Zack about the other equipment, especially the general coverage receiver. When money got tight and I sold ham stuff, the receiver was at the bottom of the list of things to sell. I can recommend good surplus one like an R390 made by Collins (or its DC cousin the R392). They are pretty accurate considering the technology involved. The newer synthesized ones from Radio Shack and similar places (Sony, etc.) are pretty good also plus you can accurate digital readout of frequency (hence no need for a counter).

Ray Mack
WD5IFS
mack@mails.imed.com

818. Re: ARRL Radio Designer Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 23:20:46 UTC
From: smiller@motown.ge.com
Message-ID: <3jo2ge$c8e@cnn.MOTOWN.GE.COM>
Source record: 114114

From my conversations with the people providing the software and my experience with Microwave CAD systems like EEsof-Libra and HP-MDS I think you have much more than you realize in ARRL-RD. Yes, it would be nice to have some of the things people have asked for like schematic capture and non-linear models but even the the tools I mentioned have had their problems in providing these thing and it does not come cheap: I run a Sun Sparc-10 with 64 meg Ram and 500 meg disk, have a dedicated IIS group to take ca
re of software rev uploads and system crashes and have had lots of factory training for the software. You think you can get that for 150 dollars? My understanding is that Arrl RD offers the full linear modelling capability but less of the features of the original software from which it is derived. It isn't a fancy front end for the equations in Solid State Design by Hayward and Demaw but a real simulation engine with very sophisticated capability.

819. Smoke Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-09 23:45:31 UTC
From: gianotti@aol.com
Message-ID: <3jo3ur$5nv@newsbf02.news.aol.com>
Source record: 114115

I am looking for a circuit and sensors that will monitor the emissions of smoke from a cigarette. Any ideas would be appreciated. I can be contact via AOL or at gianotti@ideanet.doe.st.in.us

TNX

820. Info about TUBES

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-10 00:08:56 UTC
From: Cesare.Lavazza@interland.it
Message-ID: <894_9401011601@interland.it>
Source record: 114020

Hello All!

I'm looking for all type of information about vacuum tubes: datasheets,
schematics, address of manufacturers, equivalences, etc.

Does anyone know e-mail addresses and/or sites where to find such informations?

E-mail: cesare.lavazza@interland.it

821. Diplexor for 1296, 2304, 3456 ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-10 02:01:59 UTC
From: chrise@n0jcf.com
Message-ID: <3jobun$ovr@n0jcf.com>
Source record: 114018
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Does such a thing exist ? What I want to do is run one length of high
quality (ie, very low loss, ie, expensive) feedline up the tower
and be able to run on these bands simultaneously. Relays would not
be feasible for this reason.

Is this something that could be built as stripline filters on a board ?

I'm not looking for off-the-shelf, commercial solutions neccessarily--
just comments on feasibility.

Thanks !

Chris
--
Chris Elmquist, N0JCF
chrise@n0jcf.com
n0jcf@amsat.org

822. Re: ARRL Radio Designer Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-10 02:10:50 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <3jocfa$pd1@abyss.West.Sun.COM>
Source record: 114117

In article 7ch@mrnews.mro.dec.com, randolph@est.enet.dec.com (Tom Randolph) writes:
>
>In article <3jec5j$1dch@tuba.aix.calpoly.edu>, rheiss@tuba.aix.calpoly.edu (Robert Everitt Heiss) writes...
>>The evaluation version of PSPICE is less expensive than Radio Designer,
>>runs in less memory, and is fast enough to simulate the final stages of
>>a transmitter on a lowly 387SX-16.
>>Robert Heiss KO6KA
>
>SPICE is pretty good... we have some fancy commercial versions of it here at
>work. The MAJOR problem with SPICE, though, is getting decent models of active
>devices, i.e. you want to design a class C final amp with an MRF475 transistor.
>Unless your version of SPICE happened to come with a model of an MRF475, you're
>pretty much hosed, unless you're prepared to measure complex impedances at
>operating frequency and translate them into a model. Even if it came with the
>model, you might still be hosed... who knows whether the model is any good
>above DC?
>
>SPICE is great for passive circuits, like LC filters.

True, but the same issue regarding good models still applies to
LC filters. To accurately model L and C networks, you need to
include the parasitic reactances that are present, such as the
series L and R in a practical capacitor and the series R and
shunt C present in an inductor. For example, the notion of a
"J0" capacitor is a capacitor in which the series parasitic L
resonates with the series C at some particular frequency.

At HF, you can probably ignore the parasitics, but anything
higher and you can't ignore them.

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Damn I'm smooth" (Anon.) *

823. Re: oil for caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-10 08:10:52 UTC
From: solasaar@cc.Helsinki.FI
Message-ID: <3jp1ic$m0f@oravannahka.Helsinki.FI>
Source record: 114021

Roy W Lewallen (royle@tekgp4.cse.tek.com) wrote:
> dcadd@luc.ac.BE (Duncan Cadd):

> >I think you might give paraffin a try. . . .
>
> Before you Yanks go out and start trying to melt wax into your capacitors:

> "Paraffin" in the Queen's English is "kerosene" to us Yanks. (And "polythene"
> is what we call "polyethylene".)

English is not my own language, but may I quote "The Condensed Chemical
Dictionary", 7th Edition, edited by Arthur and Elizabeth Rose; Reinhold
Publishing Corporation, New York 1966. (I have this oldie by me.)

"
kerosene. See kerosine.
kerosine (kerosene). (The spelling kerosine is preferred by ASTM and ACS
publications.) A distilled hydrocarbon from petroleum or shale
oil, having a boiling range from about 150-300 degr. C.
Currently the most important uses are as fuel for jet engines,
denaturant for alcohol, and as a heating fuel. Formerly used
as an illuminant. Kerosine is also often used as a solvent for
cleaning purposes; also in emulsions as an insecticide.
...
paraffin distillate. A distilled petroleum fraction which, when cooled,
consists of a mixture of crystalline wax and oil.
...
paraffin, liquid. See petrolatum, liquid.
...
paraffin oil. An oil either pressed or dry-distilled from paraffin
distillate. Liquid petrolatum is also known as paraffin oil.
...
Uses: Floor treatment; lubricant; when purified, medicine.
paraffin oil, white. See petrolatum, liquid.

petrolatum, liquid (white mineral oil; paraffin, liquid; paraffin oil,
white).
Properties: A colorless transparent oily liquid, a mixture of
liquid hydrocarbons; almost tasteless and odorless even when
warm; sp. gr. 0.828-0.880 (25 degr.C) (light), 0.860-0.905
(25 degr.C) (heavy); soluble in ether, chloroform, carbon di-
sulfide, benzine, benzene, boiling alcohol, and fixed or vola-
tile oils; insoluble in water, cold alcohol, glycerin.
Derivation: Distillation of high boiling (330-390 degr.C)
petroleum fractions.
...

Grades: Technical; U.S.P. XVII (as mineral oil, formerly liquid petrolatum, heavy); N.F. XII (light); F.C.C. (as mineral oil, white).
...
Uses: Medicine, cosmetics; dispersants, diluents, etc. in plastics manufacture; compressor and textile lubricants;
dispersants for reactive compounds such as metal hydrides;
catalyst carriers; in foods as binder, defoaming agent, lubricant, release agent, fermentation aid, protective coating.
"

Regards,
Juha Solasaari

824. Re: Rhode's Communications Receiver Book Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-10 15:04:09 UTC
From: lascal@cortez.its.rpi.edu
Message-ID: <3jppp9$bi7@usenet.rpi.edu>
Source record: 114025

Gerhard Hoffmann (gerhard@netmbx.netmbx.de) wrote:

: I bought it last month. (abt. DM 170,- or $115).
: I was told that Rhode's book on synthesizers is out of print :-(

Yeah, I've heard that too. Luckily I won a copy at microwave-update
'92. I have heard that you can get a copy from Compact software (his
company), patterson NJ.
-L

--
Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @ Rensselaer
http://www.rpi.edu/~lascal/
Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342

825. CQ 4CX250 seller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-10 15:10:33 UTC
From: clarke@acme.ucf.edu
Message-ID: <3jpq59$htn@news.cc.ucf.edu>
Source record: 114023
Cross-posted to: rec.radio.swap,red.radio.amateur.equipment,rec.radio.amateur.homebrew

A few days back someone posted some NOS 4CX250s for sale.
Unfortunately I didn't save the post and am not even sure of
correct group.

So if any are still available contact me:

Tom Clarke
KE4VFH
clarke@acme.ist.ucf.edu

826. Re: Original Ideas Required for Radio Receiver :)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-10 17:20:24 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Mar10.172024.2851@ke4zv.atl.ga.us>
Source record: 114027

In article <1995Mar7.141455@cantva> misc200@csc.canterbury.ac.nz (Stephen William Simpson) writes:
>Hola Everyone,
> I'm a third year undergraduate at the university of Canterbury NZ, and
>I need some help.
>
> I decided to do a comms paper this year, it has one project : design
>and make your own radio. Fine easy you say... except that the marker likes
>original ideas.
>
> Last year one of the students taking the course spent a fairly
>substantial sum of money to build a radio complete with surround sound etc.
>etc. He got about 90%, but a smart young fellow built a crystal set and got
>92%. The reason he got such a high mark was because he made his own diode out
>of some sought of crystal he requisitioned from physics.

That's a rip, the crystal set was one of the first and most primitive receivers, hardly any originality there. The other guy probably just copied a design too, but at least it was more involved. But Ok, it gives us an idea of what the instructor is looking for. Let's see if we can impress him without going overboard on the historical reenactments.

How about a selective TRF receiver that uses *no coils*. That should baffle him for a moment. Hint: the answer begins with "g". Let's see if you've learned anything yet.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

827. Re: (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-10 17:45:55 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Mar10.174555.3129@ke4zv.atl.ga.us>
Source record: 114028

In article <9502097947.AA794797351@mails.imed.com> mack@mails.imed.COM writes:
>I agree with Zack, but I would say it differently. I own 2 scopes, but I NEVER
>use them for RF work. They are handy sometimes for simple digital and audio
>type things. I have 200 MHz Digital Storage scopes available here at work and I
>find the RF tools (like the spectrum analyser) of 100 times the worth of the
>scope. The scopes most hams can afford (including me) just aren't good past
>about 20 MHz, so your money is better spent elsewhere.

While I agree that the spectrum analyser is the single best RF tool,
I disagree strongly as to the worth of a GP oscilloscope. That's
generally the *first* tool I reach for, and the last one I put down,
when I'm working at the bench. Not only is it a better voltmeter than
a voltmeter, but it's also a window on waveforms when I'm looking at
stage performance, and it's even useful for harmonic detection, though
seldom to the degree offered by the spectrum analyser. I use it for
modulation analysis, of course, in both the analog and digital domains.
How else are you going to see an eye pattern but with a scope? Or
display a trapezoid pattern or two tone test? Once you go beyond a
raw carrier, the scope is one of your most essential tools.

Scopes good up to VHF, like the Tek 465A, are going for $300 or less
at hamfests these days. And even an old boat anchor Tek 545 is good
to 40 MHz, and can likely be had for the asking. (Makes a nice shop
heater too.) Now sure, I use a Tek 2465A on the bench, it's usable
to 600 MHz, but that's because I got it at a bankruptcy sale for under
$700. My old Tek 453A is nearly as useful, and they're going in the
$200 range now. I'd advise anyone interested in building, or repair,
to invest in a good GP scope, and learn how to use it. It's the most
flexible tool on your bench.

Gary

The most flexible tool you have is between your ears, of course,
but unless you've fallen asleep, it isn't on the bench. :-)
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

828. High power DC/DC conv. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-10 19:29:33 UTC
From: dgf@netcom.com
Message-ID: <dgfD58otA.B6C@netcom.com>
Source record: 114030

I want to build a power supply converting 13.8 VDC to 2.5 KV at
1/2 amp max. Does anyone know of a source of toroidal transformers
that could be used for this (a high current low voltage, winding,
a low current high voltage winding, and probably a feedback
winding for the transistor oscillator)?

Any info welcome! Thanx, 73 Dave WB0GAZ dgf@netcom.com

829. MICROWAVE EXPERIMENTERS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-11 01:12:02 UTC
From: ke4ixv@theborg.mlb.fl.us
Message-ID: <ke4ixv.1abk@theborg.mlb.fl.us>
Source record: 114029

I'M INTERESTED IN THE MICROWAVE PORTIONS OF THE HAM BANDS ABOVE 1.2 GHZ. BUT I NEED AN ELMER TO HELP GET ME STARTED AND TO CONTINUE COACHING ME ALONG THE WAY. IS THERE ANYONE IN THE MELBOURNE/COCOA AREA OF FLORIDA THAT IS ACTIVE IN THIS AREA OF EXPERIMENTATION.

ANY INFORMATION WOULD BE GREATLY APPRECIATED.

73
KE4IXV
KURT

830. Re: ICOM 751A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-11 03:10:29 UTC
From: gfiber@halcyon.com
Message-ID: <3jr4b5$ce9@news.halcyon.com>
Source record: 114031

In article <029_9503081008@tor250.org>, Tony.Osman@hamshack.gryn.org (Tony Osman) says:
>
>I have an ICOM 751A and I would like to obtain information on exactly
>what the interfaces necessary for computer control for this beast are!
>
>I would be interested in any schematics - descriptions or whatever
>else is available. I am looking to use the computer connection for
>use with Hyperlog (the logging program I use).
>
>Tony - VE3NTW
>Tony.Osman@hamshack.gryn.org
>
>
>-- SPEED 1.40 [NR]: Gee officer, I just wondered how fast SPEED READ was.
>-*- SF-Quick/BW 1.00q [UNREGISTERED]
>--
>| Fidonet: Tony Osman 1:259/320
>| Internet: Tony.Osman@hamshack.gryn.org
>| Standard disclaimer: The views of this user are strictly his own.

Tony,

You will require a UX-14 internal interface. It changes a non standard parallel port
to a bi-directional serial port at TTL voltage levels. Then you will need a level converter
like Icom's CT-17

Gary

831. Re: Building radio into computer - need advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-11 03:58:35 UTC
From: Frank Flynn <fflynn@delphi.com>
Message-ID: <RW8ZusD.fflynn@delphi.com>
Source record: 114032

D. Brennenstuhl <dbrennen@ix.netcom.com> writes:

>I'm building an interface card for an IBM 486 as a school project. The
>card would be a radio frequency tuner that would be controlled by a
>window on the display. I want to include the standard FM band (I have a
>commercially made card that does this already), but would like it to
>tune 1 or 2 more bands that would be of interest to an average PC user
>(like weather or aircraft). What I need are suggestions on: which
>frequency bands to include, which electronically tunable chips to
>select, and any other ideas on ways to make this project work. Thanks
>for any help. Sean Manning.

It is a good idea exept for one thing. The computer is a notorious generator
of RFI, radio frequency interference. Sometimes when I am trying to listen
to HF (amatuer radio shortwave), I have to turn off my computer because
of the interference it generates. This would be one drawback, perhaps
there is a way to overcome this problem. But it might not be easy.
Good luck with your project.
Frank KM1Z

832. Re: Need help repairing Ramsey FX-146 2-meter transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-11 04:35:43 UTC
From: cmoore@sedona.intel.com
Message-ID: <3jr9av$p2p@chnews.intel.com>
Source record: 114033
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <3jpqus$qga@tekadm1.cse.tek.com>,
Michael Alan Gauland <gaulandm@mdhost.cse.tek.com> wrote:
>I'm having problems with my Ramsey FX-146 2-meter transceiver, and would like
>advice from someone more experienced. It seems to work OK on receive,
>but it will only transmit for a few seconds before the power drops to zero.
>It looks like the PLL is unlocking. The signal at the output of the

Hi Michael, forget the directions in the manual. Adjust the frequency
to mid-scale pot while transmitting at mid-frequency (146?). The voltage
drop while transmitting is enough to upset the PLL so simply adjust the PLL
while transmitting into a dummy load. Note the unlock points and set it for
half-way in-between. IMO, the receive PLL will lock OK after that step. If
it doesn't, find a mid-way point between receive lock and transmit lock.

The Ramsey kits are fully functional once they are adjusted properly and
modified in accordance with the QST article. I have built half a dozen
of them and learned a lot doing it. If you want full frequency coverage,
email tlcdhconsult@delphi.com for details. Don, KE6AJH, will serve me
a double-scotch for every kit you buy. :-)
--
73, Cecil, KG7BK, Old, Old Timer's Club (40+ years a ham)
(Not speaking for Intel)

833. Re: ICOM Computer Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-11 12:01:51 UTC
From: Rusty.Lotter@diakonos.iaccess.za
Message-ID: <26b_9503111736@diakonos.iaccess.za>
Source record: 114035

-=> Quoting UUCP to All <=-

To bberg99828@aol.com
from rusty@diakonos.iaccess.za

If you have any success to your query, please let me know as I would
like to obtain an interface for my ICOM IC720A

UU> From: bberg99828@aol.com (BBerg99828)
UU> Subject: ICOM Computer Interface
UU> Organization: America Online, Inc. (1-800-827-6364)

UU> Hi, I'm looking for information on how to connect an ICOM R7100
UU> receiver to my
UU> computer. I know that ICOM has a C-IV computer interface but I hardly
UU> think its worth a hundred bucks. Can anyone provide my with a
UU> shematic of this animal.

UU> ! Origin: America Online, Inc. (1-800-827-6364) (8:79/1)

--
|FMLYNET: Rusty Lotter 8:79/0
|Internet: Rusty.Lotter@diakonos.iaccess.za
|
| Standard disclaimer: The views of this user are strictly his own.
| FMLYNET SA <> INTERNET GATEWAY at Diakonos BBS

834. Q: 6C33 Vacuum Tube?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-11 12:37:55 UTC
From: tecklee@pop.jaring.my
Message-ID: <tecklee-1103952038430001@j05.kl3.jaring.my>
Source record: 114034

Would some kind souls please tell me what is a 6C33 tube?

I would be most grateful if for any information eg. manufacturer's specs,
basing diagram, recommended applications.

Many thanks in advance,

Teck

--
Teck Wong.
The mentation and/or reckless lack of it shown above are entirely mine. St. John's College, Addenbrookes Hospital Clinical School, and The University of Cambridge, U.K. are in no way responsible for, or associated with my ramblings.

835. Re: Changing frequency of crystals, possible?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-11 18:02:38 UTC
From: tantonr@aol.com
Message-ID: <3jsoju$63m@newsbf02.news.aol.com>
Source record: 114036

regarding the moving of crystal frequencies, when I worked for a small precision crystal manufacturer (of hc-18, etc type mount crystals, not FT-243), we would, for lab experimentation purposes, modify crystal frequencies by injecting iodine gas into the crystal holder can.

This involved several NO NO's, which shouldn't be done on crystals you REALLY need to depend on, unless you have no other choice (such as stranded in an igloo with nothing but a soldering iron, syringe, some iodine crystals, and a radio).

1) break into the can by desoldering the little corner of the crystal near the top where the solder closed the can while in a vacuum environment (forget ever getting it to a vacuum again).
2) Using some iodine crystals in a coarse syringe, while monitoring the operational frequency of the quartz crystal, inject the vapor from the iodine crystals into the can.
3) STOP well before you get where you are intending to go.
4) seal the can once the frequency has apparently stabilized.

What you are doing, in effect, is loading down the silver on the crystal with oxidization, and thereby changing the frequency. You could do this by just breaking the seal, and waiting for the effects to occur, but the iodine speeds this up. Just like the FT-243 when you load it up with pencil lead (there is no silver plating on FT-243 blanks as far as I have ever seen), you can go too far and kill the oscillation. But if you have a TON of crystals to play with, you can get quite good at it. As part of engineering, I was not invoilved with operations on the production floor, and we did this ourselves. But to modify a crystal a couple of KC, and then put it in a vacuum chamber to stop the process dead, the production people would use this as a fine tuning measure. I do not know if tis is still done- this was over twelve years ago.

good luck es DXOM
VE3IEY/W2

836. Re: Cure for noisy roller inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-11 18:02:47 UTC
From: tantonr@aol.com
Message-ID: <3jsok7$63p@newsbf02.news.aol.com>
Source record: 114037

Try some Lubriplate. It is a lubricant with silver in it, which is conductive. judicuiusly used, it might solve your problem. We used it on military antenna couplers in a former job.

de VE3IEY/W2

837. Re: Rhode's Communications Receiver Book Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-11 19:42:37 UTC
From: kchen@apple.com
Message-ID: <3jsufd$cfh@apple.com>
Source record: 114039

d.diamond@trl.oz.au (Drew Diamond) writes:

>> I thried to orderRhode's book on Comm Receivers and was told it was out of
>>print. Anyone want to sell be one?

>Have read the book to which (I think) you refer (but I don't own a copy).
>However, much of what Rohde (and Bucher) have to say in this text is covered
>in Rohde's recent series in QST. Specifically;

>"Recent Advances in Shortwave Receiver Design"- QST Nov 92. Also...
>"Key Components of Modern Receiver Design" Pts 1, 2, 3- QST May, Jun, Jul '94.
> And finally;
>" Key Components... A second Look"- QST Dec '94.

I have the Rohde and Bucher book and it is quite dated compared to
Rohde's more recent articles. If you are building an HF receiver, it
is probably best to stick with the the Rohde QST articles, one by Jacob
Makhinson (sp?) (QST within the last 18 months) and Communications
Quarterly articles in the last two or so years. Also, don't forget
the Rohde articles in QEX (also in the past year).

If you really want the book, you could try writing Rohde at his CBA to
see if he knows of sources for his book. Or, find him on the air. I
have heard him hang around 14,180 kHz or so. I think I have worked him
on 14.260; his second home is on some choice North America IOTA or
something :-).

73

Kok Chen, AA6TY kchen@apple.com
Apple Computer, Inc.

838. TDA1072 Radio IC Info Sought

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-11 19:45:29 UTC
From: tomrice@netcom.com
Message-ID: <tomriceD5AK7t.9wB@netcom.com>
Source record: 114038

The TDA1072 IC appears to be an interesting "radio on
a chip" as presented in some articles in English wireless
magazines.

I have a meteor forward-scatter receiver project going and would
like to try this device, but have not found any hard info,
such as the manufacturer and suppliers in the U.S.

Any information on this device would be appreciated.

Thanks, WB6BYH
--
"Start off every day with a smile and get it over with." --W.C.Fields
Tom R. Rice
tomrice@netcom.com
CIS: 71160,1122

839. Re: Changing frequency of

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-11 21:15:20 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <794958731.AA00670@hamlink.mn.org>
Source record: 114042

I belive that drawing a small dot on one side of the xtal wafer would
lower it a few KHz as well. Also, a ll dot of solder has much the sma
same effect (but is more prone to destroying the rock). There was an
article in QST back in the '60s about this...sorry but don't remember
the issue. GL
72 Bob WB0POQ

840. $*$*$ 20 Weak Signal Challenge (HAM Post) - Now $30 $*$*$

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 00:52:19 UTC
From: ir000411@interramp.com
Message-ID: <3jtgk3$8aq@usenet.interramp.com>
Source record: 114040
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.homebrew

$*$*$ 20 Weak Signal Challenge (HAM Post) - Now $30 $*$*$

Three weeks have passed since the original posting of this challenge.
During that period, the Web page was accessed over 1000 times.
The weak signal recording has been listen to and processed by
many. Several operators using their best audio filters have been
able to copy my call. And yet, a correct identification of the calling
station has not been made. I am increasing the amount offered to $30
and will continue to escalate the prize until someone cracks the problem.

Details on the challenge can be obtained from my Web page:

http://www.webcom.com/~af9y/

The winner will be announce in the UseNet groups carrying this post
and my Web page.

Final Note for those trying their own signal processing techniques:

Many have asked about the WAV file format used for the
A/D recording. The format is a PC Windows standard which
contains 43, 8 bit-bytes of header (which can be thrown away)
followed by a consecutive series of 8 bit A/D data. The sample
rate was 8192 samples/sec.

Good Luck,
de Mike Cook - AF9Y

841. WTB gen band Xtals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 03:45:17 UTC
From: pgerba@crl.com
Message-ID: <3jtqod$2t1@crl3.crl.com>
Source record: 114041

I'm looking for some General Band CW crystals (10-80 meters) for my
Johnson Adverturer. Please any you want to sell along with the price.

Thanks, pete
pgerba@crl.com

842. Re: Smoke Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 04:58:50 UTC
From: raiar@vulcan.inlink.com
Message-ID: <3jtv2a$1ei@thor.inlink.com>
Source record: 114046

For about $500,000.00 you should be able to find the equipment necessary to measure such minute particles.
Of course you will need to build a steril labe environment first for about $5,000,000.00

If one automobile passes your house anytime withing about a 8 month period your tests will be totally inacurate.

843. E-mail addresses of manufacturers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 10:37:48 UTC
From: Cesare.Lavazza@interland.it
Message-ID: <895_9401011601@interland.it>
Source record: 114045

Hello All!

I'm looking for the E-mail addresses of these semiconductor manufacturers, to
send e-mail request for informations:

- Hewlett-Packard
- Signetics
- Philips
- Siemens
- Ferranti
- SGS-Thomson
- National Semiconductors
- Intel
- NEC
- Matsushita
- Hitachi

Thanks.

E-mail: cesare.lavazza@interland.it

844. Re: ICOM Computer Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 13:18:50 UTC
From: Rusty.Lotter@diakonos.iaccess.za
Message-ID: <2dd_9503121216@diakonos.iaccess.za>
Source record: 114043

To bberg99828@aol.com

From rusty@diakonos.iaccess.za

If you have any success to your query, please let me know as I would
like to obtain an interface for my ICOM IC720A

UU> From: bberg99828@aol.com (BBerg99828)
UU> Subject: ICOM Computer Interface
UU> Organization: America Online, Inc. (1-800-827-6364)

UU> Hi, I'm looking for information on how to connect an ICOM R7100
UU> receiver to my
UU> computer. I know that ICOM has a C-IV computer interface but I hardly
UU> think its worth a hundred bucks. Can anyone provide my with a
UU> shematic of this animal.

UU> ! Origin: America Online, Inc. (1-800-827-6364) (8:79/1)

--
|FMLYNET: Rusty Lotter 8:79/0
|Internet: Rusty.Lotter@diakonos.iaccess.za
|
| Standard disclaimer: The views of this user are strictly his own.
| FMLYNET SA <> INTERNET GATEWAY at Diakonos BBS

845. Idiom Press CW keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 14:30:00 UTC
From: Tom.Hammond@f67.n289.z1.fidonet.org
Message-ID: <4ba_9503132204@woodybbs.com>
Source record: 114049

IG>Having heard good things about the keyer-on-a-chip featured in the
>1995 ARRL Handbook, I'm considering ordering a kit.

I don't think you'll regret it.

IG>Please can anyone closer than England confirm the info in the
>Handbook?

IG>Idiom Press, Box 1025, Geyserville, CA 95441-1025
>Price $45 + $3 s/h to as US mailing address.

IG>Do they have a fax number - and do they take credit cards?

The address as you present it appears to be correct. However, I cannot
confirm the last four digits on the ZIP code ("-1025"). Only the forst
five are published.

The current pricing indicated $48 U.S. for stateside shipping and $50
U.S. for DX shipping, postpaid.

No FAX phone number is published and a recent advertisement indicates
"NO CREDIT CARDS". Sorry.

This is an excellent keyer. I have built several and used many. If you
are familiar with the KC Keyer, popular among contesters, this is what I
would call the little brother to the KC-1 keyer. It's designed by the
same two engineers, but marketed differently. Many usable features.
Smooth, seamless, keying. And quite easy to use. I was fortunate
enough to be one of the beta testers of v2.x of the firmware, so a
(small) bit of N0SS in there, too.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--
|Fidonet: Tom Hammond 1:289/67
|Internet: Tom.Hammond@f67.n289.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

846. Idiom Press CW keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 14:30:00 UTC
From: Tom.Hammond@f67.n289.z1.fidonet.org
Message-ID: <4c2_9503142208@woodybbs.com>
Source record: 114050

IG>Having heard good things about the keyer-on-a-chip featured in the
>1995 ARRL Handbook, I'm considering ordering a kit.

I don't think you'll regret it.

IG>Please can anyone closer than England confirm the info in the
>Handbook?

IG>Idiom Press, Box 1025, Geyserville, CA 95441-1025
>Price $45 + $3 s/h to as US mailing address.

IG>Do they have a fax number - and do they take credit cards?

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same two engineers, but marketed differently. Many usable features.
Smooth, seamless, keying. And quite easy to use. I was fortunate
enough to be one of the beta testers of v2.x of the firmware, so a
(small) bit of N0SS in there, too.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--
|Fidonet: Tom Hammond 1:289/67
|Internet: Tom.Hammond@f67.n289.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

847. RF Signal Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 15:32:25 UTC
From: bberg99828@aol.com
Message-ID: <3jv469$k8s@newsbf02.news.aol.com>
Source record: 114044

Looking for information on RF signal generators. Looking to purchase a synthesized RF signal generator that will go up to 150 MHZ. Where can I get one and what are the price ranges. Not looking for the best but some thing that will work good for the hobbiest. Please E-mail....
Bob B
Shelton Ct
bberg99828@aol.com

848. Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 18:51:51 UTC
From: sbaldwin@community.net
Message-ID: <3jvfs7$cqc@odin.community.net>
Source record: 114047

I'm trying to find a book (or books) that will assist me with formulas for dual band antennas such as my FT-530 2mtr/75cm. I'm interested in the J-Pole antenna, but I can't seem to find a decent book that gives good information on this.. Can anyone please advise me on where to get such a book? Tnx and 73

de Scott N6UUH

849. WTB: Motorola 68x05, 68x11 stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 21:28:40 UTC
From: fmitch@netcom.com
Message-ID: <fmitchD5CJns.HA9@netcom.com>
Source record: 114048
Cross-posted to: rec.radio.swap,rec.radio.amateur.space,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

hi... mitch here in mobile, alabama...

i am looking for a good (make that cheep!) motorola 68x05 and 68xx11
ice and/or programmer... to be used for development work at vibroplex...

let me know what u have...

please reply via e-mail or call me at the numbers below...

thanks
mitch
wa4osr
--

* * * The *FIRST HAM OWNER* of The Vibroplex Co., Inc. * * *

Email: fmitch@maf.mobile.al.us or, second choice, fmitch@netcom.com
Felton "Mitch" Mitchell, WA4OSR, 11 Midtwon Park, E., Mobile, AL 36606 USA
334-478-8873 Vibroplex, 334-342-7259 home, 334-476-0465 FAX
co-sysop for W4IAX bbs running fbb ... sysop for WA4OSR DXCluster in Mobile..
---

850. Anyone have any MMIC amps to sell???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 22:18:46 UTC
From: snorris@trumpet.aix.calpoly.edu
Message-ID: <3jvs06$71vc@trumpet.aix.calpoly.edu>
Source record: 114051

I'm looking for a few MMIC amp like the MAR-3SM, MAR-3, RAM-3, or
anything similar. Anything that's really small, has a gain of about 12dB,
runs from 5V, has a 1dB compression point of +7dBm or higher. If anyone
has a few they would be willing to sell, please e-mail me. I need a few
for my senior project, and they're tough to come by in such small quantities.

thanks,

Sean

Sean Norris snorris@trumpet.aix.calpoly.edu
--KE6BTE-- Loyalty, above all else.
---

851. Re: WTB: Motorola 68x05, 68x11 stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-12 23:03:31 UTC
From: paulzeppa@aol.com
Message-ID: <3jvuk3$qct@newsbf02.news.aol.com>
Source record: 114052
Cross-posted to: rec.radio.swap,rec.radio.amateur.space,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

CALL 408-241-7376 FOR DEVICE PROGRAMERS HE SELLS DEVICE PROGRAMERS FOR
ALL APLACATIONS PAUL ZEPPA RF IMAGING AND COMM

852. Re: Anyone have any MMIC amps to sell???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 00:18:17 UTC
From: paulg@gate.net
Message-ID: <3k0309$19np@tequesta.gate.net>
Source record: 114053

Sean Norris (snorris@trumpet.aix.calpoly.edu) wrote:

: I'm looking for a few MMIC amp like the MAR-3SM, MAR-3, RAM-3, or
: anything similar. Anything that's really small, has a gain of about 12dB,
: runs from 5V, has a 1dB compression point of +7dBm or higher. If anyone
: has a few they would be willing to sell, please e-mail me. I need a few
: for my senior project, and they're tough to come by in such small quantities.

: thanks,

: Sean

: ---
: Sean Norris snorris@trumpet.aix.calpoly.edu
: --KE6BTE-- Loyalty, above all else.
: ---

Sean, I know how hard it can be to come up with the cash when you're a
student, but MiniCircuits sells a kit that contains several of their
MMICs for about $60.00. Have you tried hitting them up for an
educational institution donation? If I had any of these, I'd help you
out, but alas, I don't.

PaulG

853. Anyone have any MMIC amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 01:24:53 UTC
From: hduff@humnet.westonia.com
Message-ID: <7788-237823301@humnet.westonia.com>
Source record: 114061

>
> I'm looking for a few MMIC amp like the MAR-3SM, MAR-3, RAM-3, or
> anything similar. Anything that's really small, has a gain of about 12dB,
> runs from 5V, has a 1dB compression point of +7dBm or higher. If anyone
> has a few they would be willing to sell, please e-mail me. I need a few
> for my senior project, and they're tough to come by in such small quantities.
>
>
> thanks,
>
> Sean

Hi Sean. Call or write DownEast Microwave. They will sell MMICs in
small quantities.

(908) 996-3584

DEM
954 Rt. 519
Frenchtown, N.J.
08825

73 Hugh Duff VA3TO/VE3OYH Toronto

 NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---

854. MC 1350 AGC resistors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 01:33:39 UTC
From: mfranks@eagle
Message-ID: <3k07dj$1ui@news.ais.net>
Source record: 114054

I have been looking at several schematics with ganged MC 1350's
in the IF chain. In the AGC leads there is a resistor in series
with the control voltage, one resistor is approx half the
value of the other resistor---Why ? , am I missing something here ?
Is there a voltage divider or current divider for some reason ?
I do know there is a minimum voltage needed for the thing to work.
Please respond via email----mfranks@ais.net Thanks !!

855. Ham gear for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 02:06:00 UTC
From: chris.smart@canrem.com
Message-ID: <60.5063.3290.0N1D5258@canrem.com>
Source record: 114055

Hi. I have the following equipment for sale. If you are interested in any of the following, want to make an offer, ask for more information, and so on, here's how to contact me:
Mail addresses: Internet: email to chris.smart@canrem.com, Fidonet: netmail to 1:229/15, Rime: private/routed mail to ->crs.
Phone (voice): 519-756-9389 (if I'm not around, just leave me some voice mail)

1. 15-20 amp power supply.
I have a 15 amp homebrew DC supply for sale. This thing is better built then most of the commertial supplies I've seen/used, is very solidly constructed, doesn't get more then slightly warm when supplying 15 amps at 13.8 volts DC.
I didn't build it, but I can certainly atest to its high-quality. The four big transistors at the back are rated at 5 amps a piece, so it'll probably put out close to twenty amps if pushed. DC voltage is also variable; (currently set to 13.8).
I'm looking for about $80.00 Canadian funds for it, since its in absolutely great condition, and was hardly used. (price is negotiable)
Reason for selling: I am saving up for a decent acoustic guitar, a dualband HT, and other things.

2. Ten-tec Argosy II

Yes, I'm parting with it, after 6 years of great performance.
Features: extremely small solid-state rig; great beginner radio for people with a low budget, perfect for mobiles, a great backup rig for emergencies or up at the cottage.
- 5 or 50 watts ssb and cw,
- transmits upper and lower sideband, cw, (automatically ofsets transmitter when switched over to cw)
- transmits and receives on 80, 40, 30, 20, 15, and 10 metre bands. (10 m is split into four band selections, 28.0-28.5, 28.5-29.0, etc.)

- great notch filter for eliminating carriers
- digital readout for frequencies, power/swr/signal meter,
- comes with Ten-tec power supply, d-104 desk mike that looks aweful but is a perfect match with this radio,
- also comes with voice readout for frequencies, (great for white-caners like me)
Reason for selling: I'm just not interested in keeping this thing around any more. I have almost lost all interest in HF, and will buy a better radio when I get back into the low bands. Furthermore, as I mentioned above, I need the money for other things.
History: For the first year after I purchased this radio, I was

constantly replacing fuses in the power supply, and the radio was pretty warm even with almost perfect swr readings. Then, the voltage regulator went for good in the power supply, blowing the two big transistors in the finals. $138 later, the supply and radio were fixed, and I have had no problems since. No blown fuses, no overheating problems, etc. It works great, except for the following minor problems. The plastic knob on the
mode-change control can be removed by simply sliding it off its post. There is no longer a knob on the notch filter control, but this could be easily remedied. Also, the RIT control needs to be lined up again. In other words, when the RIT control is in the middle of its range (transmit and receive are on the same frequency supposedly), transmit is down the band about 1.5 KC's from where the receiver is. I just turn the RIT to correct this, but its annoying having to have it permanently set wrong.
I'd like $450.00 or best offer for this rig, power supply, voice readout, d-104 mic. I still have the manuals and paperwork as well. If you don't want the d-104, I'll probably just throw it out as its so beat up.
73, de ve3 sht.

... Radiactive halibut makes fission chips.
___ Blue Wave/QWK v2.12

856. Sangean ATS-803A for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 02:06:00 UTC
From: chris.smart@canrem.com
Message-ID: <60.5065.3290.0N1D525A@canrem.com>
Source record: 114056

Hi. I have a Sangean ATS-803A general coverage receiver for sale. Its
the same as the Realistic DX-440.
Its a portable general coverage receiver that receives 150 KHZ-30 MHZ
continuous coverage, receives am sideband and cw, also receives fm and
fm-stereo from 88-108 MHZ.

- can be run from wall adapter or batteries
- internal, telescopic whip, or can be connected to an external antenna
- din plug can be used to hook this radio to a tape recorder,
- with headphones or with your stereo (through the radio's 1/8 inch
headphone jack) you get FM broadcasts in stereo
- rf gain, bfo, bass, treble, balance, and volume controls
- ten memories for your favorite stations
- direct frequency entry via number keys 1-0
- can tune in steps with knob or up/down keys
- will scan for stations/signals
- built-in clock with alarm
- lock switch prevents accidental key presses
- also has narrow/wide receive switch for narrowing bandwidth

I have the radio, the manuals/paperwork for the radio, and the
wall power adapter for the radio. Unfortunately, I cannot
sell the radio with a pair of stereo headphones, but all you
need are your standard walkman type, or anything with a 1/8 in
plug.
This radio is in fine shape, except for a broken telescopic
whip antenna which needs to be replaced. (most of the antenna
is there, but a couple of the end sections broke off a year or
so ago)
Reason for selling: I have one of those great little Sony's,
so don't need this radio.
I'm going to leave the asking price wide open on this radio.
I paid $275.00 a few years ago for it, but have no idea what
they're going for used these days.
Please reply via any of the following methods:
Internet: email to chris.smart@canrem.com
Fido: netmail to 1:229/15
Rime: private/routed mail to ->crs
Phone (voice): 519-756-9389, (just leave a message if I'm not
around)

Thanks,
73, de ve3 sht

... ARRRRRGGGHHH!!!! ... Tension breaker, had to be done.
___ Blue Wave/QWK v2.12

857. Dualband HT HELP??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 02:06:00 UTC
From: chris.smart@canrem.com
Message-ID: <60.5064.3290.0N1D5259@canrem.com>
Source record: 114057

Ok, once I sell my small HF rig and power supply, I plan on buying a dualband HT. I haven't had any experience with any 2 m or 70 cm equipment for years. The last handheld I owned was an Icom IC02AT; I loved it. I'm looking for something with the following features:
- direct frequency entry via a number pad, (I can't handle those little switches or thumbwheels as I can't see the display)
- 4 or 5 wats output on 2 m and 70 cm
- a hot little receiver that doesn't get constantly overloaded with intermod (I'm in a city of about 80,000 people, so the intermod problems aren't extreme here yet)
- at least 10 memories per band
- CTCSS capability on both transmit and receive, (very important on receive)
- extended receive capability, (not just the ability to make the display go out of band on receive). This would get rid of the necessity for a scanner to monitor the weather stations and a few other frequencies.

Also, what are the battery options on HT's these days? It would be nice to get something better then a nicad pack, such as the NiMH batteries available in most notebook computers these days.
Oh, by the way, I was originally considering just getting a 440 MHZ rig to avoid the conjestion and interfearance on 2m, but I figure I may as well just get an HT with both bands for what its worth.
Please let me know what you're using, approximately what its worth new, what you like/dislike about it, etc. Can you get antennas better then a rubber duck for these things that work on both bands?

Thanks and 73, ve3 sht.
Internet: chris.smart@canrem.com; Fido: 1:229/15; Rime: ->crs

... If this is tourist season, why can't I shoot any?
___ Blue Wave/QWK v2.12

858. Re: Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 05:14:20 UTC
From: parkyo@puddle.etri.re.kr
Message-ID: <3k0kbd$d56@nms.etri.re.kr>
Source record: 114058

sbaldwin@community.net wrote:
: I'm trying to find a book (or books) that will assist me with formulas
: for dual band antennas such as my FT-530 2mtr/75cm. I'm interested in the
: J-Pole antenna, but I can't seem to find a decent book that gives good
: information on this.. Can anyone please advise me on where to get such a
: book? Tnx and 73
: de Scott N6UUH

You can make J-Pole antena for dual band(2M/75cm) like following.

```
|<-1/4*75cm->| |<-- 1/4*2M -->|
-------------+ ----------8---+ -
| | 6cm
-------------------------+----------------------8---+ -
|<--------------------- 3/4 * 2 M ----------------->|
|<------- 3/4*75cm ---->|
->| |<-
feeding point
Nomally 5 cm, adjust for
matching(SWR)
```

Good Bye....
--
parkyo@puddle.etri.re.kr
++
+ Youn Ok Park
+ Computer Architecture Section, ETRI,
+ P.O Box 106, Yusong,
+ Taejon, 305-600, Korea
++

859. paraffin/kerosene etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 08:47:38 UTC
From: dcadd@luc.ac.BE
Message-ID: <9503130847.AA28592@alpha>
Source record: 114059

Greetings, folks, from a gloriously sunny Diepenbeek in N.E. Belgium!

I had no idea that a simple word like 'paraffin' could cause such confusion! W7EL is correct in his explanation. I repent in sackcloth and ashes for not making clear what I intended in the first place.

What I actually meant by 'paraffin' was a low molecular weight liquid composed of hydrocarbon molecules being apparently devoid of any reactive chemical properties, paraffin, from the Latin 'parum affinis', i.e. without affinity. The stuff which the medical profession pour down people's throats to relieve various bowel disorders should do fine, you probably can get it from a drug store (says he displaying his knowledge of Colonial English) and it probably carries the approval of the U.S. Pharmacopoeia, so it can't be all bad.

Next to that, whatever Roy has described as 'kerosene' will probably do the job. (But I thought they fed that to jet engines ?! Maybe it's the same stuff)

I agree with David Stockton's comments re. sufficient contact pressure - I confess I hadn't even thought of that problem.

Stephen Parry is indeed correct when he says that paraffin to a Belgian is a solid, I've just asked one of my colleagues in my best Flemish, but I'm an ex-pat Brit (well, actually my Mother's family were Camerons of Lochiel . . . etc etc etc)

Hopefully that clears the air on this one. Whew!

73,

Duncan ON/G0UTY G-QRP 8117
"That was inedible muck - and there wasn't enough of it! Bleugh!"
Sir Henry Rawlinson (also gouty)

860. Ramsey 6M Radio Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 09:27:42 UTC
From: skbarnes@aol.com
Message-ID: <3k136e$608@newsbf02.news.aol.com>
Source record: 114060

Has anyone built the Ramsey 6M kit? Comments please, and thanks!
Steve,WD0GSQ

861. 73' magazine (December 1980)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 13:45:32 UTC
From: S.J.R.Wadeson@bradford.ac.uk
Message-ID: <1995Mar13.134532.5025@bradford.ac.uk>
Source record: 114062

I am looking for this edition, specifically an article by Chernan on building a VLF reciever for measuring solar radiation. If anyone has this article I would be grateful if you could send a copy on to me, I will pay postage if necessary:-

Mr S Wadeson(U/G Pigeon Hole),
Department of Electrical Eng,
University of Bradford,
Richmond Road,
Bradford,
BD7 1DP, England.

Or if anyone has any other information on these kind of recievers 15-30 khz, then please get in touch.

862. Re: Anyone have any MMIC amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 14:32:59 UTC
From: galen@picea.CFNR.ColoState.EDU
Message-ID: <3k1l2r$18de@yuma.ACNS.ColoState.EDU>
Source record: 114063

```
>> I'm looking for a few MMIC amp like the MAR-3SM, MAR-3, RAM-3, or
>> anything similar. Anything that's really small, has a gain of about 12dB,
>> runs from 5V, has a 1dB compression point of +7dBm or higher. If anyone
>> has a few they would be willing to sell, please e-mail me. I need a few
>> for my senior project, and they're tough to come by in such small quantities.
>> Sean

According to Mini-Circuits, they will sell in small quantities to amateur
radio ops. If you're a big company, you have to meet the $50 min.
Mini-Circuits
718-934-4500
```

863. Crystal Supplier Address

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 18:41:15 UTC
From: billg@sc.hp.com
Message-ID: <3k23kb$opl@hpscit.sc.hp.com>
Source record: 114064

I'd like the address of any crystal manufacturers that sell in small quantities. I believe quite some time ago there used to be an outfit in Florida called JAN Crystals. Are they still around? Can anyone supply me their address and phone number?

Thanks,

- Bill G

864. Re: paraffin/kerosene etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 19:02:51 UTC
From: William Barnes -- VE7MEW <wbarnes@earth.geology.ubc.ca>
Message-ID: <3k24sr$1ao@nntp.ucs.ubc.ca>
Source record: 114065

dcadd@luc.ac.BE (Duncan Cadd) wrote:
>
> Greetings, folks, from a gloriously sunny Diepenbeek in N.E. Belgium!
>
>
> I had no idea that a simple word like 'paraffin' could cause such confusion!
> W7EL is correct in his explanation.

In Britain, the term 'paraffin' by itself means what is termed 'kerosene'
in North America. The stuff the physician might use to grease the
internal ways is known as 'paraffin oil' in Britain and 'mineral oil' in
N.A. The solid 'paraffin wax' in Britain is commonly just 'paraffin' in
the U.S. All this does make for a certain amount of confusion. To an
organic chemist the term 'paraffinic' refers to saturated hydrocarbons,
but kerosene certainly includes unsaturated as well as saturated hydro-
carbons, just to add to the confusion.

All of which is a bit wide of the mark when it comes to this newsgroup.

73 de Bill (VE7MEW)

865. Re: Crystal Supplier Address

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 20:21:03 UTC
From: jdevenport@lanl.gov
Message-ID: <3k29ff$olg@newshost.lanl.gov>
Source record: 114066

In article <3k23kb$opl@hpscit.sc.hp.com>, billg@sc.hp.com (Bill Gingras) says:
>
>
>I'd like the address of any crystal manufacturers that sell in small
>quantities. I believe quite some time ago there used to be an outfit
>in Florida called JAN Crystals. <snip>

As listed in most ham mags, JAN as well as International, Bomar, Crystek,
and many others are still around.
JAN Crystals
1-800-JAN-XTAL
PO Box 60017
Ft Myers FL 33906

866. Re: Question: Litterature on crystal filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 20:26:33 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <795126393snz@lfheller.demon.co.uk>
Source record: 113968

In article <Pine.SUN.3.90.950309153223.7968B-100000@aristotle.algonet.se>
teodor@algonet.se "Teodor Vaananen" writes:

> I've been looking for quite some time for litterature describing
> how to build crystal filters of the more advanved kind (>6 Xtals).
> I'm specifically interested in litterature that describes how to
> calculate theoretical bandwidth, response, frequency etc., and
> of course, do's and don't's. Is there anyone here that knows some
> good books on the subject, or maybe even knows a ftp site with
> such info.

A good practical introduction to ladder filters is in "W1FB's Design
Notebook" by Doug DeMaw, published by the ARRL. The ultimate book
on filters, of course, is by Zverev (Handbook of Filter Synthesis),
but it is out of print. All three copies in our library at work seem
to have been stolen, so it must be good!

73, Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

867. Need FT-736R CAT rs-232 interface info & mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 20:39:07 UTC
From: tony@gcr1.com
Message-ID: <3k2abk$2qp@tetsuo.communique.net>
Source record: 114067

Looking for all mods and info on the Yaesu FT-736R rig ...
need RS-232 interface schematic and info to connect to
my PC.

Or would like a FTP location to find some of this info ...

tnx, 73
N5GPI

868. Linux decoding software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-13 23:18:24 UTC
From: steve@borisone.demon.co.uk
Message-ID: <3k2js0$8ap@borisone.demon.co.uk>
Source record: 113976

[Article crossposted from uk.radio.amateur]
[Author was steve roberts]
[Posted on 13 Mar 1995 23:17:25 GMT]

Greetings,
I wish to set up a general decoding station i.e. weather satellite,
general fax/rtty etc using a 486 pc and Linux to control the various
receivers and perform the decoding. Does anyone have any unix progs
source code or ftp sites that may be useful??
I will probably have to hack the Linux kernel :-(, any suggestions?
Has anyone used the Maplin dsp weather satellite interface?
My basic setup would be an AR3030, FRG9600, dedicated weather sat
receiver and interfaces as required...including the Maplin interface.

Cheers Steve Roberts
steve@borisone.demon.co.uk

- Its better to burn out than fade away..

869. Re: Changing Freq. of Xtal

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 00:35:18 UTC
From: Joe Rocci <rocci@netaxs.com>
Message-ID: <3k2oc6$9gk@netaxs.com>
Source record: 113970

I've been following this thread for so long now, that I've finally decided to throw in my 2 cents....

Sometime, a long time ago (maybe in the sixties), I saw an article about making a "variable frequency crystal". The technique was based on the old FT-243 crystals which were packaged in a compression type holder. In this crystal type, a square quartz blank is sandwiched between two flat electrodes, and a constant electrode pressure is maintained by a compression spring which fits between the sandwich and the metal cover of the assembly. The resonant frequency is a function of several mechanical influences, including the spring pressure on the quartz sandwich.

The unique idea was to vary the resonant frequency by varying the electrode pressure. A hole is drilled in the center of the metal cover of the FT-243. A brass nut is soldered over the hole on the outside surface. A headless screw is threaded into the nut so that it contacts the compression spring inside the assembly. A small knob is affixed to the outside protrusion of this screw. Now, as the knob is rotated, the pressure on the quartz blank is varied, and the resonant frequency changes. Voila! A Variable frequency crystal.

Of course, the frequency change is small (several hundred Hz to a couple KHz), but this was the next best thing to a VFO in the days of "rock-bound" novice operation!

870. Re: Original Ideas Required for Radio Receiver :)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 01:58:17 UTC
From: sjm@ee.latrobe.edu.au
Message-ID: <3k2t7p$gns@faraday.ee.latrobe.edu.au>
Source record: 113969

```
>
>: I'm a third year undergraduate at the university of Canterbury NZ, and
>: I need some help.
>
>: I decided to do a comms paper this year, it has one project : design
>: and make your own radio. Fine easy you say... except that the marker likes
>: original ideas.
>

I've been following this thread for a while now, and it seems that eveyone
is suggesting ideas to do with old/obsolete technology. Why look to the past
for *original* ideas - look to the future!

How about using a uP/DSP chip? or writing some really fancy code for say,
a soundblaster card, and mix the RF down to audio using software?

The future is reliant on original ideas - sure, look to the past for pointers,
but don't base your project on the past - comms is a futuristic area - go with
it!

======================================================================
Steve Merrifield
Internet: (1) sjm@ee.latrobe.edu.au (2) ecssjm@luxor.latrobe.edu.au
AX.25 Packet: VK3ESM@VK3FRS.#MEL.VIC.AUS.OC FidoNet: 3:632/369
The Web: http://www.ee.latrobe.edu.au/postgrad/steve/steve.html
======================================================================
```

871. Re: Anyone have any MMIC amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 08:01:39 UTC
From: drted@ix.netcom.com
Message-ID: <3k3ih3$ess@ixnews4.ix.netcom.com>
Source record: 113971

In <3k1l2r$18de@yuma.ACNS.ColoState.EDU> galen@picea.CFNR.ColoState.EDU (Galen Watts) writes:

>
>>> I'm looking for a few MMIC amp like the MAR-3SM, MAR-3, RAM-3, or
>>> anything similar. Anything that's really small, has a gain of about
>
>According to Mini-Circuits, they will sell in small quantities to amateur
>radio ops. If you're a big company, you have to meet the $50 min.
>Mini-Circuits
>718-934-4500
>
>
Apparently, a few years ago, Mini-Circuits did not want to deal with the amateur and hobbyist market and gave small order customers a lot of trouble...
Well... Things have changed. Maybe new management, who knows? About six months ago, Mini-Circuits took out full, back-page adds in several hobbyist and amateur magazines. They packaged a dozen or so designer kits with prices less than $100.00. And they even published an 800 number only for amateurs and hobbyist. I have never seen this number listed in their adds for the commercial market. For all appearences, Mini-Circuits is bending over backwards to serve the amateur and hobbyist markets. Of course, I have misplaced the mags with the 800 numbers, so call the regular number and ask for the 800 number and while you're at it, have them send you their designer handbook. It's as big as an issue of Computer Shopper. Sometimes it is best to go straight to the source first...
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

872. Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 08:33:03 UTC
From: sbaldwin@community.net
Message-ID: <3k3kbv$5r@odin.community.net>
Source record: 113972

I need formulas for the J-Pole Antenna plz. I'm wanting to homebrew
a dual band 2mtr/75cm J antenna for use at my house. If anyone has these
formulas, please Email them to my account. Tnx es 73!
de N6UUH
Scott

873. Re: ICOM Computer Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 14:38:44 UTC
From: dabloodgod@aol.com
Message-ID: <3k49pk$va@newsbf02.news.aol.com>
Source record: 113973

I called ICOM - They happily sent the schematic for the computer interface - it was either free or really cheap. All it really does is convert the rs-232 signals to ttl levels - for connection to the radios. With that thought in mind, Ive taken an old PC serial comm card - and have rewired the rs-232 level shifters to convert the rs-232 back to ttl on the card - and have soldered the necessary cable to connect to the radio directly to the card. I haven't had a chance to try it yet - but I will soon - Also have to write some code to control the radio. Anyway - thats my approach for handling the ICOM computer interface.

Good luck and 73's de Dave, kd6pro.

874. Re: Anyone have any MMIC amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 18:55:15 UTC
From: w9sz@prairienet.org
Message-ID: <3k4oqj$67e@vixen.cso.uiuc.edu>
Source record: 113974

In a previous article, drted@ix.netcom.com (Ted Viens) says:

>In <3k1l2r$18de@yuma.ACNS.ColoState.EDU> galen@picea.CFNR.ColoState.EDU
>(Galen Watts) writes:
>
>>
>>>> I'm looking for a few MMIC amp like the MAR-3SM, MAR-3, RAM-3, or
>>>> anything similar. Anything that's really small, has a gain of about
>>
>>According to Mini-Circuits, they will sell in small quantities to
>amateur
>>radio ops. If you're a big company, you have to meet the $50 min.
>>Mini-Circuits
>>718-934-4500
>>
>>
>Apparently, a few years ago, Mini-Circuits did not want to deal with the
>amateur and hobbyist market and gave small order customers a lot of
>trouble...
>Well... Things have changed. Maybe new management, who knows? About
>six months ago, Mini-Circuits took out full, back-page adds in several
>hobbyist and amateur magazines. They packaged a dozen or so designer
>kits with prices less than $100.00. And they even published an 800
>number only for amateurs and hobbyist. I have never seen this number
>listed in their adds for the commercial market. For all appearences,
>Mini-Circuits is bending over backwards to serve the amateur and
>hobbyist markets. Of course, I have misplaced the mags with the 800
>numbers, so call the regular number and ask for the 800 number and while
>you're at it, have them send you their designer handbook. It's as big
>as an issue of Computer Shopper. Sometimes it is best to go straight to
>the source first...
>--
>Bye... Ted..
>

I have been buying parts in small quantities from the local Mini-Circuits distributor in Chicago (Cain-Forlaw) and have received OUTSTANDING service from them all along. They have been more than willing to sell me ONE DBM if that is what I needed. I have sent larger orders too, they have a price break for more than 5 MMIC's and they also have some very good cheap chip caps for bypassing.

Sorry, out of MAR-3's at the moment...need to order some more!

Zack W9SZ

875. Ham Radio as Aviation Handheld

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 19:17:25 UTC
From: sivaram@sgi.com
Message-ID: <3k4q45$p3v@miranda.mti.sgi.com>
Source record: 113975
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I've been a pilot for a few years now and recently got into ham radio.
I am interested in buying a handheld that can TRANSMIT and receive in both
AVIATION and ham frequencies.

While a number of handhelds receive AM (aviation is AM), they are unable to
transmit AM. This includes a few brands that are CAPS modifiable.

I was wondering if such a handheld unit exists or whether a knowledgeable
person was able to homebrew such a radio from an existing product.

Sivaram

sivaram@sgi.com
(415) 390-4522 (off)

--

876. Reciever Alignment

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 21:17:03 UTC
From: bberg99828@aol.com
Message-ID: <3k514f$56u@newsbf02.news.aol.com>
Source record: 113977

How much do I need to spend on an RF signal generator to align a homebrew 137-138MHz reciever????, what is a good name brand???, Where can I get one?
Please Help..
E-mail
bberg99828@aol.com

877. Manual/Schematic for HeathKit DX-20

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 22:42:20 UTC
From: treit@seanet.com
Message-ID: <treit.199.0016B546@seanet.com>
Source record: 113987
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

Hello!

I was asked to post a message for a friend of mine who is not on the Internet:

He is attempting to restore his old HeathKit DX-20, which was his first rig.
Unfortunately he does not have the manual or schematic for the transmitter.
If anyone has either available for that particular radio, please e-mail me at
treit@seanet.com or send the information to:

George, K7BDU
163 Keasling
Chehalis, WA 98532

Many thanks!

-Mike KB7QOP

878. Re: Info about TUBES

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 23:04:05 UTC
From: FSWF37A@prodigy.com
Message-ID: <3k57d5$7fu@usenetw1.news.prodigy.com>
Source record: 113979

Try the Radio Amateurs Handbook by the ARRL. The current versions have
some tube data, older editions have much more.
Good Luck, Jim

879. Re: Reciever Alignment

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 23:09:25 UTC
From: cmoore@sedona.intel.com
Message-ID: <3k57n5$mei@chnews.intel.com>
Source record: 113978

In article <3k514f$56u@newsbf02.news.aol.com>,
BBerg99828 <bberg99828@aol.com> wrote:
>How much do I need to spend on an RF signal generator to align a homebrew
>137-138MHz reciever????

An unlocked 2 meter HT, like my DJ-580, makes a decent signal generator
for 137-138MHz using a dummy load and low power output.
--
73, Cecil, KG7BK, Old, Old Timer's Club (40+ years a ham)
(Not speaking for Intel)

880. Kenwood TS-690 SOLD !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 23:18:19 UTC
From: hduff@humnet.westonia.com
Message-ID: <7790-280878201@humnet.westonia.com>
Source record: 113985

Please be advised, the Kenwood TS-690SAT that I had previously
advertised has been sold. Thank-you.

VA3TO Toronto

• NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
---

881. 900 Mhz power modules !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 23:18:20 UTC
From: hduff@humnet.westonia.com
Message-ID: <7790-280861002@humnet.westonia.com>
Source record: 113986

I have a few brick type power modules (pulls) that should be good for
the 900 Mhz band.
Will sell (make an offer) or trade for similar 1.2 Ghz modules.

Qty. P/N
1 MHW806A4 (Motorola, rated 6 watts @ 806-950 Mhz)
1 MHW807-1 (Motorola, rated 6 watts @ 820-850 Mhz) *
1 M67754 (Mitsubishi, specs unavailable)

* may be de-rated outside the guaranteed band spec. at 900 Mhz.

e-mail replies: hduff@humnet.westonia.com

• NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
----

882. Re: Idiom Press CW keyer - thanks!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-14 23:27:13 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <149616784wnr@ifwtech.demon.co.uk>
Source record: 113989

Thanks to everyone who replied, confirming that the details
in the 1995 ARRL Handbook are correct.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

883. SWAGURSAT -- Any Users??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 02:03:39 UTC
From: bberg99828@aol.com
Message-ID: <3k5htr$9qp@newsbf02.news.aol.com>
Source record: 113980

Looking for information about thee SWAGURSAT reciever attachement for the
ICOM R7100. Does It work Good?????\
Please E-mail
Bob B
Shelton CT
bberg99828@aol.com

884. HP432A Pwr meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 02:55:08 UTC
From: pgerba@crl.com
Message-ID: <3k5kuc$a98@crl9.crl.com>
Source record: 113981

FS HP432A power meter with cable and 8478B mount $375.

pete
pgerba@crl.com

885. Re: HV CAPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 03:11:44 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3k5ltg$4su@tierra.santafe.edu>
Source record: 113982

> I NEED HV CAPS. WDC OF 15KV TO 60KV .01 TO .4 MFD.
> THANKS DENNIS

Try Surplus Sales of Nebraska. I believe they're in Omaha.

886. Connector losses

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 05:39:31 UTC
From: mckee@fc.hp.com
Message-ID: <3k5uij$ibp@tadpole.fc.hp.com>
Source record: 113983
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

I am setting up my Yaesu 747 to be the IF for a transverter. The rig uses some small coax with "Weird Yaesu coax connectors" to connect the RF board to the power amplifier and to connect the antenna to the receive-in on the RF board.

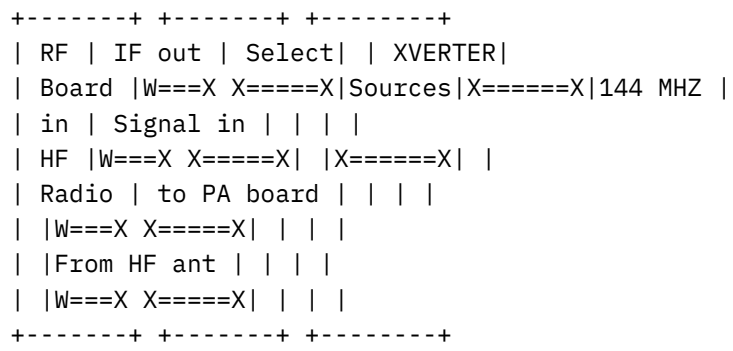
I called Yaesu and a very friedly fellow took my $$ and promised to send me a couple of pieces of the coax with the ends on them. I'd like to cut them in half, and put some sort of reasonable connectors on but, I am wondering about signal loss.

My hopes are to build a source selector so that I can use the setup as:

Simple HF radio (IF out routed back to PA board, HF antenna routed to Signal in)
Simple 2M radio (IF out to Xverter, Signal in from Xverter)
Satellite mode A (IF out to Xverter, Signal in from HF antenna)

without haveing to take the lid off all the time (the connections to the RF board look fairly fragile), and without having to spend 15 minutes connecting identical looking cables to the wrong places so that I can just miss a good satellite pass.

I'm thinking of something like:



Where W represents a "weird connector", and X represents a reasonable connector. The back-to-back connectors will be on the back of the radio. I need them because the coax with the weird connectors is short, and the connectors are "supercrimped" on and don't look like they will come off in any state to be put back on, and Yaesu does not sell them unattached. [sigh]

Unfortunately, to use it as a simple HF radio, the output signal must go through EIGHT connectors (SIX of which I'm adding). This has me worried about the losses from those connectors. My _ARRL Handbook_ does not have a table of connector losses, and I'm hoping someone out there does,

or has a better idea.

I could replace the back to back connectors with four very small PC board boxes, soldering the coax together inside. I could also directly wire the source selector to the cable. Or am I just worrying about nothing??

Thoughts???

73, Bret

887. Re: Ham Radio as Aviation Handheld

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 06:15:44 UTC
From: bandy@well.sf.ca.us
Message-ID: <3k60mg$p6t@nkosi.well.com>
Source record: 113984
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

sivaram@sgi.com (S. Sivaramakrishnan) writes:

+ I've been a pilot for a few years now and recently got into ham radio.
+ I am interested in buying a handheld that can TRANSMIT and receive in both
+ AVIATION and ham frequencies.

Can't buy a commercial example legally.

+ While a number of handhelds receive AM (aviation is AM), they are unable to
+ transmit AM. This includes a few brands that are CAPS modifiable.

+ I was wondering if such a handheld unit exists or whether a knowledgeable
+ person was able to homebrew such a radio from an existing product.

Yes you could but you couldn't legally use it as it woulnd't be
type-accepted for the aircraft bands.

888. FM transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 07:09:27 UTC
From: "Stop the Fighting", Increse the Peace <71333.2125@CompuServe.COM>
Message-ID: <3k63r7$o5m$1@mhadf.production.compuserve.com>
Source record: 113988

Where can I get a FM transmitter, specifically to hook up to my portable CD player? Please e-mail to me since I don't read this newsgroup.

Thanks,

MS

889. Re: High power DC/DC conv. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 08:10:16 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3k67d8$16q2@info4.rus.uni-stuttgart.de>
Source record: 113991

In article <dgfD58otA.B6C@netcom.com>, David Feldman <dgf@netcom.com> wrote:
>I want to build a power supply converting 13.8 VDC to 2.5 KV at
>1/2 amp max.

Dave,

The transformer will be not really a problem. At least here are
several companies who will wind one for you at a reasonable price.
You would be talking about 150 A at the input. BTW, I do not
know of a voltage source wit 13.8 V at 150 A. usually more like 12 V.

The problem will be the switching devices, you would need power mosfets
with an increadibily low on-resistance...

73, Moritz DL5UH

890. 440 mhz amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 08:46:12 UTC
From: pff@bfs.uwm.edu
Message-ID: <pff.3.000CEADF@bfs.uwm.edu>
Source record: 113996

does anyone have or know where I might get a schematic for a 300+ watt 440 mhz amp? any info would be greatly appreciated.

891. Crystal Supplier Address

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 12:14:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1118.546@acenet.com>
Source record: 113990

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

BG>I'd like the address of any crystal manufacturers that sell in small
BG>quantities. I believe quite some time ago there used to be an outfit
BG>in Florida called JAN Crystals. Are they still around? Can anyone
BG>supply me their address and phone number?

Try these Bill:

Antique Radio Classified 508-371-0512 Write for free sample.
P.O. Box 802 Magazine. You'll find almost ANYTHING here
Carlisle, MA 01741 for older radios, obscure parts, tubes etc.

Cal Crystal Waiting for more information
Buena Park or Anaheim (not sure which)
California
They will MAKE rocks for almost anything.

Cathodeon Crystals, Need phone number
A PYE Group Company
Linton,
Cambridgeshire
England (Need postal code) Crystals

Crystek Crystals 800-237-3061
2351/2371 Crystal Drive
Ft. Myers, FL 33907 Quartz Crystals

CW Crystals Inexpensive, but SLOW to respond.
570 N. Buffalo Street
Marshfield, MO 65706 (Crystals, $1.00 catalog)

International Crystal Mfg Co. 405-236-3741
10 North Lee Street Crystals!
Oklahoma City, OK 73102

ICM (International Crystal Manufacturing Co., Inc.) 800-426-9825
P.O. Box 26330: 701 W. Sheridan
Oklahoma City OK 73126-0330

JAN Crystals 800-526-9825: 813-936-2397
P.O. Box 06017: 2341 Crystal Drive: Crystals
Ft. Myers, FL 33906-6017

LESMITH CRYSTALS (905) 844-4505
54 Shepherd Rd, Fax = (905) 844-2274
Oakville, ON

L6K 2G5
CANADA Crystals for amateur radio. VISA & MC OK.

MDM radio (708) 848-4210
Address needed FAX = (708) 848-0230.
Channel Elements for commercial 2-way radios.

Petersen Radio Co. (712) 323-7539
2735 Avenue "A"
Council Bluffs, IA 51501 Crystals

Ryan Communications 412-368-3859
BOX 111E Camelot Road (QRP CW transmitter, ready made,)
Portersville, PA 16051 (and transmitter kits, crystals)

Velco Electronics (716) 924-2073
Address needed (716) 924-2136 = FAX
Crystals

C. W. Wolf Communications (406) 252-9220
Address needed FAX = (406) 252-9617
Channel elements for commercial 2-way radios.

I hope this helps you!

This list was prepared by AF4K, Brian Carling - Updated 3/1/95
Please send additional sources for inclusion in this list.
If you go to a hamfest and see someone selling crystals, please
get a card and send me their name, address and phone number.

AF4K @ W3INK
(301) 990-6070
brian.carling@acenet.com

• SLMR 2.1a • Appelate judge steps on banana: overturned on a peel!

892. Re: Reciever Alignment

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 12:41:03 UTC
From: gordy@gbscomms.win-uk.net
Message-ID: <212@gbscomms.win-uk.net>
Source record: 113994

In article <3k514f$56u@newsbf02.news.aol.com>, BBerg99828 (bberg99828@aol.com) writes:
>How much do I need to spend on an RF signal generator to align a homebrew
>137-138MHz reciever????, what is a good name brand???, Where can I get
>one?

You mean you're actually going to *buy* one?

other options

1: use a scanner with a 10.7Mhz or 21.4 Mhz IF (ie a cheap one). Tune the scanner either 10,7 (or 21.4) Mhz above or below the 137Mhz freq your rx is tuned to. use the radiated LO signal as a weak signal source.

2: build a simple xtal oscillator to provide a signal source

3: use an hf transceiver working into a dummy antenna. transmit on a freq that has a harmanic relationship with the 137 Mhz band (eg for 137.5MHz, try 15.278MHz or 12.5Mhz - pick the higher hf freqs if poss to give a higher harmanic o/p)

I've been doing this for 5 years now, even though I have access to some *very* good eqpt - it's often quicker than setting up the pro gear :)

Gordy

--
SIGint, geddit?

893. FRG-7 mods ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 12:46:45 UTC
From: leconte@irisa.fr
Message-ID: <3k6njl$oj4@news.irisa.fr>
Source record: 113992

I have an old FRG-7 and I am looking for any mods for
this antique recever.

If you have any info please mail to leconte@irisa.fr

Thanks in advance

Thierry

894. How to suppress computer interferences ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 12:55:23 UTC
From: leconte@irisa.fr
Message-ID: <3k6o3r$oj4@news.irisa.fr>
Source record: 113993
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

I have an old FRG-7 recever and I try to use it for rrty and fax
reception on my PC.
My problem is that when I switch on the computer I have so much noise
on the recever that it's quite impossible to listen to weak stations.
Is there a magic solution to this problem ? :-)

Thanks in advance

==
Thierry LECONTE
email : leconte@irisa.fr telex : 950473 UNIRISA
phone : 99 84 72 94 fax : 99 84 71 71
finger: leconte@spam.irisa.fr
==

895. What is Q-Dope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 13:26:52 UTC
From: dward@nbvws105.bnr.ca
Message-ID: <3k6pus$4ps@bcrkh13.bnr.ca>
Source record: 113995

I am building a simple direct conversion receiver from W1FBs QRP Notebook
and he mentions coating the oscillator inductor with polystyrene Q-Dope.

My question is, What is this stuff, What does it do (i.e. do I need it),
and where can I get some?

Thanks in advance.

73 de Dave VE3BIP
Email dave.ward@nt.com

896. 3CX800 specifications?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 13:27:01 UTC
From: dsnowden@ccd.harris.com
Message-ID: <3k6pv5$cmov@rs2.ccd.harris.com>
Source record: 113998

Anybody got the specs for a 3CX800 tube? Mainly what is the max plate voltage allowed and recommended filament voltage???

Thanks, Doug
--
Doug Snowden
dsnowden@ccd.harris.com

897. Re: ICOM Computer Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 14:58:59 UTC
From: dsantoro@pipeline.com
Message-ID: <3k6vbj$2ie@news.pipeline.com>
Source record: 113997

The most recent QST (March?) has an article called 'Put Away Your Pencil" that includes a circuit to give
computer control of you Icom HF Rig. I imagine that the interface is exactly the same for your R7100. It is,
after all, only a voltage level converter. All of the electronics fit in the DB-25 housing, and it is powered
by the PC's serial port. I built it and adapted it to my Yaesu FT-840, and it works like a champ.

It cost me about 20 bucks to build, an $80 savings over Yaesu's converter.

> UU> Hi, I'm looking for information on how to connect an ICOM R7100
> UU> receiver to my
> UU> computer. I know that ICOM has a C-IV computer interface but I hardly
> UU> think its worth a hundred bucks. Can anyone provide my with a
> UU> shematic of this animal.

898. Re: Crystal supplier addre

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 15:39:07 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <795283785.AA00713@hamlink.mn.org>
Source record: 114009

Hi Bill,
International Crystal will sell in small quantity. Their info is: Box
26330 701 West Sheridan, Oklahoma City, OK. 73126 (405) 236-3741.
Good luck!
72 Bob Liesenfeld WB0POQ

899. Re: Connector losses + FT747 useful mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 16:02:06 UTC
From: gordy@gbscomms.win-uk.net
Message-ID: <213@gbscomms.win-uk.net>
Source record: 114000
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <3k5uij$ibp@tadpole.fc.hp.com>, Bret McKee (mckee@fc.hp.com) writes:
>I am setting up my Yaesu 747 to be the IF for a transverter. The rig
>uses some small coax with "Weird Yaesu coax connectors" to connect the
>RF board to the power amplifier and to connect the antenna to the
>receive-in on the RF board.
....
>through EIGHT connectors (SIX of which I'm adding). This has me worried
>about the losses from those connectors. My _ARRL Handbook_ does not
>have a table of connector losses, and I'm hoping someone out there does,
>or has a better idea.

losses thru any connector at hf are normally nothing to worry about, in my opinion.

>>I could replace the back to back connectors with four very small PC board
>boxes, soldering the coax together inside. I could also directly wire the
>source selector to the cable. Or am I just worrying about nothing??

I think ur just worrying about nothing. Here's what I did many moons ago:-

1. Fit a switch in the logic cable that disables the pa board (see below)

2. Snip the mini-coax leads in half (both tx and rx) and attach them onto the back of a couple of bnc connectors or similar on the back of the rig. (if you do it carefully you won't even cut the braid) I use BNC connector because they are easy to connect up when they are at the back of the radio when you are all fingers and thumbs, but make a note of the positions of the TX and RX connectors so that you don't "brown-hole" it and stuff the RF out up the RF in hole etc

3 Either swap the bnc leads to connect up the kit or fit a 3-switch to select the direction/source required.

Note that you don't have to worry about the switching rf away from the pa if you use the logic line to disable the pa altogether ..... hang on, I'm getting the service manual out......
it's a 3 wire lead from the main board to the pa unit:-
J06 on the main board, pin 1=gnd, pin 2(centre, the one to fit a switch in) TX9V, pin3=13.5v this connects to...
J03 on the pa unit

this is what you should have....

<------------\ /------------>
TXmain bd \ / paTX
\/
bncTX pa unit (now switched) (please, no jokes
about class D etc :-)

<------------\ /------------>
RXmain bd \ /
\/
bncRX paRX

---------------------------------13.5v
pa sw/ off
J06-----------/ --------------------TX9v J03 pa unit
main bd on
---------------------------------gnd

If you get problems with breakthrough on the receive side either manually disconnect the main hf antenna out of the back of the pa unit (PL259) or fit a coax switch in the feedline.

NOTE
You can also use the bnc o/p as a low level, synthesised, all mode signal generator. If you have general coverage TX enabled it's very useful on the workbench, but turn the pa off before you start! I'm a UK class B licensee so I've cut the TX9v lead altogether, so I can't make any cock-ups when servicing commercial kit.

The o/p from the TX drive is quite low, so it may need a stage of amplification before driving a transverter.

Good luck

Gordy

--
SIGint, geddit?

900. Re: Building radio into computer - need advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 16:59:35 UTC
From: Larry Kenan <larry.kenan@SanDiegoCA.NCR.COM>
Message-ID: <D5Hr7B.53@lcpd2.SanDiegoCA.ATTGIS.COM>
Source record: 113999

>In article <RW8ZusD.fflynn@delphi.com> Frank Flynn writes:
>D. Brennenstuhl <dbrennen@ix.netcom.com> writes:
>
>>I'm building an interface card for an IBM 486 as a school project.
..
>
>It is a good idea exept for one thing. The computer is a notorious generator
>of RFI, radio frequency interference. Sometimes when I am trying to listen
>to HF (amatuer radio shortwave), I have to turn off my computer because
>of the interference it generates. This would be one drawback, perhaps
>there is a way to overcome this problem. But it might not be easy.
>Good luck with your project.
>Frank KM1Z

There is a there is a ham transceiver on the market that is built on a pc board.
I forget the manufacturers name but I have seen it demonstrated, and it works.
The board is very well shielded to avoid the interference. The transmitter
output
is 100 mw. so you use it to drive an external power amp.

Larry Kenan - KD6CKR

901. : Re: Toroidal cores and ferrites

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 17:19:01 UTC
From: hbrown@nadir.resd
Message-ID: <1995Mar15.171901.23798@knight.vf.ge.com>
Source record: 114001

Quite a few of Amidon Associates cores are actually made by Micrometals. Anytime you see a core called out as TXX-X such as T30-6 it was made by Micrometals.

Micrometals has extensive data available and also has a floppy disk with data and I beleive design programs.

Micrometals is located at 1190 N. Hawk, Anaheim, CA. 92807. Their phone is 714-630-7420 or 1-800-356-5977 and the fax number is 914-630-4562.

Hope that this helps.

73, Harry, W3IIT
hbrown@resd.vf.ge.com

902. Re: 3CX800 specifications?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 17:26:30 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3k7806$1dpa@info4.rus.uni-stuttgart.de>
Source record: 114002

>Anybody got the specs for a 3CX800 tube? Mainly what is the max plate
>voltage allowed and recommended filament voltage???

The anode voltage is 2 or 2.2 kV roundabout. It may increase up
to 2.4 at no load. Its the filament voltage that you have to
worry about. it has to be adhered to within one volt.

I can look the exact specs up, send me a mail.

Moritz DL5UH

903. Yaesu FT727r CAT interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 17:44:31 UTC
From: cmlong@mtu.edu
Message-ID: <3k791v$9rm@techsrv1.tech>
Source record: 114003

Have any of you ever used the CAT interface on this rig? If so
how do you wire up an interface cable to the HT?

Thanks for your help,
Mike
KB8WPE


```
--
/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\
\ Michael Long || Public Relations Manager /
/ Callsign: KB8WPE || for HARC (W8YY) \
\ Email: cmlong@mtu.edu || Email: harc-l@mtu.edu /
/ Phone: (906)487-0204 || Majors: EET and EMT \
\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/
```

904. Re: High power DC/DC conv. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 19:15:06 UTC
From: Alf Green <alf>
Message-ID: <3k7ebq$qbf@adm09.iac.honeywell.com>
Source record: 114004

dgf@netcom.com (David Feldman) wrote:

> I want to build a power supply converting 13.8 VDC to 2.5 KV at
> 1/2 amp max. Does anyone know of a source of toroidal transformers
> that could be used for this (a high current low voltage, winding,
> a low current high voltage winding, and probably a feedback
> winding for the transistor oscillator)?
>
> Any info welcome! Thanx, 73 Dave WB0GAZ dgf@netcom.com
>
> --
>

There was an article in QEX about 18 months ago which used a stack of toroid cores. This was for use from a regular line voltage, rather than 13.8v, but the power rating of the transformer shouldn't care.

For your application, the extremely high input currents would be a real problem. The switching transistors would be far more of an issue than the transformer.
I havent got as far as building one yet, but I have been scratching at a design to power my 2 x 7289 1296 amp for portable use (1100v @ .5A) and am having a hard time coming up with a circuit which wouldn't destroy itself too easily.

If you make any progress on this, I'd certainly be very interested to hear your results; and I suspect several others would be also.

73s de Alf NU8I/G4ABB

alf@agreen.iac.honeywell.com Phoenix, AZ

905. Re: Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 21:02:15 UTC
From: hbrown@nadir.resd
Message-ID: <1995Mar15.210215.2283@knight.vf.ge.com>
Source record: 114005

Scott,

I havn't read the article yet, but the April 1995 issue of QST has an article on
J Pole antennas.

73, Harry, W3IIT
hbrown@resd.vf.ge.com

906. Re: What is Q-Dope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 21:08:49 UTC
From: tgxydis@aol.com
Message-ID: <3k7l11$mjd@newsbf02.news.aol.com>
Source record: 114006

Q-Dope is Polystyrene which is dissolved into some solvent usually an acetone. You can buy it at most electronics outlets which cater to TV repairmen and the like. It is sold under the name Q-Dope, by more than a few companies.

Actually I have known people who have made it by taking model glue (airplane glue) and thinning it out with more solvent.

Hope this helps,

73

Tom Xydis KC9DM

907. Re: Ham Radio as Aviation Handheld

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 21:16:02 UTC
From: n9315@pnet16.navy.mil
Message-ID: <D5I32q.MyM@nctams1.uucp>
Source record: 114010
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

You won't find one that is both, I don't believe. As you know the aviation freqs operate AM, and have to type accepted for that use. I have yet to see one company that offers any FM features in one of their aviation band handhelds.

If you're using your own aircraft, you should invest in getting a 2m rig in the aircraft. Even if you use a handheld with an amp.

****
*Unless otherwise stated, expressed view are my own. They may not be the *
opinions of my superiors, the U.S. Navy, the DoD, nor the U.S. government.
* *
*Rich Sheff - KD6HWF\KH6 | krokus@m-net.arbornet.org (forwarded) *
*ex- VK6JCA, ex- HL9RMT | n9315@nctams1.navy.mil *
****

908. Re: Crystal Supplier Address

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 21:34:36 UTC
From: cliff52@aol.com
Message-ID: <3k7mhc$mva@newsbf02.news.aol.com>
Source record: 114007

```
JAN Crystals
813-936-2397
813-936-3750 fax
```

909. Re: ICOM Computer Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-15 23:40:12 UTC
From: ricecakes@aol.com
Message-ID: <3k7tss$oqh@newsbf02.news.aol.com>
Source record: 114008

I have done exactly what you said - bypass the rs232 converter on the serial card and use the TTL signals and it works.
David M. Rice
Dallas, TX

910. VGA to NTCS schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 04:24:16 UTC
From: forsberg@crash.cts.com
Message-ID: <D5IMwH.L28@crash.cts.com>
Source record: 114012

I was wondering how easy or difficult it would be to build a VGA (640 X 480) to NTCS adapter for ATV. Does anybody know if there have been any projects in magizines or are there any kits around ?

Thanks, Bruce WB6IZG

911. Re: What is Q-Dope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 05:24:17 UTC
From: ballnt@aztec.inre.asu.edu
Message-ID: <3k8i21$ho1@news.asu.edu>
Source record: 113931

In a previous article, dward@nbvws105.bnr.ca (Dave Ward) says:

>I am building a simple direct conversion receiver from W1FBs QRP Notebook
>and he mentions coating the oscillator inductor with polystyrene Q-Dope.
>
>My question is, What is this stuff, What does it do (i.e. do I need it),
>and where can I get some?
>
>Thanks in advance.
Q-dope is just polystyrene disolved in a solvent. It is used to coat a coil
to block moisture absobtion on the wires which might lower the Q. It used
to be sold by General Cement Company and was listed in the Newark and Allied
catalogs along with the lubricants and contact cleaners. I don't know if it
is still available. You could make your own by disolving clear polystyrene
is a solvent like mineral spirit or trichlorethylene (use the clear uncolored
polystyrene, not the cloudy high impact polystyrene, it has rubber in it
which will raise the loss).
You can paint it onto the coil or dip the coil in it.
--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

912. Re: Ham Radio as Aviation Handheld

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 05:56:21 UTC
From: bandy@well.sf.ca.us
Message-ID: <3k8ju5$qvf@nkosi.well.com>
Source record: 114011
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

n9315@pnet16.navy.mil (Et2 Rich Sheff) writes:

>If you're using your own aircraft, you should invest in getting a 2m
>rig in the aircraft. Even if you use a handheld with an amp.

What would you need an amp for? The shuttle doesn't need one and
I don't think a private plane would fly as high.

913. Re: What is Q-Dope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 09:52:29 UTC
From: randolph@est.enet.dec.com
Message-ID: <3k9jn8$d07@mrnews.mro.dec.com>
Source record: 114017

In article <3k6pus$4ps@bcrkh13.bnr.ca>, dward@nbvws105.bnr.ca (Dave Ward) writes...
>I am building a simple direct conversion receiver from W1FBs QRP Notebook
>and he mentions coating the oscillator inductor with polystyrene Q-Dope.
>My question is, What is this stuff, What does it do (i.e. do I need it),
>and where can I get some?
>73 de Dave VE3BIP

It's just plastic goop that holds the turns of wire in place. This is moderately important on the oscillator coil - very slight movements of the wire will send your oscillator drifting off into space.

Polystyrene is specified because it doesn't kill the Q of the coil by absorbing RF. "General Cement Q-Dope" is the trade name, and many electronics mail-order houses sell it. I've had good results using plain old polyurethane varnish, the type you seal up wood with. Measured Q remained above 200 on the one coil I tested.

-Tom R. N1OOQ randolph@est.enet.dec.com

914. Re: High power DC/DC conv. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 11:02:55 UTC
From: esuyw@csv.warwick.ac.uk
Message-ID: <3k95sv$ebv@holly.csv.warwick.ac.uk>
Source record: 114013

In article <dgfD58otA.B6C@netcom.com>,
dgf@netcom.com (David Feldman) writes:
>I want to build a power supply converting 13.8 VDC to 2.5 KV at
>1/2 amp max. Does anyone know of a source of toroidal transformers
>that could be used for this (a high current low voltage, winding,
>a low current high voltage winding, and probably a feedback
>winding for the transistor oscillator)?

Ouch!
2.5kv at 500mA is 1250watts

Even if the inverter were 100% efficient this would mean

1250/13.8=90.6 Amps @ 13.8v

Assuming 90% overall efficiency (probably reasonable)

90.6/0.9=100.6 amps form 13.8 volts

and power dissipation in the inverter of 10*13.8=138 watts.

Even assuming you can get the current at 13.8 volts (presumably from a
bank of car batteries or something), it is going to require very careful
design to handle this kind of current. Good luck!

Rob

915. Re: paraffin/kerosene etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 12:48:25 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D5JA8q.M5t@hpqmoea.sqf.hp.com>
Source record: 114014

Duncan Cadd (dcadd@luc.ac.BE) wrote:

: I had no idea that a simple word like 'paraffin' could cause such confusion!
: W7EL is correct in his explanation. I repent in sackcloth and ashes for not
: making clear what I intended in the first place.

Our venture scout group on an expedition to the French/Swiss border
regions tried (no-one spoke fluent French, Italian or German..) to
buy "Paraffin" for their Primus type cooking stoves... they thought they
were doing well until the shopkeeper started producing blocks of wax :-)

Aviation turbine fuel has been christened "Avtur" to sort out
possible confusions with turboprop and helicopter engines. "Avgas" is
for piston engines.

Avtur, Kerosine, British (just hum anything by Elgar..) paraffin,
Diesel fuel and some light heating oils are all very similar.
Differences in additives, and the care in removing water and
contaminants are important for engine longevity. Here in the UK, the
government forces the addition of dye and a chemical tracer to
everything but road-legal diesel so that people using low tax fuels can
be prosecuted. Agricultural-legal Diesel is 1/5 the price of the road
stuff...

Kerosene/paraffin/Diesel is NOT a good thing to immerse things in,
it can prove corrosive due to contaminants.

I'd recommend either the medical stuff, Aviation turbine LUBRICATING
oil (not the fuel), or proper transformer oil (Not PCB based 8*( )

Fuel oils and car lubricants have all manner of nasty additives, and
are used in quantities/applications that don't force extreme
cleanliness.

Cheers
David GM4ZNX G-QRP 3252

916. Manassas, VA Hamfest. ?When?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 12:57:36 UTC
From: cummings@netcom.com
Message-ID: <cummingsD5JAo0.CGB@netcom.com>
Source record: 114015
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

Does anyone have the date for the Manassas VA hamfest???

Please reply Via e-mail as I dont follow these groups.

Thanks In Advance...

--

```
_______________________________________________________________________
Michael Cummings at home, feet up, in Columbia, MD | Work: 301-680-7906
-----------------------------------------------------| DARCARS Automotive
Internet: cummings@netcom.com Voice: 410-964-5741 | Info. Systems Div.
Netkom Stock?? I don't own no stkin' Netkom stock...| Pyramid DC/OSx MIS-12
Yes, here at Netkom, we have BANANAS!!!.............| System Admin.
```

917. Re: How to suppress computer interferences ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 13:39:10 UTC
From: pierre@wcrest.uucp
Message-ID: <D5JCLB.LGx@wcrest.uucp>
Source record: 114016

leconte@irisa.fr (Thierry Leconte) wrote:

> I have an old FRG-7 recever and I try to use it for rrty and fax
> reception on my PC.
> My problem is that when I switch on the computer I have so much noise
> on the recever that it's quite impossible to listen to weak stations.
> Is there a magic solution to this problem ? :-)
>

There are lots of possibilities for reducing your interference.

Starting from the interference source: make sure ALL the case screws on your PC are tight. This makes a big difference. Route the power cord as far from the receiver as possible. Use a power filter between the PC cord and the wall (Tripp-Lite ISOBAR or similar). Plug the receiver into a different outlet, if possible. Separate the receiver and the PC as far apart as you can. Loop the signal cable connecting the two units through a large ferrite toroid several turns. If you are using an unbalanced antenna line, make sure it is well shielded.

If you still can't copy weak signals, you may have to change either the receiver or the PC. I have found that older PCs and newer rigs have less interference problems. Now I use a GENUINE IBM PC (4.77 MHz) and an IC-751A and have no interference at all (except on harmonics of 4.77 MHz!). Newer, faster, cheaper computers generate much more RFI.

Good luck ... Pierre (no, I don't speak french :-)
---
de KA2QPG | Pierre Thomson | internet: pierre%wcrest@kd3bj.ampr.org

918. Re: Changing freq. of xtal

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 14:41:02 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <795367945.AA00737@hamlink.mn.org>
Source record: 113928

Hi Joe,
AHHHHHH the 60's! When Hams were Hams and ..... Anyway, I think I remember the same article. Could it have been in an April issue? I have some old FT style rocks in the junk box and am tempted to try this. I'll post if so... I also want to make my own tube sometime...homebrew 807's yeah that's the ticket!
72 Bob Liesenfeld WB0POQ

919. Re: MC 1350 AGC resistors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 14:48:28 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1995Mar16.144828.18159@schbbs.mot.com>
Source record: 113918

The AGC voltage on the MC1350 is specified as useful in a range from 5 to 7 volts, 5 volts being maximum gain (50 to 60 db), 7 volts being minimum gain (up to a 10 db net loss).

Although everyone talks AGC voltage (using the standard 5K resistor to feed agc to the MC1350), what is really important is the AGC input current. Max gain is 5v, at a current of 0.1 ma, Min gain is 7v at 0.2 ma.

However, more important than this is the fact that at max gain, the *noise figure* of the device is 6-8 dB (50 to 60 MHz), whereas at 30 dB gain reduction (about 6.25v), the noise figure is way up to *22 dB*, extremely noisy indeed.

Therefore, if two MC1350s are ganged together, it is prefered to run the first one with less AGC gain reduction than the second in order to keep the overall noise figure for the IF amp reasonable. This is usually done by increasing the resistance for the AGC feed to the first amp (10K) so that less gain reduction is done by that stage, and more is done by the second stage where noise figure is no longer a consideration due to the gain of the stage(s) in front of it.

- Dan Tayloe, WB0NVB, Phoenix, Az

920. Help reading schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 14:59:21 UTC
From: jbadger@poplar110.cray.com
Message-ID: <1995Mar16.085921.17587@driftwood.cray.com>
Source record: 113919

This may be a really stupid question so please keep your flames to yourself...

I have a schematic listing several components with typical R values like 56k,
470R, etc. but some are listed as 3k3, 4k7 and 5k6.

Q1 = what does the 4k7 and 3k3 style of notation represent?

The caps are the same with some listed as 1nf, 10uF, 27p, etc. but others are
listed as 2p2, 2u2 and n39.

Q2 = what does the 2p2 and n39 style of notation represent?
Q3 = how do I know which type of cap to use?
(might this be what the notation represents)

Thanks in Advance!
Jon

921. Re: Dualband HT HELP??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 15:42:20 UTC
From: jdevenport@lanl.gov
Message-ID: <3k9m8s$kj4@newshost.lanl.gov>
Source record: 113936

In article <60.5064.3290.0N1D5259@canrem.com>, chris.smart@canrem.com (Chris Smart) says:
>
<snipo>

Your reasons for wanting 440 vs. 2 meters interest me since my experience tells me that RFI and QRM and intermod are much WORSE on 440 than on 144 in the "big" cities I get to once in a while (Albuquerque, Denver, Phoenix).
This is, I assume from my commercial 2-way background, because there is MUCH more repeater activity in the commercial 450-470 band just above the 440 ham band than in the 150-174 MHZ VHF public service band. There are just almost NO VHF commercial repeater pairs available while there are lots in the 450-470 band. Thus, there are lots of community repeaters and individual repeaters on the mountaintops and every tall building generating RF of varying levels 450-470 while most of the commercial VHF activity is simplex, with few mountaintop transmitters. Thus, while HAM activity in most areas is heavier on VHF (2M) than UHF (440) the interference and garbage I hear are worse on 440, at least when I get close to a city.
Now, to answer your question, the only rig I PERSONALLY know of that fills all your requirements easily is the Kenwood TH-78A or 79A, but the keypad entry involves more than just dialing in the right frequency via the keys. I always thought thumbwheel switches were better in this regard (that is, being able to find what frequency you're on without seeing the numbers). But no current rigs I know of have thumbwheels anyway. Matter of fact I believe you MUST be able to see the screen display on current rigs to do much of anything, especially frequency and tone entry etc.
I don't think it has 4-5 watts either... there are several single band ht's offering that kind of power but I don't know about dual banders.
In the Southwest we don't have the crowding problems on 2 meters that drive many to 220 and 440 so the main reason I MYSELF like 220 and 440 is the availability of remote bases and repeater linking on these bands. Being able to work HF SSB, high power long distance 2 meters, etc, all with a shirt pocket FM HT, is lots of fun. That's what I value 220 and 440 for. Just my opinion. 73.....

922. Re: FM transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 15:48:19 UTC
From: jdevenport@lanl.gov
Message-ID: <3k9mk3$kj4@newshost.lanl.gov>
Source record: 113937

In article <3k63r7$o5m$1@mhadf.production.compuserve.com>, Stop the Fighting, Increse the Peace <71333.2125@CompuServe.COM> says:
>
>Where can I get a FM transmitter, specifically to hook up to my
>portable CD player? Please e-mail to me since I don't read this
>newsgroup.
<SNIP>
Try Ramsey Electronics, they have a little "FM Broadcaster" that sounds really good (mono) and I believe they also offer a slightly higher priced stereo version (20 bucks or so).
RAMSEY ELECTRONICS
793 Canning Parkway
Victor NY 14564

1-800-446-2295 orders only
716-924-4560 other calls
FAX (716) 924-4555

73....

923. Re: Question: Litterature on crystal filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 16:51:45 UTC
From: d.diamond@trl.oz.au
Message-ID: <d.diamond.184.0010DD50@trl.oz.au>
Source record: 113922

In article <Pine.SUN.3.90.950309153223.7968B-100000@aristotle.algonet.se> Teodor Vaananen
<teodor@algonet.se> writes:
>Path:
>newsserver.trl.OZ.AU!harbinger.cc.monash.edu.au!msunews!uwm.edu!spool.mu.edu!how
>land.reston.ans.net!pipex!sunic!sunic.sunet.se!nic.tip.net!news.algonet.se!usene
>t
>From: Teodor Vaananen <teodor@algonet.se>
>Newsgroups: rec.radio.amateur.homebrew
>Subject: Question: Litterature on crystal filters
>Date: Thu, 9 Mar 1995 15:43:10 +0100 (MET)
>Organization: AlgoNet Public Access Node, Stockholm
>Lines: 17
>Message-ID: <Pine.SUN.3.90.950309153223.7968B-100000@aristotle.algonet.se>
>NNTP-Posting-Host: aristotle.algonet.se
>Mime-Version: 1.0
>Content-Type: TEXT/PLAIN; charset=US-ASCII

>Hi!

>I've been looking for quite some time for litterature describing
>how to build crystal filters of the more advanved kind (>6 Xtals).
>I'm specifically interested in litterature that describes how to
>calculate theoretical bandwidth, response, frequency etc., and
>of course, do's and don't's.
> 73 de SM0TVI/Teodor
>PS Yes, the callsign IS real!

> Teodor Vaananen <SM0TVI>
>

Teodor, look up;

"Designing and Building Simple Crystal Filters"- Heywood, W7ZOI QST July '87.

"Switchable Bandwidth Crystal Filter"- Pivnichny, N2DCH Ham Radio (USA) Feb.
'90.

"Twin Crystal Ladder Filters"- Pivnichny, 73 Amateur Radio Jan. '93.

"A Unified Approach to Design of Crystal Ladder Filters" Hayward QST May '82.

Also check out the new (6th Ed.) RSGB "Communications Handbook" pp 5.42-5.46.

73, Drew, VK3XU. Telecom Australia Research Laboratories.

924. Re: What is Q-Dope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 16:59:57 UTC
From: Larry Kenan <larry.kenan@SanDiegoCA.NCR.COM>
Message-ID: <D5JLvy.A2z@lcpd2.SanDiegoCA.ATTGIS.COM>
Source record: 113923

>In article <3k6pus$4ps@bcrkh13.bnr.ca> Dave Ward writes:
>I am building a simple direct conversion receiver from W1FBs QRP Notebook
>and he mentions coating the oscillator inductor with polystyrene Q-Dope.
>
>My question is, What is this stuff, What does it do (i.e. do I need it),
>and where can I get some?

Q-Dope is just polystyrene disolved in a sovent that will evaporate in air. It is used to hold the windings on a coil form. Polystyrene does not adversly effect the Q of the coil.

If your coil is mechanically stable, you don't need to use it.

It is manufactured by General Cement (GC) and can be purchased from electronics parts distributors.

Larry Kenan - KD6CKR/AA

925. Re: 6 meters/transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 18:02:59 UTC
From: braidich@iccgcc.cle.ab.com
Message-ID: <1995Mar16.130259.1@iccgcc.cle.ab.com>
Source record: 113920

I built my Ten-Tec Xverter in Oct. Works great. No TVI. I use mine
with a 100 watt xcvr & home brew attenuator. Well worth the money.
GL & 73 George, WA8VFA

926. Re: What is Q-Dope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 18:12:57 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-1603951312570001@k4dii.ksc.nasa.gov>
Source record: 113924

In article <3k9jn8$d07@mrnews.mro.dec.com>, randolph@est.enet.dec.com (Tom Randolph) wrote:
> RF. "General Cement Q-Dope" is the trade name, and many electronics mail-order
> houses sell it. I've had good results using plain old polyurethane varnish,
> the type you seal up wood with. Measured Q remained above 200 on the one coil I
> tested.

Tom-

Polystyrene is used because it has a high Q over a wide range of frequencies. It seems that some other dielectric materials are "frequency selective", and can even get hot at their worst frequency.

An example of a poor dielectric choice for RF, is ordinary PVC pipe. At some frequencies it is good, but not at others.

73, Fred, K4DII

927. Phasing SSB Generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 18:13:04 UTC
From: braidich@iccgcc.cle.ab.com
Message-ID: <1995Mar16.131304.1@iccgcc.cle.ab.com>
Source record: 113921

Has anyone built and can comment on the "Experimental Phasing SSB generator" in the (ARRL) W1FB's QRP notebook? 73 George WA8VFA

928. Re: Help reading schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 18:35:27 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-1603951335270001@k4dii.ksc.nasa.gov>
Source record: 113925

In article <1995Mar16.085921.17587@driftwood.cray.com>,
jbadger@poplar110.cray.com (Jon Badger) wrote:
> I have a schematic listing several components with typical R values like 56k,
> 470R, etc. but some are listed as 3k3, 4k7 and 5k6.

Jon-

Although I have seen the "2p2" shorthand nomenclature before, I don't think it is common. The letter is located where a decimal point would go, and indicates what the units are. In your examples, 2p2 would be 2.2 pF, 2u2 would be 2.2 micro Farads and n39 would be 0.39 nF (which equals 390 pF). Resistors listed as 3k3 would be 3.3 k Ohms, 4k7 would be 4.7 k Ohms and 5k6 would be 5.6 k Ohms.

I would guess that 470R was 470.0 Ohms, and it might be used when a more precise value was needed. There is certainly no need to add the ".0", for a 5 or 10 percent part!

As far as "which cap to use", I think the 2p2 is exactly the same capacitor as the 2.2 pF, et cetera.

73, Fred, K4DII

929. Re: Anyone have any MMIC amps to sell???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 20:44:49 UTC
From: Alf Green <alf>
Message-ID: <3ka801$h8n@adm09.iac.honeywell.com>
Source record: 113926

snorris@trumpet.aix.calpoly.edu wrote:
>
> I'm looking for a few MMIC amp like the MAR-3SM, MAR-3, RAM-3, or
> anything similar. Anything that's really small, has a gain of about 12dB,
> runs from 5V, has a 1dB compression point of +7dBm or higher. If anyone
> has a few they would be willing to sell, please e-mail me. I need a few
> for my senior project, and they're tough to come by in such small quantities.
>
> thanks,
>
> Sean
>
> ---
> Sean Norris snorris@trumpet.aix.calpoly.edu
> --KE6BTE-- Loyalty, above all else.
> ---
>
> ---
>

You can order small quantities from their distributors using a credit card.
I've done this a few times for their MMICs and Mixers.
Call them at 1-800-654-7949

Good luck, Alf NU8I/G4ABB

alf@agren.iac.honeywell.com
Phoenix AZ

930. Re: What is Q-Dope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 21:23:19 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <795388999snz@lfheller.demon.co.uk>
Source record: 113932

In article <3k6pus$4ps@bcrkh13.bnr.ca> dward@nbvws105.bnr.ca "Dave Ward" writes:

> I am building a simple direct conversion receiver from W1FBs QRP Notebook
> and he mentions coating the oscillator inductor with polystyrene Q-Dope.
>
> My question is, What is this stuff, What does it do (i.e. do I need it),
> and where can I get some?
>
> Thanks in advance.

I think you can make the stuff yourself by dissolving polystyrene in a
suitable solvent; 1:1:1 trichloroethane would probably work quite well,
as it evaporates quickly, if you can get it. Make sure you have plenty
of ventilation if you do this.

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

931. Re: What is Q-Dope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-16 22:41:24 UTC
From: kludge@netcom.com
Message-ID: <kludgeD5K1p0.8Dn@netcom.com>
Source record: 113927

In article <3k7l11$mjd@newsbf02.news.aol.com> tgxydis@aol.com (TGXydis) writes:
>Q-Dope is Polystyrene which is dissolved into some solvent usually an
>acetone. You can buy it at most electronics outlets which cater to TV
>repairmen and the like. It is sold under the name Q-Dope, by more than a
>few companies.
>
>Actually I have known people who have made it by taking model glue
>(airplane glue) and thinning it out with more solvent.

This doesn't work very well. You get a much better dielectric if you get
a glass of toluene and dissolve styrofoam cups into it until you get the
appropriate thickness. I've been using it for years with good quality into
the VHF regions.
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

932. subscribe

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 00:20:03 UTC
From: scott.THomas@circellar.COM
Message-ID: <9503161920.0R5TF01@circellar.com>
Source record: 113929

```
subscribe ham-homebrew
```

933. Re: High power DC/DC conv. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 02:49:10 UTC
From: clarke@acme.ucf.edu
Message-ID: <3katb6$6c1@news.cc.ucf.edu>
Source record: 113930

I was thinking about the 12 (or 24) volt to kilovolt trasnformation as a way to avoid 220 VAC. A couple of big car batteries can put out a kw or more intermittently.

I was thinking of working at high frequency, 100's of kHz like a switching powere supply. This would make the tranformer small. To avoid the need for high current transistors and in the attempt to find off the shelf components, I thought of the ubiquitous PC power supply. They contain transformers that go from 220 v (when in 220 mode) to 12 volts. Ten of these run in reverse and wired in series would give you a couple of kV. The PC supplies are rated at 200 watts or so, so 10 would also supply a kW or two without major overload. You would have to hope the insulation was good for the voltage, though.

I'm a long way from tryinng this, however, and wiring ten sets of transistors/transformers would be a bore. Depending on the switching supply compoenets, if you were operating on 160m, you might have a power supply working at a higher frequency than your final :-)

Tom Clarke
KE4VFH

934. Re: Idiom Press CW keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 09:27:16 UTC
From: gordy@gbscomms.win-uk.net
Message-ID: <223@gbscomms.win-uk.net>
Source record: 113934

In article <4ba_9503132204@woodybbs.com>, Tom Hammond
(Tom.Hammond@f67.n289.z1.fidonet.org) writes:
> ....
>IG>Idiom Press, Box 1025, Geyserville, CA 95441-1025
> ....
>
>The address as you present it appears to be correct. However, I cannot
>confirm the last four digits on the ZIP code ("-1025"). Only the forst
>five are published.

the "-1025" is simply the box number tagged on the end of the zip code, for quicker sorting at the destination post office. It isn't essential if you don't want to use it.

--
SIGint, geddit?

935. 2800 Mhz RCV XVRTR

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 10:16:37 UTC
From: bcieslak@mkelan5.remnet.ab.com
Message-ID: <bcieslak.84.000A46E0@mkelan5.remnet.ab.com>
Source record: 113939

I need some help building a 2800 Mhz -> 2 M Receive converter for the radio telescope project I am working. I just received the ARRL UHF and Microwave Projects Manual and they basically tell you how to build up several kits from Down East Microwave but don't really give the meat and potatoes on how to design one yourself. Is it possible to modify the the 2304 MHz Converter or the 3465 MHz converter to 2800 Mhz by just changing the LO and trimming some micro striplines on the board?

Is an interdigital filter a converter?

Does anyone have a design or resource suggestion on how to build an xvrtr.

Brian
AE9K

936. Re: Question: Litterature on crystal filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 10:50:55 UTC
From: d.diamond@trl.oz.au
Message-ID: <d.diamond.185.000AD98D@trl.oz.au>
Source record: 113933

>I've been looking for quite some time for litterature describing
>how to build crystal filters of the more advanved kind (>6 Xtals).
>I'm specifically interested in litterature that describes how to
>calculate theoretical bandwidth, response, frequency etc., and
>of course, do's and don't's. Is there anyone here that knows some
>good books on the subject, or maybe even knows a ftp site with
>such info.
> 73 de SM0TVI/Teodor
>PS Yes, the callsign IS real!

> Teodor Vaananen <SM0TVI>
> ICBM: N 59.3180 E 18.0365 <JO99AH>>
Voice: +46 8 669 3241> E-Mail: <teodor@algonet.se>,
<teodor@proxxi.uf.se>

Teodor, see also RSGB "Radio Communications Handbook" (6th ed.) pp 6.22-6.30.

73, Drew, VK3XU. Telecom Australia Research Laboratories

937. Re: paraffin/kerosene etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 12:42:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1154.546@acenet.com>
Source record: 113938

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

If you want to send me your E-mail address, I can send you my complete
book on American English to Standard English conversion!

DS>: I had no idea that a simple word like 'paraffin' could cause such confusio
DS>: W7EL is correct in his explanation. I repent in sackcloth and ashes for no
DS>: making clear what I intended in the first place.

DS> Our venture scout group on an expedition to the French/Swiss border
DS>regions tried (no-one spoke fluent French, Italian or German..) to
DS>buy "Paraffin" for their Primus type cooking stoves... they thought they
DS>were doing well until the shopkeeper started producing blocks of wax :-)

Meantime, I don't think I'll be trying diesel fuel in the paraffin
heater here!!

73 de AF4K, ex-G3XLQ, QRP-L

```
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|\| (o)(o) |/|
---.OOOo----oo----oOOO.---
| |
| Brian Carling |
| Radio AF4K |
| Gaithersburg, MD |
| |
| brian.carling@acenet.com |
| .us |
|_____________Oooo._____|
.oooO ( )
( ) ) /
\ ( (_/
\_)
```

• SLMR 2.1a • My family thinks I am WORKING on this computer! He he!

938. Help reading schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 13:45:05 UTC
From: dcadd@luc.ac.BE
Message-ID: <9503171345.AA24951@alpha>
Source record: 113935

Greetings, Jon, from a wet and miserable Diepenbeek in N.E. Belgium!

The placing of the symbol, whether k, p, n, u or whatever, does away with the decimal point. Thus, 3k3 = 3.3k, n47 = 0.47n, I'm sure you get the idea. Good luck with the construction or what-have-you!

TTFN,
Duncan ON/G0UTY G-QRP 8117
IMO/SBG,
Division Organic Chemistry,
Limburgs Universitair Centrum,
B-3590 Diepenbeek,
Belgium

939. Re: VGA to NTCS schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 14:46:56 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Mar17.144656.1270@ke4zv.atl.ga.us>
Source record: 113941

In article <D5IMwH.L28@crash.cts.com> forsberg@crash.cts.com (Bruce W. Forsberg) writes:
>I was wondering how easy or difficult it would be to build a VGA (640 X
>480) to NTCS adapter for ATV. Does anybody know if there have been any
>projects in magizines or are there any kits around ?
>
> Thanks, Bruce WB6IZG

There are a number of commercial converters available fairly inexpensively,
but it's not hard to roll your own. The hard part is in the software driver
to tune the dot clocks of the VGA card to approximate NTSC timing. You can't
get RS-170A without a full standards converter (expensive), but you can get
something close enough to work with most VCRs and TVs.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

940. solar flare monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 16:30:40 UTC
From: S.J.R.Wadeson@bradford.ac.uk
Message-ID: <1995Mar17.163040.942@bradford.ac.uk>
Source record: 113940

Has anyone made a solar flare monitor as described by P.O.Taylor in his book
` observing the sun '. I am having problems obtaining the components in
England and I'm wondering if anyone has done a similar set up over here,
Thanks!!!!

941. Need FT-736R CAT program ! HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 17:26:41 UTC
From: tony@gcr1.com
Message-ID: <3kcgho$nj9@tetsuo.communique.net>
Source record: 113943

Anyone know where i can find a CAT program for the FT-736R
I just built a rs-232 interface, but have no way to test the sucker out yet ..
-
Anyone know any good BBS numbers that would have something like this ?
Or a FTP site ...?

942. Re: Help reading schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 18:08:10 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <3kcj6aINNjtl@sepia.wv.tek.com>
Source record: 113942

In article <1995Mar16.085921.17587@driftwood.cray.com> jbadger@poplar110.cray.com (Jon Badger) writes:
>
>This may be a really stupid question so please keep your flames to yourself...
>

Nope, not a stupid question at all....

>I have a schematic listing several components with typical R values like 56k,
>470R, etc. but some are listed as 3k3, 4k7 and 5k6.
>
>Q1 = what does the 4k7 and 3k3 style of notation represent?
>

4700 and 3300 ohms respectively.. (4K + 700 and 3K + 300; or 4.7K and 3.3K)
The reason for this nomenclature is that decimal points sometimes are lost
in printing, wear, or photocopying. By printing 4k7, you can usually always
make out the characters easier.

>The caps are the same with some listed as 1nf, 10uF, 27p, etc. but others are
>listed as 2p2, 2u2 and n39.
>
>Q2 = what does the 2p2 and n39 style of notation represent?

Same type of thing... 2.2pF and .39nF

>Q3 = how do I know which type of cap to use?
> (might this be what the notation represents)

The value syntax is covered above. If you mean disc cap, electrolytic,
tantalum, plastic, etc. that takes some assumptions. If the caps are
used in an oscillator, use the best disc caps (npo,etc.) or plastics
you can find. If they are used in audio, filtering, etc. I use cheaper
disc caps, electrolytics, etc. Temperature stability is more important
in an osc. section than in audio. Bulk C is more important in filtering
unwanted noise from a supply. Accuracy is more important in an RF
filter section. Good luck Jon.....

Ed Burress
KC7GFX

943. VHF amp low output mystery

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 18:55:18 UTC
From: jdc@cci.com
Message-ID: <D5LLw6.CBC@sunsrvr6.cci.com>
Source record: 113944
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

A friend has a 2-meter 120-watt power amp that appears to have very little gain. When measured with a SWR meter it shows about 1.2 times the input reading. Replacing a couple of the fixed caps with trimmers gave a little more gain, but not much. The input SWR is fairly low.

It draws 12 amps from 12 volts, about normal for that amp. It generates a lot of heat, too. There is almost no current draw when not transmitting; it is a class-C amp.

Based on the current draw it seems like something is going on. Could there be some terrible mismatch on the output? Perhaps all the power is reflected back into the transistors and turned into heat. After all, 12 amps * 14 volts is almost 170 watts, and it looks like we're getting 40 or so watts out for 25 watts in.

Any ideas? It was a $50 special from Dayton ("works great"), and it would be nice to get it going.

73...Jim N2VNO

944. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 19:11:40 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_795467320@rtfm.mit.edu>
Source record: 113945
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

```
Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb,
rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet
mailing list counterparts and complements. It is intended to serve as a
guide for the new reader on what to find where. Questions and comments may
be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at
jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October
1994 to add the discussion of non-Usenet mailing lists and streamline most
of the history discussion, and to change the moderator information for
rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list
for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions
were held on the mailing list, and sent to the mailboxes of those who had
signed up for it. When the Usenet software was created, and net news as we
now know it was developed, a newsgroup was created for hams: net.ham-radio.
The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became
progressively higher. First one by one, and then as part of two
reorganizations, what was once one group became many. In the process,
developments elsewhere on the net were reflected in the groups as they were
created, most notably the change to place all of the ham radio groups in one
hierarchy.

The collection of newsgroups continues to grow as more people join the net,
and as more topics of discussion gain volume, I expect to see more groups be
created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the
notable exception being rec.radio.swap. There are also a few mailing lists
that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them,
and not to the groups that aren't. The whole idea of having different
```

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

945. Pin out for ICL 7107 LED Volt Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 21:04:30 UTC
From: rdewan@uhura.cc.rochester.edu
Message-ID: <1995Mar17.210430.12815@galileo.cc.rochester.edu>
Source record: 113946

Could some one please send me the pin out for ICL 7107
that is used as a voltmeter a/d 7 segment led driver.
I ordered the chip from digikey to incorporate in a
digital display swr meter. I have not been able
to locate the data sheets or pin-outs. The CMOS cook
book has most of the pinouts, but no details on how the
segments map to the IC pins.

Any help would be appreciated.

Rajiv
aa2ui

946. Re: Pin out for ICL 7107 LED Volt Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-17 23:18:23 UTC
From: rdewan@uhura.cc.rochester.edu
Message-ID: <1995Mar17.231823.19024@galileo.cc.rochester.edu>
Source record: 113947

I got the pin outs. Thanks. de ɪaj aa2ui

947. Shielded loop?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 01:06:21 UTC
From: dquick@maroon.tc.umn.edu
Message-ID: <D5M333.MsD@news.cis.umn.edu>
Source record: 113948

I'm looking for plans/info on building a shielded loop receiving
antenna for 40 & 80 meters.

Thanks;

948. Re: Instruments required for QRP building

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 02:19:12 UTC
From: Frank Flynn <fflynn@delphi.com>
Message-ID: <xe+a2JI.fflynn@delphi.com>
Source record: 113951

William Barnes <wbarnes@earth.geology.ubc.ca> writes:

>starting to get enthused again and would like to dip my toes into the
>QRP waters, hopefully without encountering any piranhas. At present my
>equipment is limited to a good digital multimeter, but I realize I'll
>have to acquire or have access to a frequency counter and 'scope. What
>else will I need? I would like to get into this without ending up
>spending as much as I would on a top of the line HF transceiver. I

I built a qrp transciever for 40 meters, my only eq. was a reciever, VOM
and a soldering iron. Qrp transmitters are quite simple and therefore
easy to construct. If you have a reciever already, try a small crystal
controlled transmitter for starters, you can use the rx to verify the
transmit freq, and the meter to determine the transmitter power.
It's not as hard as you think, don't be afraid to go ahead and homebrew
it from scratch. If you think you need to go the kit route, Ramsey
electronics is one that I would reccomend. You can call Ramsey at
800 446 2295. No, I am not affiliated, just one of their satisfied costomers.
BTW, my 40 meter rig was "from scratch".
Frank KM1Z

949. Re: Building radio into computer - need advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 02:45:19 UTC
From: Frank Flynn <fflynn@delphi.com>
Message-ID: <Bg5a2VX.fflynn@delphi.com>
Source record: 113952

Larry Kenan <larry.kenan@SanDiegoCA.NCR.COM> writes:

>There is a there is a ham transceiver on the market that is built on a pc board.
>I forget the manufacturers name but I have seen it demonstrated, and it works.
>The board is very well shielded to avoid the interference. The transmitter
>output
> is 100 mw. so you use it to drive an external power amp.

sounds cool, with the right kind of sheilding I'm sure it can work. I don't
mean to say it's impossible, in fact, the pc would be ideal for controlling
a radio of any kind. I thought about using one of the digital synth chips
on a PC card a couple of years ago, an idea for a reciever in 73 mag
inspired me, I did not carry it out however. The older pc's seem to be
better for use as computers in the shack because of the slow clock speed.
The original XT had a clock of 4.77 mhz. although it may create rfi, perhaps
not as much as something newer, also, the older machines may have had better
shielding. I am curious to know the name of the "transciever in a card"
manufacturer. 73's.
Frank KM1Z

950. Re: FM transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 02:50:48 UTC
From: Frank Flynn <fflynn@delphi.com>
Message-ID: <BC6aOfQ.fflynn@delphi.com>
Source record: 113953

Stop the Fighting, Increse the Peace <71333.2125@CompuServe.COM> writes:

>Where can I get a FM transmitter, specifically to hook up to my
>portable CD player? Please e-mail to me since I don't read this
>newsgroup.
>
>Thanks,
>
>MS

Ramsey electronics has a great kit that will transmit in **Stereo**, any audio that you feed it. It will output about 20 mw, this may not sound like much, but it's enough so that you can hear it on a "walkman" anywhere in my house. Call them at 800 446-2295. I don't work for them, but I have this kit and I am rather impressed with it.
Frank KM1Z

951. Re: Help reading schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 08:44:36 UTC
From: gordy@gbscomms.win-uk.net
Message-ID: <230@gbscomms.win-uk.net>
Source record: 113949

In article <>, Fred McKenzie (frederick.mckenzie-1@kmail.ksc.nasa.gov) writes:

>Although I have seen the "2p2" shorthand nomenclature before, I don't
^^^^^^^
>think it is common. The letter is located where a decimal point would go,
^^^^^^^^^^^^^^^^^^^

I've worked for a few firms here in europe where it it the ONLY approved way of annotating diagrams. I fell foul of this (once) and still have an "official bollocking letter" to prove it. It's quite common in the UK, and I use it 99pc of the time myself. The reason the decimal point or 1000 grouping is represented this way is that decimal points sometimes "disappear" on poor photocopies, faxes and litho reproductions. The letter form is much easier to make out.

Gordy

PS when putting them into a calculator, for example 2p2 becomes 2.2e-12
the "pico" takes the place of the decimal point, and aslo signals the "e-12"
some students take to this easier than 0.0000000000022 F (or thereabouts)

--
SIGint, geddit?

952. Re: solar flare monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 08:47:22 UTC
From: gordy@gbscomms.win-uk.net
Message-ID: <231@gbscomms.win-uk.net>
Source record: 113950

In article <1995Mar17.163040.942@bradford.ac.uk>, SJR WADESON
(S.J.R.Wadeson@bradford.ac.uk) writes:
>
>` observing the sun '. I am having problems obtaining the components in

what components do you need? I haven't seen the article but if you're really stuck I can have one of the store lads have a dig in the catalogues.

Gordy

--
SIGint, geddit?

953. Need Help Repairing Ramse

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 13:59:00 UTC
From: Sam.Barrett@f429.n326.z1.fidonet.org
Message-ID: <4d8_9503182301@woodybbs.com>
Source record: 113963

MAG>I'm having problems with my Ramsey FX-146 2-meter transceiver, and would li
MAG>advice from someone more experienced. It seems to work OK on receive,
MAG>but it will only transmit for a few seconds before the power drops to zero.
MAG>It looks like the PLL is unlocking. The signal at the output of the
MAG>prescaler seems to about double in frequency when this happens.

This may not be appropriate in your case, but you didn't mention if you had called Ramsey for support. I have built their stuff off and off for several years (I think my shack clock came from them in 1978). They have always been pretty good on the phone to help talk through a problem.

.........Later...
......Sam......

73, de Sam, WA5RPP/1
Presque Isle, ME
WA5RPP @N1CHF.PQ.CAN.NOAM

---
* SLMR 2.1a * CQ CQ CQ de WA5RPP
--
|Fidonet: Sam Barrett 1:326/429
|Internet: Sam.Barrett@f429.n326.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

954. Re: Building Radio Into C

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 13:59:00 UTC
From: Sam.Barrett@f429.n326.z1.fidonet.org
Message-ID: <4d9_9503182301@woodybbs.com>
Source record: 113964

FF>>I'm building an interface card for an IBM 486 as a school project. The
FF>>card would be a radio frequency tuner that would be controlled by a
FF>>window on the display. I want to include the standard FM band (I have a
FF>>commercially made card that does this already), but would like it to
FF>>tune 1 or 2 more bands that would be of interest to an average PC user

FF>It is a good idea exept for one thing. The computer is a notorious generator
FF>of RFI, radio frequency interference. Sometimes when I am trying to listen

Well, it must be able to be done in some fashion. I have noticed in the
Tucker Electronics catalog that they offer a computer with a radio built
in for packet operation. One major difference is that the radio is a
discrete unit and only resides in a shelf in the computer case. I agree
that shielding and eliminating RFI is going to be a major headache.

Good luck.

73, de Sam, WA5RPP/1
Presque Isle, ME
WA5RPP @N1CHF.PQ.CAN.NOAM

---
* SLMR 2.1a * CQ CQ CQ de WA5RPP/1
--
|Fidonet: Sam Barrett 1:326/429
|Internet: Sam.Barrett@f429.n326.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

955. Re: 2800 mhz rcv xvrtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 14:21:43 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <795537387.AA00763@hamlink.mn.org>
Source record: 113957

BB>From: bcieslak@mkelan5.remnet.ab.com (Brian C.)
BB>Newsgroups: rec.radio.amateur.homebrew
BB>Subject: 2800 Mhz RCV XVRTR
BB>Organization: Allen-Bradley
BB>Message-ID: <bcieslak.84.000A46E0@mkelan5.remnet.ab.com>
BB>Date: Fri, 17 Mar 1995 10:16:37
BB>
BB>I need some help building a 2800 Mhz -> 2 M Receive converter for
BB>the radio telescope project I a
Hi Brian,
I too am kicking around some ideas for a RT. Wonder why you picked that
freq? Are you thinking of the neutral Hydrogen line? I would be
interested to exchange ideas with you. As for your question regarding
the filter, it is a type of cavity filter that utillizes metal "cans"
with rods or "digits" which protrude in the can to establish resonance.
Should be some info in the ARRL handbook on them.
GL es 72 Bob Liesenfeld
WB0POQ

956. Re: paraffin/kerosene etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 18:42:25 UTC
From: gcouger@jsun.okstate.edu
Message-ID: <3kf9ih$155h@bubba.ucc.okstate.edu>
Source record: 113954

In article <3kdpau$42e@vixen.cso.uiuc.edu>,
Zack Widup <w9sz@prairienet.org> wrote:
>
>In a previous article, gcouger@jsun.okstate.edu (Gordon Couger) says:
>>
>>...(deleted)
>>
>>To be really pickey paraffin based oils are straight chain hydrocarbons as
>>contrasted to ring hydrocarbons such as benzine. I am not sure I remember
>>but I also think they are single bond carbon chains. The names go
>>methane, ethane, propane, butane, pentane, heptane, sextane(?) 7(?), octane,
> ^^^^^^^^^^
> hexane
> (a.k.a. benzene)
Thanks for the right name. Hexand and benzene are not the same compounds.
Benzene has three double carbon bonds and froms a ring. Hexane has
no double bonds and is a straigh chains. Benzene also crystalizes at
5 deg C.

This is getting pretty of base for a ham group.

Gordon
> Zack W9SZ
>

957. WTB: KNWD YK-88C-1

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 19:40:20 UTC
From: artmoe@agora.rdrop.com
Message-ID: <D5nInA.KKv@agora.rdrop.com>
Source record: 113958

Have you replaced your KENWOOD YK-88C-1 500hz filter ??????

Please sell it to me.

--
..._._
73's
Arthur Moe Oregon City, Or
A.R.S. KB7WW 45-19-22 N 122-36-37 W CN85
artmoe@agora.rdrop.com At the end of the Oregon Trail

958. 32kHz oscillator drives me nuts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-18 21:14:07 UTC
From: Sbehrens@contech.demon.co.uk
Message-ID: <262116784wnr@contech.demon.co.uk>
Source record: 113956

Hello,

my apologies if this is the wrong group: This has really nothing to do with radio. It has to do with an oscillating circuit that I am trying to homebrew, so I hope I am not entirely off-topic.

The situation is this: I have before me a counter that should count from 0 to 15 and then wrap around at a frequency of 32kHz. The problem is: It doesn't. For some reason yet unknown to me the oscillator part of the thing is oscillating at a rather higher frequency, around 100kHz in one layout, and something in the MHz in another.

Here is what was originally suggested by the article:

```
32kHz C, 22p
+--|O|--+--||---+
| | |
| | |
+--|>---+--|>---+--|>--->> to CLK of LS161
| LS04 | LS04 | LS04
| | |
+--===--+--===--+
470R 470R
```

This swings somewhere in the MHz range (don't remember exactly where). The authors of the gadget readily admitted that they had never tested the timer and that it did indeed not work. So, a friend gave me this advice:

```
+--|>---+--|>---+--|>--->> to CLK of LS161
| HCT04 | HCT04 HCT04
| H
| H 220R
| |
+--===--+
| 10M |
| |
+--|O|--+
| 32kHz |
| |
= 2.2n = 22n (both C)
| |
GND GND
```

He particularly insisted on the use of HCT instead of LS. Well, it behaves closer to the mark (somewhere around 100kHz), but it does not

do what I want it to do either. And yes, I have checked that the crystal I use is indeed rated at 32kHz :) (32.768kHz to be exact). In fact, I now have 4 copies of this sitting around, and they all behave weirdly ...

Since I haven't done anything on this for a while and have now moved a couple of k-miles away from said friend, getting help from him is becoming increasingly difficult.

So, if you have any clever suggestions to make, a book to read, a totally different circuit that you know works, anything, basically, then _please_ let me know. This thing is "driving me up the pole", as a collegue of mine would have it.

Yours

Soenke Behrens

--
Standard disclaimer: My opinions are my own, not those of my employer

959. Re: paraffin/kerosene etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 01:16:44 UTC
From: daveb@perth.DIALix.oz.au
Message-ID: <3kg0lspef1@perth.DIALix.oz.au>
Source record: 113959

w9sz@prairienet.org (Zack Widup) writes:

>In a previous article, gcouger@jsun.okstate.edu (Gordon Couger) says:
>>
>>...(deleted)
>>
>>To be really pickey paraffin based oils are straight chain hydrocarbons as
>>contrasted to ring hydrocarbons such as benzine. I am not sure I remember
>>but I also think they are single bond carbon chains. The names go
>>methane, ethane, propane, butane, pentane, heptane, sextane(?) 7(?), octane,
> ^^^^^^^^^^
> hexane
> (a.k.a. benzene)

> Zack W9SZ
>

Please! Hexane is *not* the same as Benzene !!
They both have 6 carbons, however in hexane they are in a signle line,
while in benzene they are in a hexagonal ring. The resulting chemical
properties are quite different.

--
David R. Brooks <daveb@perth.DIALix.oz.au>
Tel/fax. +61 9 434 4280

960. Re: data twta thomson th3655 Siemens yh1022

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 01:27:24 UTC
From: freitag@bonsai
Message-ID: <yXuQl0SX$Bf8063yn@bonsai>
Source record: 113955

In article <estafnl.3.0011505C@euronet.nl>, Arthur_Verjans wrote:
> I'm lloking for data of a siemens twta type yh1022.
>
Try to get the Data from Siemens-- they should know.
In NL try 070 333 33 33 or fax 070 333 27 90.

If this does not help, try to get the tecnical Service in Germany.

89 9221 3133 fon
89 9221 2071 fax

you must take the country number before!

Robert

961. Re: FM transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 01:40:23 UTC
From: PHILLIWL@ctrvax.vanderbilt.edu
Message-ID: <PHILLIWL-1803951940230001@remote3.vanderbilt.edu>
Source record: 113960

In article <3k9mk3$kj4@newshost.lanl.gov>, jdevenport@lanl.gov (Jim Devenport) wrote:

> In article <3k63r7$o5m$1@mhadf.production.compuserve.com>, Stop the Fighting, Increse the Peace <71333.2125@CompuServe.COM> says:
> >
> >Where can I get a FM transmitter, specifically to hook up to my
> >portable CD player? Please e-mail to me since I don't read this
> >newsgroup.
> <SNIP>
> Try Ramsey Electronics, they have a little "FM Broadcaster" that sounds
> really good (mono) and I believe they also offer a slightly higher
> priced stereo version (20 bucks or so).
> RAMSEY ELECTRONICS
> 793 Canning Parkway
> Victor NY 14564
>

Yeah, I just built that stereo kit. It was $29.95 for the guts and another $14.95 for the case. The sound is _excellent_, except for a minor whine from my CD portable (Car Discman). It's a good kit.

Will Phillips
Philliwl@ctrvax.vanderbilt.edu

962. What happened to Heath.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 02:01:14 UTC
From: PHILLIWL@ctrvax.vanderbilt.edu
Message-ID: <PHILLIWL-1803952001140001@remote3.vanderbilt.edu>
Source record: 113961

I'm a bit new to homebrew stuff, so this is probably a stupid question. But I'll ask anyway.

I have always heard of Heath and Heath kits. I see Heath equipment advertised on the net. But I have never seen a Heath ad in 73, CQ, QST, or anywhere else. Does Heath still exist? Are they still making kits? If so, what is their address? Or is there just older equipment that's still kicking around (according to the stories I've heard, Heath stuff aged very well).

Any info would be appreciated.

Will Phillips, KE4ALY
phillIwl@ctrvax.vanderbilt.edu

963. Re: What happened to Heath.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 03:29:49 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-1803952129490001@nb-dyna70.interaccess.com>
Source record: 113875

In article <PHILLIWL-1803952001140001@remote3.vanderbilt.edu>,
PHILLIWL@ctrvax.vanderbilt.edu (Wm. L. Phillips) wrote:
(snip)
> Does Heath still exist? Are they still making kits? If so,
> what is their address? Or is there just older equipment that's still
> kicking around (according to the stories I've heard, Heath stuff aged very
> well).

Heathkit has been out of the consumer and radio amateur, etc., electronic business, Will, for a few years now. I think they are still making computers and some other stuff. Apparently the actual putting together of a piece of electronic gear had become such a small part of its total cost that there was little financial advantage to putting it together yourself. Back in tube days, all of the time spent in hand wiring and soldering was a major part of the cost, and, if you did it yourself, you saved significant bucks.

Apparently there is a place which sells Heath replacement parts, etc. Maybe someone could dig that up for you if you need it.

Dave Moorman, K9SW
Downers Grove, Illinois

Dave Moorman
Downers Grove,
Illinois, USA

964. Sorry about posting to wrong place,

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 05:05:43 UTC
From: artmoe@agora.rdrop.com
Message-ID: <D5o8tK.72H@agora.rdrop.com>
Source record: 113962

Verry sorry to post My wanted to the wrong place. I'll try
not to let it happen again.

--
..._._
73's
Arthur Moe Oregon City, Or
A.R.S. KB7WW 45-19-22 N 122-36-37 W CN85
artmoe@agora.rdrop.com At the end of the Oregon Trail

965. Re: 32kHz oscillator drives me nuts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 11:45:41 UTC
From: joberreu@news.seattleu.edu
Message-ID: <3kh5h5$jou@bach.seattleu.edu>
Source record: 113965

If I were just bashing this out, my first try would be:

```
32khz
------|O|-------- to your divider
| 1/6 7404's |
-|>*-----|>*--
| |
-/\/\-
1k
```

Do it on a breadboard, get yourself a pot and a trimmer cap, and make sure it comes up right when you switch the power on it cold. My usual mistake w/ these is wiring the 7404 backwards... As you can see, there are a million variations on these little clock circuits :). Fox might actaully make a one piece for 32khz if you can't seem to get your own to work. BTW, many crystals will function at two (or more!) frequencies based on how you bias/impedance_match them.

966. Re: 32kHz oscillator drives me nuts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 14:05:13 UTC
From: Joe Rocci <rocci@netaxs.com>
Message-ID: <3khdmp$p0o@netaxs.com>
Source record: 113966

```
>
> +--|>---+--|>---+--|>--->> to CLK of LS161
> | HCT04 | HCT04 HCT04
> | H
> | H 220R
> | |
> +--===--+
> | 10M |
> | |
> +--|O|--+
> | 32kHz |
> | |
> = 2.2n = 22n (both C)
> | |
> GND GND
>
```

Try 22 pf instead of 22nf. Also, try 74HCU04 instead of 74HCT04.

Joe
WA3CMQ

967. Icom T21A Mods -- Where's the Diodes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 14:31:09 UTC
From: gocean@pipeline.com
Message-ID: <3khf7d$uq@pipe3.pipeline.com>
Source record: 113967

I have a T21A which I love dearly except I want to do the mods listed in the technical notes (I'd be happy to snailmail them to you -- send me a #10 SASE with stamps for 2ozs Kevin Cornwell, P.O. Box 444 Hornbrook, CA 96044)

BUT there's no pictorial telling me where D14 & D15 is so I can cut them. They aren't marked in the radio nor on the PCB. Does anybody have a pictorial of their position?

73, Kevin N6ABW

968. What happened to Heath.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 15:22:00 UTC
From: Stephen_Thurber@f239.n109.z1.fidonet.org
Message-ID: <NOMSGID_1=3A109=2F239.0_950319_102200_858615b6@fidonet.org>
Source record: 113868

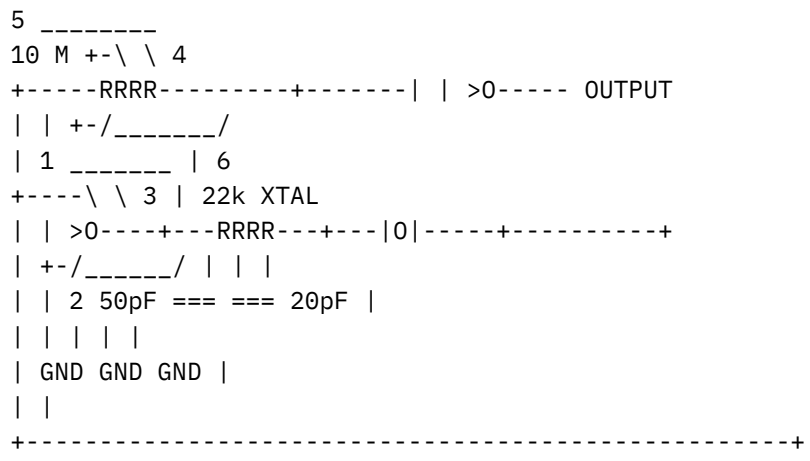
Heath still sells some parts for their old lines of gear and still sells some educational stuff but I understand that they otherwise have discontinued their kit line. It's a loss. I still use two SB104a transceivers as my main h.f. radios.

969. Re: 32kHz oscillator drives me nuts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 18:42:21 UTC
From: pierre@wcrest.uucp
Message-ID: <D5pAMM.DL@wcrest.uucp>
Source record: 113869

Sbehrens@contech.demon.co.uk (Soenke Behrens) wrote:
>
> The situation is this: I have before me a counter that should count
> from 0 to 15 and then wrap around at a frequency of 32kHz. The problem
> is: It doesn't. For some reason yet unknown to me the oscillator
> part of the thing is oscillating at a rather higher frequency, around
> 100kHz in one layout, and something in the MHz in another.
>
> So, if you have any clever suggestions to make, a book to read, a
> totally different circuit that you know works, anything, basically,
> then _please_ let me know. This thing is "driving me up the pole", as a
> collegue of mine would have it.
>

For low frequency circuits I would use CMOS such as the 4001, which is
inherently low-frequency. Any inverter with a 10 Meg resistor across
input to output will function as a high gain amplifier, and will oscillate
nicely if you give it any feedback. With a 4001 a good configuration is:



This is from Don Lancaster's "CMOS Cookbook" (Howard W. Sams publ.)
If you use the "A" series such as 4001A, you can drive a TTL input
directly. A "B" series gate will drive one LS-TTL input.

---
de KA2QPG | Pierre Thomson | internet: pierre%wcrest@kd3bj.ampr.org

970. Re: Help reading schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 20:00:06 UTC
From: krieder@buffnet.net
Message-ID: <3ki2g6$4fl@buffnet2.buffnet.net>
Source record: 113870

Jon Badger (jbadger@poplar110.cray.com) wrote:
: This may be a really stupid question so please keep your flames to yourself...
: I have a schematic listing several components with typical R values like 56k,
: 470R, etc. but some are listed as 3k3, 4k7 and 5k6.
: Q1 = what does the 4k7 and 3k3 style of notation represent?
: The caps are the same with some listed as 1nf, 10uF, 27p, etc. but others are
: listed as 2p2, 2u2 and n39.
: Q2 = what does the 2p2 and n39 style of notation represent?
: Q3 = how do I know which type of cap to use?
: (might this be what the notation represents)
: Thanks in Advance!
: Jon

Jon...
3k3 = 3.3k and 3p3 = 3.3p and n39 = 0.39n

In most places throughout the world you will find
3k3 used in print to avoid the possibility of the
(dot) being lost by the printing and/or recognition
process... which would cause the value to be confused
with 33k. All British and German publications that
I have seen do it that way. There is nothing that
tells you about the type of part. The alphanumeric
character represents the order of magnitude multiplier
and is positioned where the dot is intended to be.

Knowing what type of part to use will depend on how
much $$$ you want to spend and how stable or reliable
the device needs to be... how well it needs to perform.

Hope this helps.

Kurt... n2tte

971. Re: 32kHz oscillator drives me nuts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 20:34:48 UTC
From: Sbehrens@contech.demon.co.uk
Message-ID: <870576918wnr@contech.demon.co.uk>
Source record: 113871

Joe,

In article: <3khdmp$p0o@netaxs.com> Joe Rocci <rocci@netaxs.com> writes:

[snip, my botched attempt at an oscillating circuit]

> Try 22 pf instead of 22nf. Also, try 74HCU04 instead of 74HCT04.

Thanks! Since I live "in the sticks", this will have to wait until
next Saturday (I'm up in Glasgow then and can hopefully get the
parts); your advice is much appreciated. I shall add this to my
shopping list and try it out.

I'll let you know how things go (if it doesn't work I'll be back
whining :),

Soenke

--
Standard disclaimer: My opinions are my own, not those of my employer

972. Re: 32kHz oscillator drives me nuts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 20:34:55 UTC
From: Sbehrens@contech.demon.co.uk
Message-ID: <797680646wnr@contech.demon.co.uk>
Source record: 113872

Jesse,

In article: <3kh5h5$jou@bach.seattleu.edu> joberreu@news.seattleu.edu
(Jesse Oberreuter) writes:

[your input to my oscillator problem]

> Do it on a breadboard, get yourself a pot and a trimmer cap, and
> make sure it comes up right when you switch the power on it cold. My

I'd love to do that, but I don't have anything to meter this (lack the
hardware) ... all I can do is fire up my timer, read it out with software,
and see wether what comes out makes sense (i.e. wether a 5 second loop
really takes 5 seconds). If I don't get anywhere I guess I will have to
try and find someone with the proper gear to display the frequency that
actually comes out of the circuit.

> there are a million variations on these little clock circuits :). Fox
> might actaully make a one piece for 32khz if you can't seem to get your

Yeah, there are a million variations. I'd like to be able to not go
through them all, though :). What's Fox? Some US company, I guess? Being
in the UK, that wouldn't be too helpful, alas. :) But thanks for the
thought.

> own to work. BTW, many crystals will function at two (or more!)
> frequencies based on how you bias/impedance_match them.

As I have found out .... *sigh*.

Anyway, I shall give your design a try as well and let you know what
it does. Thanks.

Cheers
Soenke

--
Standard disclaimer: My opinions are my own, not those of my employer

973. For sale: ham stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 21:02:00 UTC
From: chris.smart@canrem.com
Message-ID: <60.5144.3290.0N1D6888@canrem.com>
Source record: 113874

Ok; I'm going to try this again, this time giving less extraneous details.
If you want to know anything further about the following gear I have for
sale, contact me at:
Internet: chris.smart@canrem.com (prefered)
Fidonet: netmail to 1:229/15
Rime: private/routed mail to ->crs

1. Homebrew Power supply, 15-20 amps, 12-15 volts DC (can adjust
voltage); very solid construction, runs very cool most of the time,
better then any commertial jobs I've used. $75.00 Canadian or best
offer.

2. Ten-tek Argosy II, very small 50-watt HF rig; 80, 40, 30, 20, 15, and
10 meters ssb and cw. In great shape; comes with Ten-tek power supply,
beat up but great d-104 microphone, voice readout for speaking frequency
on display.
This is the Argosy with the digital display. Great for mobiles, a backup
rig, a simple station up at the cottage, etc. Asking $450.00 Canadian,
I'll lower the above homebrew power supply to $50 Canadian if I can sell
it with the Ten-tek stuff.

3. Sangean ATS-803A general coverage receiver. 150KHZ-30MHZ and 88-108
FM broadcast, (fm stereo with headphones). 10 memories, sideband or AM,
direct frequency entry, runs on wall adapter or d-cells. This is the same
as the Radioshack DX-440. I'd like $190.00 Canadian, or best offer.
Note: I'm selling the power supply because I need the money; I'll
probably regret it some day. I'm selling the Ten-tek stuff because I
*REALLY want an FT-530, and I'm selling the receiver simply because I love
my little Sony receiver and don't need another swl receiver around.

ATTENTION FRANK E. LOUNSBURY (forgive me if I spelled your name
slightly wrong): I responded to your offer to buy the Ten-tek stuff and
15 amp supply via Internet email, and then didn't get anything back.
Please email me again when you read this if you're still interested.

Chris.

... Sects! Sects! Sects! Is that all Monks think about?
___ Blue Wave/QWK v2.12

974. Re: Phasing SSB Generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-19 22:17:43 UTC
From: hbr@ix.netcom.com
Message-ID: <3kiai7$lv0@ixnews1.ix.netcom.com>
Source record: 113873

In <1995Mar16.131304.1@iccgcc.cle.ab.com> braidich@iccgcc.cle.ab.com writes:

>
>Has anyone built and can comment on the "Experimental Phasing SSB
>generator" in the (ARRL) W1FB's QRP notebook? 73 George WA8VFA
>

I have not built this circuit, but for circuits like this be sure and check out RF MicroDevices, 910-855-8085.

Brian Robinson
The HBR Company

975. RE: 6 METERS/TRANSVERTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 02:27:18 UTC
From: goodwin@kaiwan009.kaiwan.com
Message-ID: <3kip66$n4k@kaiwan009.kaiwan.com>
Source record: 113876

In a message dated 03-16-95, braidich@iccgcc.cle.ab.co said to All:

braidich>I built my Ten-Tec Xverter in Oct. Works great. No TVI. I use mine
braidich>with a 100 watt xcvr & home brew attenuator. Well worth the money.
braidich>GL & 73 George, WA8VFA

Tell us more about your homebrew attenuator George. I'm sure a lot of us
who can't reduce the SSB drive on our 100 watt rigs would be interested in
hearing about your approach. What technique did you use to switch the
attenuator out on receive?

****

* Larry Goodwin KC6WOG * reply to... INTERNET: goodwin@kaiwan.com *
* 73 es gud DX * AX25 PACKET: kc6wog@wb6wfh#soca.ca.usa *
* --... ...-- * Better Living Through Sound Effect Editing *

****

---

976. Re: Variable Caps in Oil

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 02:50:27 UTC
From: dtiffin@bga.com
Message-ID: <3kiqhj$so8@giga.bga.com>
Source record: 113877
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <D56KDI.IAA@hpqmoea.sqf.hp.com>, dstock@hpqmdla.sqf.hp.com says...
>
>Thomas Clarke (clarke@acme.ucf.edu) wrote:
>
>
>: Could I run the capacitor in an oil bath and effectively get 2 or 3 x
>: the capacity and probably higher breakdown?
>
> In theory, yes. This has been done in some old military/naval gear.
>I know of one semiconductor kilowatt linear that was immersed, heat
>sinks and all in a sealed, oil-filled container with external fins.
>
> Bubbles and contamination can limit breakdown voltage to less than
>dry air rating
>
>
>: Or does oil have an awful power factor at RF?
>
> No, at least not the right oil. Look at the ARRL handbook section on
>oil-immersed dummy loads for oils.
>
> What does go wrong, is that the oil can nicely lubricate the sliding
>contact of your capacitor. Just where you don't want an oil film, you
>need wipers with plenty of contact force
>
> Very very messy... ;-)
>
> Cheers
> David
>
Another comment: be careful with old old filled caps, avoid contact with PCBs in the old.

Don Tiffin
WA5FQV in Austin, Texas...

977. FM to SSB?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 03:52:14 UTC
From: cmlong@mtu.edu
Message-ID: <3kiu5e$p7v@techsrv1.tech>
Source record: 113878

Is it possible to convert FM over to SSB? If so can you point
me in the direction of the plans on how to do it?

Thanks,
Mike

--
/\
\ Michael Long || Public Relations Manager /
/ Callsign: KB8WPE || for HARC (W8YY) \
\ Email: cmlong@mtu.edu || Email: harc-l@mtu.edu /
/ Phone: (906)487-0204 || Majors: EET and EMT \
\/

978. Re: Ramsey 6M Radio Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 04:56:46 UTC
From: ingallsd@iea.com
Message-ID: <3kj1ue$pqk@krel.iea.com>
Source record: 113879

In article <3k136e$608@newsbf02.news.aol.com>, skbarnes@aol.com (SKBARNES) says:
>
>Has anyone built the Ramsey 6M kit? Comments please, and thanks!
> Steve,WD0GSQ

I built the Ramsey 6M kit and was generally impressed. I found that the parts were well organized, the instruction manual was thorough (included a theory of ops in each section) and top quality parts are utilized in the design.

I was able to build the kit and do the testing and alignments at the end of each section in about four serious evenings.

So far, I've not been able to get full output power and I'm having trouble finding the problem. All other sections gave me no problems.

I highly recommend buying their companion enclosure.

Happy building,

Dave

979. What is Q-Dope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 04:58:00 UTC
From: ralph.hartwell@emachine.jaxx.com
Message-ID: <95032000192683@emachine.jaxx.com>
Source record: 113881

D>I am building a simple direct conversion receiver from W1FBs QRP Notebook
D>and he mentions coating the oscillator inductor with polystyrene Q-Dope.

D>My question is, What is this stuff, What does it do (i.e. do I need it),
D>and where can I get some?

It is polystyrene plastic dissolved in acetone or another suitable
solvent.

---
* QMPro 1.51 * Fatal error using mouse. Please bury/replace.

980. Re: Variable Caps in Oil

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 05:59:20 UTC
From: w8jitom@aol.com
Message-ID: <3kj5jo$a08@newsbf02.news.aol.com>
Source record: 113880

Oil will suck at RF. The Q will be very poor, the losses will go way out of sight. Stick with air or a vacuum!

981. 144/440 hpa

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 10:16:44 UTC
From: pff@bfs.uwm.edu
Message-ID: <pff.5.0026FA53@bfs.uwm.edu>
Source record: 113780

I am looking for schematics for 144/440 high power amplifiers. any info would be greatly appreciated. Ed and Bill thanks for your input. Is there any easy way to combine these? I find most designs are for a single band.

982. Re: Fm to ssb?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 10:40:25 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <795697998.AA00792@hamlink.mn.org>
Source record: 113895

CC>Is it possible to convert FM over to SSB? If so can you point
CC>me in the direction of the plans on how to do it?
CC>
CC>Thanks,
CC>Mike
CC>
CC>--
CC> /\
CC> \ Michael Long || Public Relations Manager /
CC> / Callsign: KB8WPE || for HARC (W8YY) \
CC> \ Email: cmlong@mtu.edu || Email: harc-l@mtu.edu /
CC> / Phone: (906)487-0204 || Majors: EET and EMT \
CC> \/
CC>
CC>---
CC> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
CC>(1:282/100.0)Mike,
I'm not sure what you mean. Do you mean can you receive FM on an SSB
receiver or what? Give me more details and perhaps I can help.
Bob Liesenfeld WB0POQ

983. SL6700 in UK

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 12:18:43 UTC
From: Alan Cutter <AlanCutter@hp8005.hp.com>
Message-ID: <3kjrr3$r3e@hpwin055.uksr.hp.com>
Source record: 113882

Anyone know a source of the SL6700 chip in the UK. CIRKIT tell me it;s discontinued and MAPLIN
never did stock it!

Alan Cutter
G0MBB

984. Re: High power DC/DC conv

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 13:16:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1220.546@acenet.com>
Source record: 113883

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

TC>To avoid the need for high current transistors and in the attempt
TC>to find off the shelf components, I thought of the ubiquitous PC
TC>power supply. They contain transformers that go from 220 v (when
TC>in 220 mode) to 12 volts. Ten of these run in reverse and wired
TC>in series would give you a couple of kV. The PC supplies are rated
TC>at 200 watts or so, so 10 would also supply a kW or two without
TC>major overload.

TC>I'm a long way from tryinng this, however,

You CERTAINLY are Tom, a L-O-N-G way from trying it!
Let us know if you ever get it to work! I have some land you could sell
in Florida too!

• SLMR 2.1a • Chain tagline stolen <<21>> times. Steal, add 1, pass on

985. Re: Changing freq. of xta

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 13:16:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1219.546@acenet.com>
Source record: 113884

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

BL>Hi Joe,
BL> AHHHHHH the 60's! When Hams were Hams and ..... Anyway, I think I
BL>remember the same article. Could it have been in an April issue? I have
BL>some old FT style rocks in the junk box and am tempted to try this. I'll
BL>post if so... I also want to make my own tube sometime...homebrew 807's
BL>yeah that's the ticket!
BL> 72 Bob Liesenfeld WB0POQ

Yes yes, I can see it now... use a dark brown beer bottle, attach
vacuum pump, insert electrodes, seal that baby up, attach pins, and
VOILA! A REAL cold 807!

It COULD be done! - Brian Carling, AF4K/qrp

• SLMR 2.1a • Chain tagline stolen <<21>> times. Steal, add 1, pass on

986. Relay Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 14:34:11 UTC
From: af104@detroit.freenet.org
Message-ID: <3kk3p3$4l1@detroit.freenet.org>
Source record: 113885

Replacing T/R (VOX) relay in my Hallicrafters HT-32A.

Please help me locate a 4PDT current-actuated relay, 10,000
ohm coil.

Thanks!

--
Jeff
WB5KZW
(810)-855-9209 (Near Detroit)

987. Re: Ramsey 6M Radio Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 15:56:31 UTC
From: cmoore@vegas.ch.intel.com
Message-ID: <3kk8jf$ja1@chnews.intel.com>
Source record: 113886

In article <3kj1ue$pqk@krel.iea.com>,
David J. Ingalls <ingallsd@iea.com> wrote:

>So far, I've not been able to get full output power and I'm having trouble
>finding the problem. All other sections gave me no problems.

Hi Dave, have you tried spreading the final coils? Ramsey designed in too
much inductance so it can be easily tuned by spreading the coils.

73, Cecil, KG7BK (Not speaking for Intel)

988. push-pull grounded screen.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 16:20:43 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Mar20.162043.48520@ucl.ac.uk>
Source record: 113887

Many VHF amps use push-pull for extra power. Some designs for single tube amps use grounded screen (ie cathode below ground, control grid even more negative). Is anyone aware of a design for an RF amplifier, using two tubes that uses grounded screen, push-pull? If so, please let me know.

I have tried to design such a beast, using a pair of 4CX1000A tubes. It never did work too well and are wondering if I am attempting the impossible. The problem may be the difficulty of matching into the high input C of the 4CX1000A at 144MHz. I know many designs using one tube of this type.

davek G8WRB.

989. Re: What happened to Heath.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 16:30:05 UTC
From: hoff@enterprise.america.com
Message-ID: <hoff.46.2F6DAD8C@enterprise.america.com>
Source record: 113888

>From: dmoorman@interaccess.com (David Moorman)
>Subject: Re: What happened to Heath.
>Date: Sat, 18 Mar 1995 21:29:49 -0600

>Apparently there is a place which sells Heath replacement parts, etc.
>Maybe someone could dig that up for you if you need it.

>Dave Moorman, K9SW
>Downers Grove, Illinois

I'd sure love to finda place that sells Heath replacement parts. I still
use my old Heath Marauder, built about 1962, as my main xmtr.

990. Help w/ 11m rcvr preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 16:31:44 UTC
From: RAINS@NKU.EDU
Message-ID: <01HOCXOIMU769LV3WI@NKU.EDU>
Source record: 113889

Hello all, name here is Justin. I am looking for simple plans for an 11m preamp. My friends are into CBs and they asked me about them. Any help is appreciated.
73 de AA9KM
Justin
rains@nku.edu

991. Re: paraffin/kerosene etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 17:32:20 UTC
From: tomb@lsid.hp.com
Message-ID: <D5r21w.IGo@hpcvsnz.cv.hp.com>
Source record: 113890

David Brooks (daveb@perth.DIALix.oz.au) wrote:

: *Please!* Hexane is *not* the same as Benzene !!
: They both have 6 carbons, however in hexane they are in a signle line,
: while in benzene they are in a hexagonal ring. The resulting chemical
: properties are quite different.

David's quite right here. To confuse things further, there's
cyclohexane, which is C6H12, straight hexane (various isomers)
which is C6H14, and benzene, which is C6H6. Best naming
conventions leave hexane as a straight chain and its isomers
with unambiguous names... but IUPAC naming isn't necessarily
used on the street.

992. 144MHZ Preamp Correction

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 17:48:35 UTC
From: reichert@rtsg.mot.com
Message-ID: <3kkf5j$5c8@delphinium.cig.mot.com>
Source record: 113891

To those that received the plans for my 3SK124A 2MTR Preamp
I found a part Number error. The miniature ferrite bead
from Fair-Rite should be 28430000.

The other part number was used for the 20W Power FET Amps
I built up for my 6 & 10 Meter Homebrew Transceivers.

Sorry for the inconvenience.

--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

993. AM radio Select-A-Tenna, how, schematic!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 17:48:38 UTC
From: harris_monty@timeplex.com
Message-ID: <3kkoqq$smh@bigguy.timeplex.com>
Source record: 113892

I am interested in building something simular to the Select-A-Tenna. This device sets next to your AM
receiver and boosts the signal. I have heard it works well.

I would like to build one (save the $70 they want). What is the guts of this thing?

Anyone have a schematic?

All replys greatfully accepted!

```
//////////////////////*\\\\\\\\\\\\\\\\\\\\\\\\
/ Monty Harris KD4HUS, Dublin, CA \
| System Test Engineer |
\ Ascom Timeplex harris_monty@timeplex.com /
\\\\\\\\\\\\\\\\\\\\\\\\*//////////////////////
```

994. Re: Cure for noisy roller inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 17:54:35 UTC
From: harris_monty@timeplex.com
Message-ID: <3kkp5u$smh@bigguy.timeplex.com>
Source record: 113893

tantonr@aol.com (TANTONR) wrote:
>Try some Lubriplate. It is a lubricant with silver in it, which is
>conductive. judicuiusly used, it might solve your problem. We used it on
>military antenna couplers in a former job.
>
>de VE3IEY/W2

Don't rule out the bearings as the source for the noise. This was a common problem in the HeathKit tuners
I serviced as a factory repair tech. Many times the bearings would dry out and cause noise while tuning
across the band. I don't know if this will apply to an antenna tuner but it might be worth a try.
Regards,
Monty

```
////////////////////////*\\\\\\\\\\\\\\\\\\\\\\\\
/ Monty Harris KD4HUS, Dublin, CA \
| System Test Engineer |
\ Ascom Timeplex harris_monty@timeplex.com /
\\\\\\\\\\\\\\\\\\\\\\\\*////////////////////////
```

995. Re: MC 1350 AGC resistors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 18:08:12 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <3kkgac$ght@abyss.West.Sun.COM>
Source record: 113894

In article 18159@schbbs.mot.com, tayloe_d@sat.mot.com (Dan Tayloe) writes:
>The AGC voltage on the MC1350 is specified as useful in a range from
>5 to 7 volts, 5 volts being maximum gain (50 to 60 db), 7 volts being
>minimum gain (up to a 10 db net loss).
>
>Although everyone talks AGC voltage (using the standard 5K resistor to
>feed agc to the MC1350), what is really important is the AGC input current.
>Max gain is 5v, at a current of 0.1 ma, Min gain is 7v at 0.2 ma.
>
>However, more important than this is the fact that at max gain, the *noise
>figure* of the device is 6-8 dB (50 to 60 MHz), whereas at 30 dB gain
>reduction (about 6.25v), the noise figure is way up to *22 dB*, extremely
>noisy indeed.

At 30dB of gain reduction, why is the noise figure of the amplifier
that important? Assuming the gain reduction is due to a properly
designed and functioning AGC loop, wouldn't the input signal be
so strong that the fairly high NF wouldn't be an issue?

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Damn I'm smooth" (Anon.) *

996. Re: 32 KHz Oscillators

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 18:52:17 UTC
From: mack@mails.imed.COM
Message-ID: <9502207957.AA795733337@mails.imed.com>
Source record: 113896

I put a couple of these on the HP network analyser some time ago to see how good they were. The bottom line is that they aren't very good. The Q at 32 KHz is poor and there are MANY spurious responses near the desired frequency. Given the awful quality (from an RF standpoint) of these, you need to have a circuit that is VERY CLOSE to what the manufacturer specifies.

One option that comes to mind is to put a low pass filter (R-C) in the feedback loop. This would presumably reduce the tendency to oscillate at 100 KHz.

Ray Mack
WD5IFS
mack@mails.imed.com

997. Re: 2800 Mhz RCV XVRTR

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 19:27:29 UTC
From: mckee@fc.hp.com
Message-ID: <3kkkv1$7fs@tadpole.fc.hp.com>
Source record: 113897

Brian C. (bcieslak@mkelan5.remnet.ab.com) wrote:
: design one yourself. Is it possible to modify the the 2304 MHz Converter or
: the 3465 MHz converter to 2800 Mhz by just changing the LO and trimming some
: micro striplines on the board?

If I were you, I'd give Down East a call. I bought one of their
transverters used and didn't get all the docs and wanted to change XTALs
to get all band coverage. I called and they chatted with me for several
minutes, gave me good advice, sent me the docs and ended up saving me
some money hooking it to my HF rig.

Great Service, great people,

Bret
N0MTA

p.s. I have no financial ties to DEM except as a very satisifed customer.

998. Re: VHF amp low output mystery

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 20:27:07 UTC
From: dtiller@rmc.edu
Message-ID: <3kkoer$n7i@gnd0.rmc.edu>
Source record: 113898
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

James D. Cronin (jdc@cci.com) wrote:

: A friend has a 2-meter 120-watt power amp that appears to have very little
: gain. When measured with a SWR meter it shows about 1.2 times the input
: reading. Replacing a couple of the fixed caps with trimmers gave a little
: more gain, but not much. The input SWR is fairly low.

Why'd you swap the caps?

: Based on the current draw it seems like something is going on. Could there
: be some terrible mismatch on the output? Perhaps all the power is reflected
: back into the transistors and turned into heat. After all, 12 amps * 14
: volts is almost 170 watts, and it looks like we're getting 40 or so watts
: out for 25 watts in.

I don't know what the output configuration looks like, but it sounds like
there's power being consumed in the final(s), but it isn't reaching the
output connector. Check to see how the output is coupled to the final(s) -
it might be a transformer winding gone bad, or a bad coupling cap. Check
any inductors in the power supply to the final(s), too.

--
David Tiller | Network Administrator | ICBM: 33d 42' 43.75" N |
dtiller@rmc.edu | n2kau/4 | Randolph-Macon College| 77d 31' 32.19" W |
Remember: someday, somewhere, when you least expect it a man with a microphone|
may step up to you and say, "What's the frequency, Kenneth???!!!" |

999. Re: FM to SSB?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 20:34:40 UTC
From: rocci <user@neaxs.com>
Message-ID: <3kkot0$ntk@netaxs.com>
Source record: 113899

> Is it possible to convert FM over to SSB? If so can you point
> me in the direction of the plans on how to do it?

The circuit differences between an SSB radio and an FM radio are
so substantial that you should banish any dreams of trying to make
a conversion. If you are just academically inclined, you would be
better off building a new unit from scratch.

Joe
WA3CMQ

1000. What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 20:54:13 UTC
From: ed@fore.com
Message-ID: <3kkq1l$c53@shell.fore.com>
Source record: 113900

I have a BNC connector on my 2m ht. We also use them in our computer network. But what does BNC stand for? Does it stand for anything?

Ed N3SDO
Ed@fore.com

1001. $15 DVK article correction

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 21:00:46 UTC
From: n1ist@netcom.com
Message-ID: <n1istD5rBpA.90L@netcom.com>
Source record: 113901
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

Re: Build a DVK for under $15, QST April '95

Due to a minor slipup, an update didn't make it into my article.

S2 should be a *normally closed* pushbutton, not normally open.

I appologize for any inconvenience.

/mike
--
\|/ Michael L. Ardai N1IST Teradyne ATB, Boston MA
-*- ---
/|\ ardai@maven.dnet.teradyne.com n1ist@netcom.com

1002. Re: Changing freq. of xta

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 21:38:23 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <795739651.AA00799@hamlink.mn.org>
Source record: 113909

BB>
BB>Yes yes, I can see it now... use a dark brown beer bottle, attach
BB>vacuum pump, insert electrodes, seal that baby up, attach pins, and
BB>VOILA! A REAL cold 807!
BB>
BB>It COULD be done! - Brian Carling, AF4K/qrp
BB>---
BB> • SLMR 2.1a • Chain tagline stolen <<21>> times. Steal, add 1, pass
BB>on
BB>
BB>---
BB> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
BB>(1:282/100.0)
Hi Brian,
It seems to me I recall hearing about someone actually doing this!
Can't remember the details but it's an intriging idea... I wonder what
degree of vacuum one would need to have to prevent arcing, filiment
burning up etc. Any ideas?
Bob L. WB0POQ

1003. NorCal 40

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-20 23:20:24 UTC
From: chuckb@tc.fluke.COM
Message-ID: <D5rI68.1uL@tc.fluke.COM>
Source record: 113902

Does anybody know if there is going to be another run of NorCal 40 qrp transceiver kits?

--
Chuck Bowden / WB7R / chuckb@tc.fluke.com / (206) 356-6228
Fluke Corporation / MS 232E / PO Box 9090 / Everett WA 98206-9090

1004. Re: Help w/ 11m rcvr preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 02:03:43 UTC
From: Joe Rocci <rocci@netaxs.com>
Message-ID: <3klc5v$9pv@netaxs.com>
Source record: 113903

>
> Hello all, name here is Justin. I am looking for simple plans for an
> 11m preamp. My friends are into CBs and they asked me about them. Any
> help is appreciated.
> 73 de AA9KM
> Justin
> rains@nku.edu

Practically any HF receiver ever manufactured (including your
11 meter receiver) has plenty of sensitivity. Adding a preamp usually
only serves to make the receiver more overload prone. If you wish to
dig out the weaker signals, your efforts will be better rewarded
by improving your antenna system.

Joe
WA3CMQ
>
>

1005. 49MHz walkies to 6m use??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 02:39:36 UTC
From: c594911@showme.missouri.edu
Message-ID: <3kle98$12gs@news.missouri.edu>
Source record: 113904

I've been toying with converting (or trying to anyway) a Radio Shack walki-talkie for use on 6 meters. Model 60-4021 is a set of radios that operates on 49.840. Assuming a crystal change is possible without recalibrating or anything, I still need to raise the power a bit. The units output only 25mw (at 9volts) and i would like to get the output up to 5 watts or so. Any ideas about building an amp for this?

My eventual goal is to work a repeater on 52 MHz here in Missouri. Any help or pointers to plans would be appreciated! I'll post my results here if it ever gets done <grin>.

73 de N0YYW
Tom Lindberg
c594911@showme.missouri.edu

1006. Re: Kit for First Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 02:42:00 UTC
From: Leon.Heller@p999.f10.n2235.z1.fidonet.org
Message-ID: <ce0_9503242344@uti.com>
Source record: 113913

AREA:REC.RADIO.AMATEUR.HOMEBREW
MSGID: 1:2235/10.999 0006aebd
REPLYTO 1:2235/10.999 UUCP
REPLYADDR Leon@lfheller.demon.co.uk
PID GIGO+ sn 106 at uti vsn 0.99 gp4
Newsgroups: rec.radio.amateur.homebrew
From: Leon@lfheller.demon.co.uk (Leon Heller)
Subject: Re: Kit for First Radio
Organization: Home
Reply-To: Leon@lfheller.demon.co.uk
Date: Wed, 22 Mar 1995 08:42:05 +0000
Message-Id: <795861725snz@lfheller.demon.co.uk>
Sender: usenet@demon.co.uk

In article <jhewell.14.00B6F05B@primenet.com>
jhewell@primenet.com "Jim Hewell" writes:

> I'm interested in getting into amateur radio and
> would very much like to build my equipment. If anyone has any good ideas
for
> a first radio "kit" please reply. Also, are TenTec kits any good?? I just
> ordered their catalog today.

I don't think you will learn very much from constructing a kit, if you
are starting from scratch. I'd build a simple "crystal" Rx to start with,
and work your way up from that. Add a simple AF amplifier, then an RF
amplifier. Then use the resultant TRF Rx as the IF amplifier and AF
stage for a superhet, by adding a mixer and local oscillator. This
type of Rx will only be suitable for AM, of course. You could substitute
a regenerative detector for the diode detector and alter the frequency
coverage, enabling you to listen to CW and SSB amateur transmissions.
This was basically how I started 30 years ago.

Alternatively, a simple direct-conversion Rx, would enable you to listen
to amateur transmissions straight away, although you probably won't learn
as much.

The ARRL Handbook which you should be able to find in any good bookshop
is full of the basic "building blocks" for the types of receiver mentioned
above. Your local amateur radio club should also be able to provide you
with lots of advice and assistance.

73, Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall

Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

| via: UTI Systems BBS (815) 942-2930 Welcome my son, to the machine. |

1007. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 04:35:20 UTC
From: kellyp6643@aol.com
Message-ID: <3kll28$p6s@newsbf02.news.aol.com>
Source record: 113905

>I have a BNC connector on my 2m ht. We also use them in our computer
>network. But what does BNC stand for? Does it stand for anything?

> Ed N3SDO
> Ed@fore.com

Bayonet Navy Connector

K.Painter

1008. Re: What happened to Heath.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 04:35:27 UTC
From: greg9@aol.com
Message-ID: <3kll2f$p75@newsbf02.news.aol.com>
Source record: 113906

I recently needed to replace some parts for my SB-220 and, to my mild surprise, Heath had all the parts I needed (I replaced the diode board). If anyone needs replacement parts here is their address:

Heath Replacement Parts
455 Riverview Drive
Benton Harbor, MI 49022

Greg NY6C

1009. Re: 49MHz walkies to 6m use??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 04:49:21 UTC
From: mgarrett@prairienet.org
Message-ID: <3kllsh$sre@vixen.cso.uiuc.edu>
Source record: 113907

In a previous article, c594911@showme.missouri.edu (Grim) says:

>I've been toying with converting (or trying to anyway) a Radio Shack
>walki-talkie for use on 6 meters. Model 60-4021 is a set of radios
>that operates on 49.840. Assuming a crystal change is possible
>without recalibrating or anything, I still need to raise the power
>a bit. The units output only 25mw (at 9volts) and i would like to
>get the output up to 5 watts or so. Any ideas about building an
>amp for this?
>
>My eventual goal is to work a repeater on 52 MHz here in Missouri.
>Any help or pointers to plans would be appreciated! I'll post my
>results here if it ever gets done <grin>.
>
>73 de N0YYW
>Tom Lindberg
>c594911@showme.missouri.edu
>
>

I have modified the single channel Radio Shack 49 MHZ hand held that I
believe is similar to yours and it is a painless operation if you have
changed crystals before. You might need to mount the transmitter crystal
on it's side due to space limitations. Radio Shack got around this by
using a low profile crystal case to clear the speaker. The bigest
problem is the need to mount a connector so that you can couple the rf
out of the rig to a amp. There is very little room inside
and very little suport if you remove the antenna. I have not made a amp
for my rig as of yet but like you am looking for a proven design to up the
power on the unit. Another idea I have is to make the squelch adjustable
even with a pot that can be set once. The squelch is quite high in my unit.
--
Mark Garrett mgarrett@prairienet.org
KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM

1010. Kit for First Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 05:23:39 UTC
From: jhewell@primenet.com
Message-ID: <jhewell.14.00B6F05B@primenet.com>
Source record: 113908

Hi,

I'm interested in getting into amateur radio and
would very much like to build my equipment. If anyone has any good ideas for
a first radio "kit" please reply. Also, are TenTec kits any good?? I just
ordered their catalog today.

Thanks,
Jim

1011. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 06:25:46 UTC
From: bandy@well.sf.ca.us
Message-ID: <3klrha$b6t@nkosi.well.com>
Source record: 113910

ed@fore.com (Ed Bathgate) writes:

>I have a BNC connector on my 2m ht. We also use them in our computer
>network. But what does BNC stand for? Does it stand for anything?

Bayonet Naval [Navy?] Connector

TNC is Threaded ... ...

TNC came first, and BNC was the improvement on it.

1012. Re: push-pull grounded screen.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 07:13:01 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <689045495wnr@ifwtech.demon.co.uk>
Source record: 113911

In article: <1995Mar20.162043.48520@ucl.ac.uk> davek@medphys.ucl.ac.uk (Dave Kirkby) writes:
:
: Many VHF amps use push-pull for extra power. Some designs for single tube amps
: use grounded screen (ie cathode below ground, control grid even more negative). Is anyone aware
of a design for an RF amplifier, using two tubes that uses grounded
: screen, push-pull? If so, please let me know.
:
:
: I have tried to design such a beast, using a pair of 4CX1000A tubes. It never did work
: too well and are wondering if I am attempting the impossible. The problem may be the
: difficulty of matching into the high input C of the 4CX1000A at 144MHz. I know many
: designs using one tube of this type.

Were they grid-driven or cathode-driven, Dave? The latter should be
easier to match.

Glad to hear you were trying so hard to make your 400W PEP super-clean ;-)

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1013. Re: What does bnc stand fo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 09:22:34 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <795780256.AA00805@hamlink.mn.org>
Source record: 113824

EE>
EE>I have a BNC connector on my 2m ht. We also use them in our
EE>computer network. But what does BNC stand for? Does it stand for
EE>anything?
EE> Ed N3SDO
EE> Ed@fore.com
EE>
EE>---
EE> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
EE>(1:282/100.0)Hi Ed,
I have heard two versions... "baby N connector" and "bayonet N
connector". I can not testifiy to the veracity of either of these, but
suspect the bayonet version may be correct.
Bob Liesenfeld WB0POQ

1014. Re: Phasing SSB Generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 10:05:03 UTC
From: randolph@est.enet.dec.com
Message-ID: <3kmq44$rsb@mrnews.mro.dec.com>
Source record: 113827

In <1995Mar16.131304.1@iccgcc.cle.ab.com> braidich@iccgcc.cle.ab.com
>writes:
>>Has anyone built and can comment on the "Experimental Phasing SSB
>>generator" in the (ARRL) W1FB's QRP notebook? 73 George WA8VFA

Another question:
Has anyone tried the phasing network in the ('94) Handbook, which consists of nothing but a large number (24, I beleive) of interconnected capacitors and resistors? Claims good, wide-band phasing accuracy with cheap 5% components. Looks ideal for homebrew SSB.

-Tom R. N1OOQ randolph@est.enet.dec.com

1015. COLLLINS-KWM-2A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 10:27:19 UTC
From: collins@access.ods.gulfnet.kw
Message-ID: <m0rr19k-0000arC@access.ods.gulfnet.kw>
Source record: 113912

I am looking for speech processing system and
mods for new band for my collins kwm-2a

Faisal .9K2ZZ

E-MAIL :collins@access.ods.gulfnet.kw

1016. Ozone Generator info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 12:46:43 UTC
From: gautier@cam.org
Message-ID: <3kmhjk$a02@Tandem.CAM.ORG>
Source record: 113914

I'm posting on this group with the hope that some of you may have other electronic related hobbies than strictly radio. I'm looking for information, schematics, theory, on the fabrication of an ozone generator for sanitation purposes on my swimming pool. Any info?

Thanks.

1017. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 14:34:21 UTC
From: alb0@roger.gte.com
Message-ID: <3kmo5d$hje@ceylon.gte.com>
Source record: 113915

In article <3kkq1l$c53@shell.fore.com>, Ed Bathgate <ed@fore.com> wrote:
>network. But what does BNC stand for? Does it stand for anything?

Whew. Its been awhile, but its acronymic for "Bayonet Newman
Connector" as I remember. I'm willing to be corrected, though!

Drew
--
alb0@gte.com
"The new Gestapo in America." -- Gerry Spence on the BATF

1018. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 14:41:16 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <795796876snz@lfheller.demon.co.uk>
Source record: 113916

In article <3kkq1l$c53@shell.fore.com> ed@fore.com "Ed Bathgate" writes:

> I have a BNC connector on my 2m ht. We also use them in our computer
> network. But what does BNC stand for? Does it stand for anything?

Bayonet-Neill-Concelman, after the two people who invented it.

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

1019. Re: High power DC/DC conv. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 15:06:58 UTC
From: hbrown@nadir.resd
Message-ID: <1995Mar21.150658.12247@knight.vf.ge.com>
Source record: 113917

I havn't been following this group very closely so I may be duplicating a previous post. Within the last 4 or 5 years, QEX had an article on high voltage dc to dc converters. I beleive that it converted from 120 vac to 3 kv or so with enough current for a typical 1.5 kw amp. I'll dig through my paper to gert a better reference.

73, Harry, W3IIT
hbrown@resd.vf.ge.com

1020. Re: FM to SSB?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 15:07:23 UTC
From: jdevenport@lanl.gov
Message-ID: <3kmq3b$75i@newshost.lanl.gov>
Source record: 113818

In article <3kkot0$ntk@netaxs.com>, rocci <user@neaxs.com> says:
>
>> Is it possible to convert FM over to SSB? <snip>

Well, it CAN be done, but probably not in the manner (cheap and
inexpensive) that you're probably hoping.
You can take the audio output from an FM receiver and use it for
audio INPUT to a SSB transmitter. That's what I do in my remote
base (444.65 and 224.94 control inputs) system here in Los Alamos.
But as far as making an FM rig over into a SSB rig it it pretty
rugged to contemplate. Adding an FM limiter/detector board to the
receiver wouldn't be too hard but the low level transmit audio
amplifier circuitry would be about all that could be used on transmit.
You'd have to add a balanced modulator, SSB filters, and separate
linear amplifiers to get the resultant low level SSB signal up to a
usable transmit level. I certainly agree that other than adding an
FM detector to the receiver only I wouldn't contemplate such a project.
Much easier to buy a used CB SSB transceiver and add a much-easier-to
build transverter (available in kit form from Hamtronics if desired) to
get it on useful frequencies.
Jim WB5AOX

1021. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 15:10:41 UTC
From: w8jitom@aol.com
Message-ID: <3kmq9h$df@newsbf02.news.aol.com>
Source record: 113819

Big Nose Chuck. Chuck worked for Lockheed and developed the BNC connector for use in VHF and UHF applications. The regular UHF connector (developed by Uncle Harry Frankforther) never worked well at VHF or UHF because the impedance was between 20 and 40 ohms (depending on dielectric). People mistakenly thought the UHF (Uncle Harry Frankforther) connector was for Ultra High Frequency, just like they think the BNC means bayonet naval connector. Don't trust those people ;-) .

1022. Re: Variable Caps in Oil

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 15:11:31 UTC
From: w8jitom@aol.com
Message-ID: <3kmqb3$dl@newsbf02.news.aol.com>
Source record: 113820

I wonder if I should have said,

"While some oils are better than others, they are much worse than air or a vacuum for the application mentioned.

In a normal bypass or blocking function, if current levels are reasonable, an oil cap will probably function satisfactorily. A low frequency power supply filter is an example of this application.

But if the cap is part of a resonant circuit with high circulating currents, an oil filled cap will offer less than satisfactory performance. The additional dielectric loss will cause heat dissipation problems, drifting, and reduced efficiency. Sealing the oil in the capacitor will be a cost nightmare for anyone trying to save the 100 dollar cost of a surplus vacuum cap.

Let me give two practical examples I have seen. In a small three foot loop antenna on 15 MHz, the radiation efficiency dropped from 42% to 23% when teflon sheets were placed between the plates of the tuning capacitor. The capacitor also drifted severly from the dielectric heating. Yet I'm sure we can debate how wonderful teflon is!

Ceramic also poses a problem when subjected to the stress in a tank circuit. The large ceramic 850 style caps heat severely and drift at the current levels found in typical 800 watt amplifier tank circuits.

So, if you find the unknown "good" oil source (that has a better dissipation factor and temperature stability than ceramic or teflon) and if you can seal the stuff in your variable, you will have an ok oil filled tuning cap. "

Hmmmmmm, come to think of it, I stand by my original statement for this application. Oil sucks, use air or a vacuum ;-) .

1023. Re: paraffin/kerosene etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 15:26:44 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D5sqwL.Dv8@hpqmoea.sqf.hp.com>
Source record: 113821

Aliphatic and Aromatic compounds, If my memory still works.
(straight) (ring)

Most of the aromatic compounds I made in school chemistry certainly
weren't aromatic in the other sense of the word....

If I'd have been with them, I'd have steered them towards Diesel

Cheers
David GM4ZNX

1024. Re: Idiom Press CW keyer - thanks!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 15:31:03 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D5sr3s.DxB@hpqmoea.sqf.hp.com>
Source record: 113822

Ian G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:
: Thanks to everyone who replied, confirming that the details
: in the 1995 ARRL Handbook are correct.

Have a word with any of the G-QRP activists, like G3PDL or G3RJV
they've really taken to this keyer, and have perfected ways of getting
them at sensible prices (Know anyone going to Dayton, in other words)

Did my response to the 3kV crowbar reach you, by the way?

Cheers
David GM4ZNX

1025. Re: radio in a pc - was: Building radio into computer - need advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 16:42:40 UTC
From: Larry Kenan <larry.kenan@SanDiegoCA.NCR.COM>
Message-ID: <D5suF5.19G@lcpd2.SanDiegoCA.ATTGIS.COM>
Source record: 113823

There was some interest in this so I looked this up:

The radio in a PC is called the Radware HF DSP Receiver/Exciter. It is built or sold or both (not sure) by Comer Communications in Vista CA. They have BBS that you can call
for information about the product at 619-599-0185. Their voice number is 619-599-0476.

Larry Kenan

Disclaimer: I have no pecuniary interest in this product or Comer Communications.

>In article <Bg5a2VX.fflynn@delphi.com> Frank Flynn writes:
>Larry Kenan <larry.kenan@SanDiegoCA.NCR.COM> writes:
>
>>There is a there is a ham transceiver on the market that is built on a pc board.
>>I forget the manufacturers name but I have seen it demonstrated, and it works.

>>The board is very well shielded to avoid the interference. The transmitter
>>output
>> is 100 mw. so you use it to drive an external power amp.
>
>sounds cool, with the right kind of sheilding I'm sure it can work. I don't
>mean to say it's impossible, in fact, the pc would be ideal for controlling
>a radio of any kind. I thought about using one of the digital synth chips
>on a PC card a couple of years ago, an idea for a reciever in 73 mag
>inspired me, I did not carry it out however. The older pc's seem to be
>better for use as computers in the shack because of the slow clock speed.
>The original XT had a clock of 4.77 mhz. although it may create rfi, perhaps
>not as much as something newer, also, the older machines may have had better
>shielding. I am curious to know the name of the "transciever in a card"
>manufacturer. 73's.
>Frank KM1Z>

1026. Moto. PT400 conv. -> 2M?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 17:54:01 UTC
From: Chris Beasley <cb1p+@andrew.cmu.edu>
Message-ID: <MjPl_ty00YUxMGvIRF@andrew.cmu.edu>
Source record: 113825
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

Hello,
I just picked up an old Motorola PT400 transportable FM
RadioTelephone on 158 Mhz. I'm wondering if anyone knows where to get
documentation on this unit? How to convert it to two meters? Any
accessories available?

The full model number is: P43DEN3100BM

Please help!
Thanks!

Prefer Email....

Chris

1027. Ten Tec kits ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 18:01:00 UTC
From: seront@seism1.ess.sunysb.edu
Message-ID: <3kni8l$opa@adam.cc.sunysb.edu>
Source record: 113826

I've read somewhere that ten tec is also making kits.
Does someone know something about that?
I am also interseted by their address; phone, fax #.
Thanks by advance.

Bernard, KB2TGH

1028. Re: Help reading schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 18:04:37 UTC
From: wsw@cellware.de
Message-ID: <wsw.204.006E0A84@cellware.de>
Source record: 113794

In article <frederick.mckenzie-1-1603951335270001@k4dii.ksc.nasa.gov>
frederick.mckenzie-1@kmail.ksc.nasa.gov (Fred McKenzie) writes:
>Subject: Re: Help reading schematic
>From: frederick.mckenzie-1@kmail.ksc.nasa.gov (Fred McKenzie)
>Date: Thu, 16 Mar 1995 13:35:27 -0500

>In article <1995Mar16.085921.17587@driftwood.cray.com>,
>jbadger@poplar110.cray.com (Jon Badger) wrote:
>> I have a schematic listing several components with typical R values like 56k,
>> 470R, etc. but some are listed as 3k3, 4k7 and 5k6.

>Jon-

>Although I have seen the "2p2" shorthand nomenclature before, I don't
>think it is common.

Err: This notation is *very* common here in Europe!

>The letter is located where a decimal point would go,
>and indicates what the units are. In your examples, 2p2 would be 2.2 pF,
>2u2 would be 2.2 micro Farads and n39 would be 0.39 nF (which equals 390
>pF). Resistors listed as 3k3 would be 3.3 k Ohms, 4k7 would be 4.7 k Ohms
>and 5k6 would be 5.6 k Ohms.

Exactly, that's the way it is. With this notation you can recognise even on a
very bad copy of a schematic (where dots wouldn't show up) which values to use.

>I would guess that 470R was 470.0 Ohms, and it might be used when a more
>precise value was needed. There is certainly no need to add the ".0",for
>a 5 or 10 percent part!

No, the R is added to depict the unit. Simple 470 could be mixed up with 4.70
or 47.0 on bad copies (see above).

>As far as "which cap to use", I think the 2p2 is exactly the same
>capacitor as the 2.2 pF, et cetera.

Well I think this question was ment as "What type of cap to use?". The answer
is a bit ambivalent: That depends where it is located. You wouldn't try to use
electrolytics in HF/VHF circuitry in the signal path (but maybe for decoupling
VCC). And on the other side it would be hard to get a 100uF NPO ceramic cap :))
Common design rules apply.

Stefan (DD6FM)

vy 73s, Stefan (DD6FM)

_____________________________________ ____
| / c / e / l / l / w / a / r / e / |
| Stefan Wimmer |
| Breitband Technologie GmbH |
| Tel: ++49(30)4670 8235 Gustav-Meyer-Allee 25 |
| Fax: ++49(30)4630 7658 13355 Berlin, Germany |
| Email: sw@cellware.de |
| WWW: http://www.cellware.de/ |
|____|

Do 't tou h the f op ydi ks su f ce!

1029. 2m beacon plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 18:41:57 UTC
From: djohnson@acpub.duke.edu
Message-ID: <3kn6ll$u7@news.duke.edu>
Source record: 113828

Hello all !

I am inquiring for a friend, Titus, KD4WQT, who does not have net access
at this time. He wants to know about 2m beacons, mainly as an aid to
studying propagation. Can anyone direct me to some source(s) of info
on construction of 2m beacon transmitters, and/or operation of same?

My friend has had little experience building circuits, so simple
circuits for homebrew, or even kits, might be the way to go. I don't
even know much about the existence or usefulness of 2m beacons, but
I suggested that he might check the ARRL Repeater Directory as a start.
Any other suggestions?

Thanks for your time and concern in this matter. Please send replies
to my email address (in header and signature lines).

Sincerely,

Dave Johnson
--
David W. Johnson Power is no substitute for skill
Amateur Extra WA4NID QRP ARCI 6546
email: djohnson@acpub.duke.edu G-QRP 4864
packet WA4NID@KB4WGA.NC.USA.NA NorCal 355

1030. Re: 49MHz walkies to 6m use??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 19:26:24 UTC
From: lascal@magritte.its.rpi.edu
Message-ID: <3kn992$9cr@usenet.rpi.edu>
Source record: 113829

Mark A. Garrett (mgarrett@prairienet.org) wrote:

: >a bit. The units output only 25mw (at 9volts) and i would like to
: >get the output up to 5 watts or so. Any ideas about building an
: >amp for this?

Yeah, from that power level, I would suggest a 2n5109 style,
broadband (transformer coupled) stage.... for fm, that'll take you
easily to a decent fraction of a watt. Above that level, I'm not sure
what to tell you.... Motorola just discontinued a bunch of their
bipolar RF transistors... I had a 15 watt transmitter designed for a
transverter that I've been working on, but they've taken my parts
away! (wah!). It looks like I'll be using TMOS fets to generate the
power (first a couple watts, then a stage to take it up to ten or 15).
I want FETS because I need the linearity, but you ought to be able to
find some suitable FM (class-C) transistors for FM lowband stuff.

One of the transistors they discontinued was the MRF-476,
which is a "CB" style final output transistor. If you can find a
replacement part, that ought to be good for 3-5 watts of FM at 50 MHz.

Good luck, let me know how you make out... I'm
interested in 6m too (that's why I'm making a transverter... for FM
use and SSB). I also think I have a pair of those radios... if I
could ever find them :)

73
-Lance

--
Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @ Rensselaer
http://www.rpi.edu/~lascal/
Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342

1031. RF/Wireless Jobs/Companies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 19:40:45 UTC
From: lascal@magritte.its.rpi.edu
Message-ID: <3kna3t$9cr@usenet.rpi.edu>
Source record: 113830

Hello,
This may border on the inappropriate, but what the hell.

I know several people, myself at the forefront, who are interested in getting jobs in the wireless/rf engineering sector (yes, we're EE's here at RPI). Does anybody out there have anything to say about where we should look? (I've seen plenty of people posting to this newsgroup... from such companies) I'm looking work doing circuit design, however I know several people interested in system engineering.

Most of us have sent out resume's.... and we've snagged a few interviews, but Human Resources departments often get in the way of seeing what we have to offer (motivation, practical experience with RF/Microwave design/evaluation/behaviour). Surprisingly I've run into companies that seem to think that enthusiasm for ham radio is a BAD thing. It seems to be a trend that good RF engineers are hard to come by (and seem to be getting older....). Clearly, higher education can only do so much to "create" a good RF engineer... because there are so many practical issues that one has to have an understanding of alongside the "theory".

I would assume that there have to be tons of companies looking for people during this boom we're experiencing.

Thanks for any help, and once again I apologize if anyone finds this inappropriate. Any flames should be directed to lascal@rpi.edu, and any good information or advice could be either posted or mailed.

73
Lance, WS2B

--
Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @ Rensselaer
http://www.rpi.edu/~lascal/
Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342

1032. Re: FM to SSB?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 21:03:39 UTC
From: deap1032@servus11.rus.uni-stuttgart.de
Message-ID: <3knevb$kk0@info4.rus.uni-stuttgart.de>
Source record: 113831

In article <3kiu5e$p7v@techsrv1.tech>, Mike <cmlong@mtu.edu> wrote:
>Is it possible to convert FM over to SSB? If so can you point
>me in the direction of the plans on how to do it?

Mike,

This is a very simple thing to do. Just connect the audio
of your FM RX to a SSB TX. If you plan however to convert a
FM TX to a SSB TX, you will find that there is no way
than building the SSB rig essentially from scratch.

Sorry for not having a positive answer, Moritz DL5UH

1033. Digital Semiconductor junction signature analyser

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 22:03:43 UTC
From: ed@fore.com
Message-ID: <3knifv$ej3@shell.fore.com>
Source record: 113832

I've been tinkering with this idea for about 5 years now, time to
share this toy with others. It is primarily used to diagnose bad parts
in broken electronic devices. It also can be used as an educational aid
in learning electronics, or a general purpose experimenter control and
computer measurement system.

I have designed and built a digital component tester that hooks up to
a dos computer to display and store/retrieve the signatures. The unit is about
the size of a modem. Has a built in microprocessor and a>d and d>a conversion,
opto-isolated rs232 serial port, generates a -12/+12 volt current limited ac
signal to sample the device under test, and a -/+12v base bias generator
for testing transistors and fets. Software has graphically aided learn and
compare modes. Tests diodes, zeners, caps, resistors, inductors, input &
output junctions of digital and analog IC chips, leds, opto devices, transistors,
fets, gate triggered devices...and it has other uses too.
I call it DIG-SIG.

Does this sound like something interesting that you would want?
Would you want it in kit form? Would you like to see it as a magazine
construction article (Radio-Electronics or Ham magazine?)

If so let me know. Email Ed@fore.com

I have done a previous RE construction article on a simple circuit with
some basic VCR theory called VCR Head Amp Tester. (Radio Electronics Jan 1991)

At this time, this is slightly more than vaporware, I have built 4 prototypes
so far, and am preparing to have the pcb commercially mfged. Est price would
be around $175 for the kit. Would this be useful to you?

Your opinions are requested. Email to Ed@fore.com

Ed Bathgate Email: ed@fore.com
Senior Test Technician Ham: N3SDO
FORE Systems Inc N3SDO@W3IXR.#WPA.PA.USA.NOAM
Pittsburgh PA USA R/C pilot nickname "Crasher"

The opinion presented is my own and is not and should not reflect
my employers opinion.

1034. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 22:06:15 UTC
From: gordy@gbscomms.win-uk.net
Message-ID: <256@gbscomms.win-uk.net>
Source record: 113833

In article <795796876snz@lfheller.demon.co.uk>, Leon Heller (Leon@lfheller.demon.co.uk) writes:

>Bayonet-Neill-Concelman, after the two people who invented it.

I bet Mr Bayonet didn't get much credit though :-)

Q: Why do you call F-connectors F-connectors?
A: Because the F'ing centre conductor keeps snapping off.

--
SIGint, geddit?

1035. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 23:47:39 UTC
From: ashton@btv.ibm.com
Message-ID: <3knoir$jfb@baldhill.btv.ibm.com>
Source record: 113834

BNC stands for bayonet Niell Concelman, and is named after its inventors.
Sorry, but I can't find where this informaion came from.
--
Gerard Ashton IBM Microelectronics Division
Phone: (802) 769-5667 Essex Junction, Vermont
Send Internet E-mail to ashton@vnet.ibm.com

1036. IC02AT HT For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-21 23:51:11 UTC
From: judyslatt@aol.com
Message-ID: <3knopf$750@newsbf02.news.aol.com>
Source record: 113835

Any one intrested in an ICOM 02at Handheld.

Includes :
IC02AT
2 Batteries(one quick charge,one normal)
Base charger BC-35
ICOM hand mike

The IC02AT will transmit at both 5W and 500mW with the 12V battery
and 3W and 500mW with the 8V battery (I have one of each).

All 16 DTMF keypad, 10 Memories, Memory Scan, Sub-audible tones.

The cost is $300 collectivily but feel free to make me an offer an any
part of this package or the whole thing. It's going to go before May 18!

Any questions can be directed to my email address at :

mslatter@leo.crc.monroecc.edu

Thanks.. MSlattery

1037. attenuating 100w xcvr RF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 00:55:46 UTC
From: kaul@netcom.com
Message-ID: <kaulD5tH8z.4Dy@netcom.com>
Source record: 113836

I've noticed a few people asking about 'how to build attenuators' to
reduce the power of 100 W rigs. SOMETIMES YOU CAN REDUCE THE POWER
WITHOUT AN ATTENUATOR! If your rig has an ALC input (usually it is a
jack, often RCA-or phono-type on the rear chassis), you can often force a
power reduction by introducing a negative voltage to the center pin.
I've built a small box which works with both my Kenwood and my Icom.
It is quite simple:

I use a 1.5V AA battery, and wired + to ground. The - terminal goes to one
end of a 25K pot, and the wiper of the pot goes to the center conducter
of a piece of shielded wire (the + side of battery connects to the shield
of the shielded wire). It should look something like this:

```
----------------------/\/\/\/\/\/\
| ^
| |
|- |_____________________________ to ALC
_____ ----------------
------- (battery) |
|+ -----
----- \ \ \ (gnd)
\ \ \ (ground) .
```

TUNE: load xmtr for minimum power output and gradually
adjust POT for desired power levels. Suggest you feed
this into a dummy load while making adjustments.

My Icom 725 literally will reduce to milliwatt levels (far lower power
than my ability to measure it!)

Warning, reduce power before connecting to transverter, otherwise your
transverter may be damaged by excess RF!

Good luck. de Alan, W6RCL

--
[<Alan Kaul, W6RCL>] kaul@netcom.com

1038. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 01:11:23 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <3kntfrINNmsv@sepia.wv.tek.com>
Source record: 113837

In article <3kkq1l$c53@shell.fore.com> ed@fore.com (Ed Bathgate) writes:
>
>I have a BNC connector on my 2m ht. We also use them in our computer
>network. But what does BNC stand for? Does it stand for anything?

Various folklore tales abound about the naming convention used for BNC's.
I think so many stories have been told that it is difficult to separate
truth from fiction. Anyway, here goes my $.02.....

The story as told to me was that back during WWII, the Navy needed a
good connection that was resistant to moisture, provided decent RF
connection for their equipment, etc. It was called an NC for Navy
Connector. Later, a smaller non-threaded version was created and
dubbed the Bayonet Navy Connector, (or Baby Navy Connector) or BNC.
Not sure if that's for real, but it makes for a good story.

Ed Burress
KC7GFX

1039. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 01:40:46 UTC
From: dcurtis@mipos2.intel.com
Message-ID: <3knv6u$as4@inews.sc.intel.com>
Source record: 113838

In article <795796876snz@lfheller.demon.co.uk> Leon@lfheller.demon.co.uk writes:
>In article <3kkq1l$c53@shell.fore.com> ed@fore.com "Ed Bathgate" writes:
>
>> I have a BNC connector on my 2m ht. We also use them in our computer
>> network. But what does BNC stand for? Does it stand for anything?
>
>Bayonet-Neill-Concelman, after the two people who invented it.

Correct! Tell him what he's won, Don Pardo!!

And I also understand that N connectors were done by Neill (some time
later) and that C connectors (a bayonyet style connector) were done
by Councilman (also some time later). And I bet both of these guys
mispent their youths carving their initials into trees... :-)

73, Dave NG0X

>
>Leon
>--
>Leon Heller | "Do not adjust your mind, there is
>G1HSM | a fault in reality": on a wall
>Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
>Phone: +44 (01734) 266679 |

1040. Re: RF/Wireless Jobs/Companies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 04:35:32 UTC
From: daveb@gate.net
Message-ID: <TP684zYQZWNu1yol06b@gate.net>
Source record: 113839

In article <3kna3t$9cr@usenet.rpi.edu>, Lance Lascari WS2B wrote:
>
>
> Most of us have sent out resume's.... and we've snagged a few
> interviews, but Human Resources departments often get in the way of
> seeing what we have to offer (motivation, practical experience with
> RF/Microwave design/evaluation/behaviour). Surprisingly I've run into
> companies that seem to think that enthusiasm for ham radio is a BAD
> thing. It seems to be a trend that good RF engineers are hard to come
> by (and seem to be getting older....). Clearly, higher education can
> only do so much to "create" a good RF engineer... because there are so
> many practical issues that one has to have an understanding of
> alongside the "theory".

> --
> Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu> Senior EE @
Rensselaer
> http://www.rpi.edu/~lascal/
> Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342
>
< Above Commentary edited>

I think that you are looking at the proverbial chicken and egg issue. Many of the opportunities in the wireless industry are based on shipping products fast. Many of the companies are on the small side, where they cannot afford the year learning curve that a freshout RF engineer will take. Thus, the growth in demand for experienced engineers, and the dearth of opportunities for freshouts.

Based upon my experience with the hiring of freshouts, I would have to say that a suprising amount is due to having your resume in the right place at the right time. I suspect that your best chance is to target the large companies playing in the wireless PCS market, where you can come in as a blank freshout, and be trained in the company way, or to look at the smaller companies, where you might be the only RF guy there, and so would have to do everything.

I'm not suprised that some companies see a ham license as a negative thing. Unless you have published articles in the ham technical journals, home-brewed a receiver < not an app note special >, or otherwise proved your technical chops in the ham radio venue, a license is irrelevant. Working DX, doing disaster relief, etc. isn't important for a RF engineer. What is important is technical ability and motivation. In addition, some of the hams that I have worked with have spent 90% of their time working on side projects, the ham club repeater, etc, etc, etc. That, in combination with

their being ignorant blowhards, makes a ham license a perceived negative. The thought would be " how much time is this joker going to spend working on a 0.2 dB NF preamp for his EME setup, rather than working on what he should be doing."

Just my personal comment. Take with a grain of salt, please.

Dave Bengtson

1041. Re: What happened to Heath.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 04:42:42 UTC
From: tonyn@efn.org
Message-ID: <3ko9s2$ksg@mars.efn.org>
Source record: 113840

In <PHILLIWL-1803952001140001@remote3.vanderbilt.edu>, PHILLIWL@ctrvax.vanderbilt.edu (Wm. L. Phillips) writes:
> I have always heard of Heath and Heath kits. I see Heath equipment
>advertised on the net. But I have never seen a Heath ad in 73, CQ, QST, or
>anywhere else. Does Heath still exist? Are they still making kits? If so,
>what is their address? Or is there just older equipment that's still
>kicking around (according to the stories I've heard, Heath stuff aged very
>well).

The Heath Company still exists, but they are no longer making "HeathKits". They only sell assembled units, and have shifted their focus more toward teaching courses in electronics, computers, and such.

They still have replacement parts available for kits, at least for some of their later kits. I was able to get some transformers for a Weather Computer a couple of months ago.

Tony

1042. Re: Changing freq. of xta

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 06:15:18 UTC
From: gcouger@jsun.okstate.edu
Message-ID: <3kof9m$17h1@bubba.ucc.okstate.edu>
Source record: 113841

In article <795739651.AA00799@hamlink.mn.org>,
Bob Liesenfeld <Bob.Liesenfeld@f100.n282.z1.fidonet.org> wrote:
>BB>
>BB>Yes yes, I can see it now... use a dark brown beer bottle, attach
>BB>vacuum pump, insert electrodes, seal that baby up, attach pins, and
>BB>VOILA! A REAL cold 807!
>BB>It COULD be done! - Brian Carling, AF4K/qrp
>BB>---
> It seems to me I recall hearing about someone actually doing this!
>Can't remember the details but it's an intriging idea... I wonder what
>degree of vacuum one would need to have to prevent arcing, filiment
>burning up etc. Any ideas?

It take a real hard vacuum and a "getter" to get the rest of the O2
out. If any wants to do this here is a vacuum news leter that will
get you on the way:

Sorry I will have to be in the next post.

Gordon AB5DG

Gordon Couger
Biosystems & Agricultural Engineering
Oklahoma State University
114 Ag Hall, Stillwater, OK 74074
gcouger@olesun.agen.okstate.edu 405-744-9763 day 624-2855 evenings
I do not speak for my employer

1043. Re: Changing freq. of xta

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 06:17:28 UTC
From: gcouger@jsun.okstate.edu
Message-ID: <3kofdo$1lhn@bubba.ucc.okstate.edu>
Source record: 113842

From HANSEN35@delphi.com Mon Feb 27 10:45:09 1995
Return-Path: <HANSEN35@delphi.com>
Received: from bos1b.delphi.com by jsun.agen.okstate.edu (4.1/SMI-4.1)
id AA17927; Mon, 27 Feb 95 10:45:07 CST
Received: from delphi.com by delphi.com (PMDF V4.3-9 #7804)
id <01HNJJYU5J7K8WW116@delphi.com>; Mon, 27 Feb 1995 11:44:43 -0500 (EST)
Date: Mon, 27 Feb 1995 11:44:43 -0500 (EST)
From: HANSEN35@delphi.com
Subject: Re: Bell Jar
To: gcouger@agen.okstate.edu
Message-Id: <01HNJJYU5SUQ8WW116@delphi.com>
X-Vms-To: IN%"gcouger@agen.okstate.edu"
Mime-Version: 1.0
Content-Type: TEXT/PLAIN; CHARSET=US-ASCII
Content-Transfer-Encoding: 7BIT
Status: R

INFORMATION ON "the Bell Jar"
Vacuum Technique and Related Topics
for the Amateur Investigator
ISSN 1071-4219

The Complete Newsletter and Journal
for the Vacuum Experimenter

Access to moderately good vacuum apparatus can open up a whole new
dimension to the amateur. However, practical information has not been
easy to come by.

In the 1950's and 1960's there was some level of discourse on simple
simple vacuum apparatus. For those who remember, two good examples
were C.L. Stong's Amateur Scientist column in the Scientific American
and the amateur oriented pumps, kits and plans once offered by the
firm of Morris & Lee of Buffalo, NY. Between the two, an impressive
array of apparatus emerged from the efforts of ambitious basement
experimenters. There were a variety of gas lasers, x-ray tubes,
potential drop accelerators, mass spectrometers, simple & compound
electron microscopes and high altitude chambers, to name a few. All of
these were cobbled together with converted refrigeration compressors,
single stage diffusion pumps, copper & glass tubing, wax and a lot of
ingenuity. The staying power of these endeavors is evidenced by the
continued recycling of plans (often in the form of poor imitations)
for a number of the vacuum related projects in Stong's columns.

In the intervening years there has been an almost complete lapse in
the availability of up-to-date information on vacuum technique and

apparatus specifically targeted toward the amateur, educator, or professional who likes to tinker.

"the Bell Jar" was created at the start of 1992 to bring together those experimenters who have an established interest in vacuum as well as to promote vacuum technique as an interesting and challenging hobby.

Nearly three years later, the readership numbers in the hundreds and contributors range from true amateurs to professionals with established credentials in the field. This diversity has made for a lively publication and has resulted in favorable comments from the professional community (e.g. "There's Life in this Bell Jar" in the Newsletter of the American Vacuum Society, May/June 1994).

The following outlines the article content by annual volume:

1992-Vacuum basics, elements of an amateur's system, conversion of refrigeration and auto a/c compressors to vacuum service, a discharge tube gauge, magnetically driven plasma accelerators demonstrated with a rail gun, history of vacuum units, a mini system for fabricating graded density optical filters, a universal thermocouple gauge controller.

1993-Plasma apparatus developed from microwave ovens, vacuum system operation, a coaxial plasma gun, synthesizing fullerenes, easy fabrication of glass to metal seals, reconfigurable vacuum chambers standard glassware components, a baffle chiller made from a room dehumidifier, exploding wires, units of outgassing, Magdeburg hemispheres made from plastic pipe fittings, production of low temperatures, a homebuilt diffusion pump, principle of the pseudospark electron beam source.

1994-Experiments with x-rays produced by receiving tubes, building a multiplate chamber pseudospark electron beam source, a kit of components for conducting gaseous discharge and electron beam experiments, building a simple cathode ray tube, a De Forest style audion triode, electron optics kits from the 50's and 60's, a simple chilled baffle for small diffusion pumps, an amateur's homemade transmission electron microscope, compression fittings from the sink drain, simple electrical feedthroughs, amateurs rebuild a large vacuum coater for telescope mirror making, original thought experiments in vacuum, a 250 kV impulse transformer, a cheap oil mist filter, simple ways of making electron and ion optics, a radio using the homemade vacuum triode, cleaning procedures for epoxy bonding.

Plans for 1995 (and probably beyond) include simple apparatus for classroom use, simple Pirani and Penning gauges, a windowed vacuum tube for transmitting electron beams into the air, ideas for original research, a shock tube for simulating micrometeorite impacts, low and high power pulsed x-ray sources (the Mather device, micro z-pinch, etc.), a crossed-field tube capable of initiating nuclear reactions, a 1-1/2" diffusion pump, topics in ultra-high vacuum, novel high voltage pulse

and dc power supplies, vacuum coating, demonstrating the multipactor (electron multiplication) effect, plasma immersion implantation the easy way.

Regular features include free classifieds, readers' commentary, items of interest from the professional literature, notes on suppliers of vacuum components and scientific apparatus.

Subscriptions to "the Bell Jar" are on a calendar year basis with issues mailed in January, April, July and October. Subscription orders received after November 1 begin with the first issue of the following year unless otherwise specified. Each issue contains an average of 16 pages of well packed and neatly composed content with no commercial advertising. Back volumes are always available. Prices, including first class or air mail postage, are:

1995 $20 (US addresses), $23 (Canada, Mexico), $29 (elsewhere)
1994 $20 (US addresses), $23 (Canada, Mexico), $29 (elsewhere)
1993 $20 (US addresses), $23 (Canada, Mexico), $29 (elsewhere)
1992 $15 (US addresses), $18 (Canada, Mexico), $24 (elsewhere)

Electronic Version

As an adjunct to the hardcopy publication, a truncated ascii format version is being produced on an irregular basis. Comprised of material extracted from "the Bell Jar", this version appears as a posting on several Usenet newsgroups. Individuals may also request to be placed on the distribution list by sending email to the editor.

Steve Hansen (editor & publisher)
35 Windsor Drive
Amherst, NH 03031

Phone: (603) 429-0948
email: hansen35@delphi.com

1044. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 07:52:01 UTC
From: engel@netcom.com
Message-ID: <ENGEL.95Mar21235201@netcom7.netcom.com>
Source record: 113843

ed@fore.com writes:

> ...But what does BNC stand for? Does it stand for anything?

British Naval Connector

Yes, er, uh, maybe no. I don't know. Oh forget it.

1045. Re: Kit for First Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 08:42:05 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <795861725snz@lfheller.demon.co.uk>
Source record: 113844

In article <jhewell.14.00B6F05B@primenet.com>
jhewell@primenet.com "Jim Hewell" writes:

> I'm interested in getting into amateur radio and
> would very much like to build my equipment. If anyone has any good ideas for
> a first radio "kit" please reply. Also, are TenTec kits any good?? I just
> ordered their catalog today.

I don't think you will learn very much from constructing a kit, if you
are starting from scratch. I'd build a simple "crystal" Rx to start with,
and work your way up from that. Add a simple AF amplifier, then an RF
amplifier. Then use the resultant TRF Rx as the IF amplifier and AF
stage for a superhet, by adding a mixer and local oscillator. This
type of Rx will only be suitable for AM, of course. You could substitute
a regenerative detector for the diode detector and alter the frequency
coverage, enabling you to listen to CW and SSB amateur transmissions.
This was basically how I started 30 years ago.

Alternatively, a simple direct-conversion Rx, would enable you to listen
to amateur transmissions straight away, although you probably won't learn
as much.

The ARRL Handbook which you should be able to find in any good bookshop
is full of the basic "building blocks" for the types of receiver mentioned
above. Your local amateur radio club should also be able to provide you
with lots of advice and assistance.

73, Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

1046. Re: 2800 Mhz RCV XVRTR

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 08:51:14 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <3kooe2$ea3@proffa.cc.tut.fi>
Source record: 113845

Brian C. (bcieslak@mkelan5.remnet.ab.com) wrote:

> I need some help building a 2800 Mhz -> 2 M Receive converter for the radio
> telescope project I am working.

Is this a solar flux monitor you are building (10.7 cm) or are you also
interested in other sources in the sky ?

If you are building some kind of radiometer you should use as large
bandwidths and long integration times as possible for best result.
The sensivity is proportional to the (square root ?) of the
bandwidth * integration time product. Using some narrowband 2 m equipment
as the IF-stages would require very long integration times to get any
usable sensivity. Only if the spectral line is narrower than +/- 8 kHz,
it makes sense to use the IF-strip of a narrow band FM-receiver.
At 2800 MHz, +/- 8 kHz doppler shift corresponds to velocities below
+/- 1 km/s and thus most spectral lines of any stellar sources are much
wider than this.

To compensate for the gain drift during long integration times, you
must be able to compare your receved signal with a known noise source,
such as an antenna relay switching a few times a second between your
antenna and a 300 K noise source (50 ohm dummy load). Alternatively
a reference antenna pointing to a "cold" part of the sky can be used
as a noise reference.

> Is an interdigital filter a converter?

An interdigital filter is just a group of resonator sections connected
together with the stray fields of the adjacent resonator sections.
Some designs have a built in mixing diode at the end of the filter and
in this case we can talk about an interdigital converter.

Paul OH3LWR

--
Phone : +358-31-213 3657 Mail: Hameenpuisto 42 A 26
Internet: Paul.Keinanen@cc.tut.fi FIN-33200 TAMPERE
Telex : 58-100 1825 (ATTN: Keinanen Paul) FINLAND
X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

1047. Re: push-pull grounded screen.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 12:50:48 UTC
From: burke_br@adcae1.comm.mot.com
Message-ID: <1995Mar22.125048.23858@lmpsbbs.comm.mot.com>
Source record: 113846

In article 689045495wnr@ifwtech.demon.co.uk, G3SEK@ifwtech.demon.co.uk (Ian G3SEK) writes:
}In article: <1995Mar20.162043.48520@ucl.ac.uk> davek@medphys.ucl.ac.uk (Dave Kirkby)
writes:
}:
}: Many VHF amps use push-pull for extra power. Some designs for single tube amps
}: use grounded screen (ie cathode below ground, control grid even more negative). Is
anyone aware
}of a design for an RF amplifier, using two tubes that uses grounded
}: screen, push-pull? If so, please let me know.
}:
}:
}: I have tried to design such a beast, using a pair of 4CX1000A tubes. It never did work
}: too well and are wondering if I am attempting the impossible. The problem may be the
}: difficulty of matching into the high input C of the 4CX1000A at 144MHz. I know many
}: designs using one tube of this type.
}
}Were they grid-driven or cathode-driven, Dave? The latter should be
}easier to match.
}
}Glad to hear you were trying so hard to make your 400W PEP super-clean ;-)
}
}
}--
}73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
} 'In Practice' columnist for RadCom (RSGB)
}Professionally:
}IFW Technical Services Clear technical English - anywhere.
}

Instead of trying to directly ground the screen, "ac" ground it by bypassing
the rf to ground and feeding the screen with it's required voltage.

73,
Bruce, WB4YUC

1048. Help. airline inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 13:15:48 UTC
From: pff@bfs.uwm.edu
Message-ID: <pff.6.0031CBBF@bfs.uwm.edu>
Source record: 113812

I have a schematic for an 80 watt 144mhz amplifier that requires eight inductors (labelled L1-L8) that look like chokes. The problem is that it does not say anything other than ,for example ,L1- .3x1.2 cm airline inductor, for each of them. Does anyone know how to interprete this? I need to know how many turns of some guage wire don't I? any help appreciated.

1049. Re: What does bnc stand fo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 16:41:44 UTC
From: rdcole@crl.com
Message-ID: <3kpk08$n9@crl6.crl.com>
Source record: 113847

Bob Liesenfeld (Bob.Liesenfeld@f100.n282.z1.fidonet.org) wrote:
: EE>
: EE>I have a BNC connector on my 2m ht. We also use them in our
: EE>computer network. But what does BNC stand for? Does it stand for
: EE>anything?
: EE> Ed N3SDO
: EE> Ed@fore.com
: EE>
: EE>---
: EE> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
: EE>(1:282/100.0)Hi Ed,
: I have heard two versions... "baby N connector" and "bayonet N
: connector". I can not testifiy to the veracity of either of these, but
: suspect the bayonet version may be correct.
: Bob Liesenfeld WB0POQ

If memory serve me it "Bayonet Neilman Connector" Neilman eas the Bell Labs engineer that invented the "N Connector". There are a couple of other related connectors the TNC "Threaded N Connector" used today on many cell phones. And ther was a Large Bayonet N Connector but I can't remember the name of that thing. I only saw the thing on Goverment Electronics, DOD and NASA stuff.

Ron
N5HYH

1050. ### Help wanted: Construction of a Gel cell charger...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 16:50:30 UTC
From: s2202629@np.ac.sg
Message-ID: <3kpkgm$kgm@nova.np.ac.sg>
Source record: 113848
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

I've recently acquired a 12V 10Ah sealed lead acid battery, and am interested in constructing a charger for it.

I am looking into the cct in the "ARRL Handbook for Radio Amateurs (1994)", but have got several questions about it.

Anyone out there who has built one of these beasts, could you perhaps help answer a few questions I have?

Basically, I'd like to know if I wish to step -up- the bulk charge current, do I only need to change Rs? With a max rate of C/4, a 10Ah battery I presume can be rigged up with 2.5A maxmimum.

I'm interested in rigging up the charger with a bulk current of either 1A or 2A, depending. If I set it up to 2A, would it mean it would take 5h for a charge cycle?

Finally, is the TIP42 able to drive a 2A bulk charge? In the article, there is a "A note of caution: The o/p drive of the '3906 is limited to 25mA. This may not be enough Q1 drive for high bulk currents. If so, choose a more sensitive current amplifier to take the place of Q1".

Is 2A considered a "high bulk current", if so, what would be a recommended replacement for Q1? Do I need to change any other components?

I'd also like to know what would the difference be if I were to use a bulk charge of 0.5A, and 2A, would it affect battery performance/life?

I would appericiate some help on this, please email me. Thank you.

1051. Old Radio Manuals FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 17:21:25 UTC
From: "John Green"
Message-ID: <3kpmal$491@falcon.ic.net>
Source record: 113849

More Old Radio Manuals FS

Prices include postage in U.S.

reply email green@ic.net

Moyer, James A., and John F. Wostrel. Practical Radio Construction and Repairing. New York: McGraw-Hill, 1927; 1st edition, 2nd impression. Hard cover, 319 pages, index, glossary, 157 illustrations. $20

Popular Science. Everybody's Radio Manual: How to Build and Repair Radio Receivers. New York: Popular Science Publishing, 1944; 4th printing. Hard cover, 256 pages, index, 184 illustrations. $15

1052. wireless ethernet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 17:51:43 UTC
From: jconsole@datares.com
Message-ID: <D5usA8.1sr@dorsai.org>
Source record: 113850

can anyone please point me to a source where i can find a project i can build or a diagram of wireless ethernet. thanks.

1053. FM^2 and TTY Signals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 17:58:05 UTC
From: kaiserpa@mwk.com
Message-ID: <1995Mar22.115805.2766@mwk.com>
Source record: 113851

What is FM^2? How is it modulated/demodulated?

Another question I hope someone can help me on is the Hamcomm RTTY baudot mode. I have a friend who is deaf and he wanted a way to transmit TTY baudot 45.5 baud over the phone line using his computer. I though the Hamcomm program and circuit would work perfectly so I built the circuit and recorded some of the TTY signal to play back to the Hamcomm program. I got garbage. Everything is setup correctly but the characters are different. Does anyone know if the deaf TTY baudot uses a different character set than the Hamcomm program or am I just missing something.

Thanks,

Patrick

1054. TNC schematics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 18:07:51 UTC
From: phineas@bbs.dream.fi
Message-ID: <3kpp1n$gn9@idefix.eunet.fi>
Source record: 113852
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Are 9600 TNC schematics available via net?

I've heard it's possible to get some "baycom-like" modem (ie. cheap
and simple) to support 9600? Is this true? Are schematics available?

--
Sami Laine.....Yo-Kyla 82 A 2, 20540 Turku, Finland
phineas@dream.fi.....OH1JKT.....+358-21-2542137,(FAX 2542749)

1055. What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 18:41:00 UTC
From: MUENZLERK@uthscsa.EDU
Message-ID: <01HOFSSJ4JRM002B4N@uthscsa.edu>
Source record: 113853

ed@fore.com (Ed Bathgate) writes:
>I have a BNC connector on my 2m ht. We also use them in our computer
>network. But what does BNC stand for? Does it stand for anything?
>
> Ed N3SDO
> Ed@fore.com

It stands for itty Bitty N Connector, hi.
Actually I think it stands for bayonet N Connector. Where N is just
a type of connector that Amphenol (sp?) came out with.

Kevin (WB5RUE)
muenzlerk@uthscsa.edu

1056. Re: What does bnc stand fo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 19:08:38 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.795899318@melpar>
Source record: 113854

rdcole@crl.com (Ron Cole) writes:

>Bob Liesenfeld (Bob.Liesenfeld@f100.n282.z1.fidonet.org) wrote:
>: EE>computer network. But what does BNC stand for? Does it stand for
>: EE>anything?
>: EE> Ed N3SDO
>: EE>(1:282/100.0)Hi Ed,
>: I have heard two versions... "baby N connector" and "bayonet N
>: connector". I can not testifiy to the veracity of either of these, but
>: suspect the bayonet version may be correct.
>: Bob Liesenfeld WB0POQ

And once again:

BNC - Bayonet Neill-Concelman
TNC - Threaded Neill-Concelman
N - Neill
C - Concelman

Neill & Concelman were the engineers who developed the whole
family of connectors (BNC, TNC, N, C) and thus they are named after
the developers (BTW, "Concelman" may not be correctly spelled).

Any definition ending in "connector" (such as "baby N connector")
would make the term "BNC connector" redundant, so I doubt if any
engineer in his right mind would invent a connector which used the
word "connector" as part of the acronym. Common usage for all
standard connectors attaches the word "connector" to the abbreviation
(BNC connector, UHF connector, SMA connector, D-connector, N connector,
RCA (or phono) connector, etc.).

73,

Paul, K4MSG

* Paul H. Bock, Jr. * Principal Systems Engineer
(|_|) * E-Systems/Melpar Div. * Telephone: (703) 560-5000 x2062
| |) * 7700 Arlington Blvd. * Internet: pbock@melpar.esys.com
* Falls Church, VA 22046 * Mailstop: N203

"Imagination is more important than knowledge." - Albert Einstein

1057. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 20:25:29 UTC
From: chuckb@tc.fluke.COM
Message-ID: <D5uzEp.DHn@tc.fluke.COM>
Source record: 113855

In article <3kkq1l$c53@shell.fore.com> ed@fore.com (Ed Bathgate) writes:
>
>I have a BNC connector on my 2m ht. We also use them in our computer
>network. But what does BNC stand for? Does it stand for anything?
>
> Ed N3SDO
> Ed@fore.com

Bayonet Navy Connector.

--
Chuck Bowden / WB7R / chuckb@tc.fluke.com / (206) 356-6228
Fluke Corporation / MS 232E / PO Box 9090 / Everett WA 98206-9090

1058. Q: 3SK48 pinouts: As given in the ARRL handbook page 31-1 ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 20:37:36 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <3kq1o7$ca5@cat.cis.Brown.EDU>
Source record: 113856

Hi,

I'm thinking of building my own receiving antenna preamp per the
ARRL handbook. I just got the 3SK48 dual-gate MOSFET and wonder
if somebody would be kind enough to confirm that the pin markings
given in the ARRL handbook op page 31-3 (year 94) for the 3SK48/51
3N204,3SK40 and 3N211 are valid for all five MOSFETs.

thanks,
john 015

1059. Re: Help reading schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 21:15:47 UTC
From: zlau@arrl.org
Message-ID: <1995Mar22.211547.5719@arrl.org>
Source record: 113857

Jon Badger (jbadger@poplar110.cray.com) wrote:

: I have a schematic listing several components with typical R values like 56k,
: 470R, etc. but some are listed as 3k3, 4k7 and 5k6.

: Q1 = what does the 4k7 and 3k3 style of notation represent?

This style of notation often denotes that the schematic was
published in Europe. I often use it in my notebooks, and have
to do a conversion when writing a project up in an ARRL
publication.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1060. Re: FM^2 and TTY Signals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-22 23:49:02 UTC
From: dmiller@crl.com
Message-ID: <3kqd1e$806@crl6.crl.com>
Source record: 113858

kaiserpa@mwk.com wrote:
: What is FM^2? How is it modulated/demodulated?

"FM Squared" --trademark Wegener Corporation is really just an extension of the audio subcarrier concept as used in "audio above video" in satellite video applications.

Usually, audio subcarriers (which are frequency modulated) are summed together with baseband video, and this whole soup is used to frequency modulate the satellite carrier.

In FM^2, there is no video. You just sum a bunch of previously modulated FM subcarriers, and then use them to FM modulate the satellite carrier. Really, the absense of video and the resultant room for more subcarriers is the main distinguishing feature of FM^2. Often, the modulation index is set such that the optimum receiver IF bandwidth is not 36 or 25 MHz, as in normal video receivers, but more like 14 MHz or so, so smaller antennas can be employed (less noise bandwidth). Experimental systems have been proposed with IF bandwidths as low as 7 or 8 MHz.

The FM^2 carriers on an FM^2 transponder will usually be a mixture of audio and data carriers. Usually, but not always, the audio will be companded using the Wegener Panda I (tm) companding system. I think regular 2:1 companding is also common.

I think the two transponder vendors supporting the FM^2 space segment are United Video and Microspace.

I believe the above information to be at least 90% accurate, but 100% accuracy is not guarenteed!

--

Don Miller My opinions are my own!
dmiller@crl.com

1061. Video camera L-Control signals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 00:52:24 UTC
From: johnsong@sword.eglin.af.mil
Message-ID: <3kqgo8$5bf@kbad.eglin.af.mil>
Source record: 113859

Hi!

I want to control my video camera remotely using its L-Control input,
but I don't know the specs. I assume it uses some sort of TTL-level
serial protocol that I could recreate with a microPIC or something.

I would appreciate any info you have regarding controlling video
devices with L-Control or any other common protocols. I am mainly
interested in the PAUSE/STOP commands, but any others will help.

Thanks in advance!

Gary Johnson, AD4DR
johnsong@tsun.eglin.af.mil

Usual standard disclaimers apply.

1062. Re meaning of BNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 01:31:49 UTC
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org
Message-ID: <1995Mar22.203149.2261@wb3ffv.ampr.org>
Source record: 113860

I vote for the story from two people who mentioned the engineers by the names of Neill and Concelman. The BNC came from a collaboration between them, and was called the Bayonet Neill-Concelman, or BNC. This info (and a little more about the N and C connectors) was on page 38 of the October 1989 issue of QST, in the Technical Correspondence section, titled "Coaxial-Connector Alphabet Soup", submitted by Kent Britain, WA5VJB. An editorial comment below the letter said that the information originally appeared in the May 1985 issue of QEX magazine, another ARRL publication. (I can't vouch for the authenticity of this, since I wasn't even born when these connectors were designed, but at least this info is in print and it can be verified that I am accurately reporting on what I saw in print :-) .) 73 DE WA8MCQ

1063. Re: What does bnc stand fo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 01:38:33 UTC
From: tkreyche@zdlabs.ziff.com
Message-ID: <tkreyche-220395173738@tomkreyche.zdlabs.ziff.com>
Source record: 113861

when I was school I was told bayonet neil-conselman, don't know the exact spelling.

tom kg6yj

1064. 40m, 80m kit advice needed.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 01:58:13 UTC
From: PHILLIWL@ctrvax.vanderbilt.edu
Message-ID: <PHILLIWL-2203951958130001@remote5.vanderbilt.edu>
Source record: 113862

Hello --
I have been a ham for about 2 years and have kept entirely to U/VHF on my Kenwood handheld. I have had a blast with it but am now interested in some other things.

First, I have recently gotten into homebrew stuff and am having a lot of fun with that. Second, I have a friend who is moving to eastern North Carolina (I live in Nashville, TN), and we would like to stay in touch by radio.
I am interested in finding a transceiver kit suitable for this purpose.

If anyone can give me some advice on one or more of the following matters, I'd very much appreciate it:

1. We want our communications to be as reliable as can be expected (Nashville <--> eastern North Carolina). What wavelength is likely to give the most reliable results at a distance of approximately 600 miles? 40m? 80m? 160m?

2. How much power will I need to use? (I know this depends on many factors.)

3. Is it possible to have an antenna appropriate for 40m, 80m, or 160m that is effective, but isn't as long as a football field? I live in an apartment building, on the top floor.

4. I would like to build the stuff myself (a kit... I'm not yet to the point of doing it from scratch!). Can anyone recommend a maufacturer of 40m, 80m, or 160m transceiver kits?

That's it. *Whew* I know this is quite a lot to ask. Even if you can supply info about just one of the questions, it would be extremely helpful.

Thank you.

Will, KE4ALY
Vanderbilt University

--
Wm. L. Phillips
Philliwl@ctrvax.vanderbilt.edu

1065. patch antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 05:30:44 UTC
From: torch@netcom.com
Message-ID: <torchD5von8.Kzo@netcom.com>
Source record: 113863

I'm thinking of building some patch antennas for 1.2-1.5 Ghz, and am looking for specs. Pse email with any info! Thanks!
John
WN9T

1066. Re: FM^2 and TTY Signals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 05:31:50 UTC
From: rdcole@crl.com
Message-ID: <3kr146$f4d@crl3.crl.com>
Source record: 113864

Donald J. Miller (dmiller@crl.com) wrote:
: kaiserpa@mwk.com wrote:

: The FM^2 carriers on an FM^2 transponder will usually be a mixture of
: audio and data carriers. Usually, but not always, the audio will be
: companded using the Wegener Panda I (tm) companding system. I think
: regular 2:1 companding is also common.

FWIW, my ABC/SMN Country Coast to Coast FM^2 receiver from Wagner uses Panda II which is 2:1 Companding After/Before the 75uS Pre Emp. IE the Receiver will 2:1 Expand the 75uS De-Emp.

FWIW

Ron
N5HYH
VP Engineering US 90 W Communications

1067. Re: High power DC/DC conv. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 08:13:13 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3kraip$nmu@info4.rus.uni-stuttgart.de>
Source record: 113866

You can bet your shirt, that PC transformers will not survive anything they have not been designed for. (May be you can improve insulation or put together better high frequency transformers, sounds a good idea though).

Still, the switching device in a PC power supply is intended to swith the 220 V, and it seems stil a big problem to me to switch 10 or so A at 12 V without too big losses. (correct me if I am wrong)

73, Moritz DL5UH

1068. Re: Changing freq. of xta

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 09:04:08 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3krdq9$d9g@news1.databank.com>
Source record: 113865

Bob.Liesenfeld@f100.n282.z1.fidonet.org (Bob Liesenfeld) wrote:
>BB>
>BB>Yes yes, I can see it now... use a dark brown beer bottle, attach
>BB>vacuum pump, insert electrodes, seal that baby up, attach pins, and
>BB>VOILA! A REAL cold 807!
>BB>

My old Gonset uses 811's and they're getting damn hard to find.
This thread isn't funny.
Well, maybe a little.

1069. hairpin-filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 14:21:28 UTC
From: mikael.landing@teknikum.uu.se
Message-ID: <3ks058$h2h@columba.udac.uu.se>
Source record: 113867

Looking for design-equations or design-program for hairpin-filters.
Are going to build front end filter for 1.8GHz receiver!

Anyone knows where to find it?

Thanks de , sm5lym Micke

1070. Simple schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 14:49:31 UTC
From: werner@acsu.buffalo.edu
Message-ID: <3ks1pr$cd@azure.acsu.buffalo.edu>
Source record: 113768

I was wondering if anyone had any schematics for the biginner trying to learn about ham radio. I just bought the 96 ARRL handbook and there are few "simple" schematics. I was wondering if anyone had scans of some and could share them. What I am looking for is say a simple, least number of components, receiver and CW xmtr.

Erik

1071. Re: TNC schematics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 15:35:10 UTC
From: jdevenport@lanl.gov
Message-ID: <3ks4fe$oe8@newshost.lanl.gov>
Source record: 113769
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <3kpp1n$gn9@idefix.eunet.fi>, phineas@bbs.dream.fi (Sami Laine) says:
>
>Are 9600 TNC schematics available via net?
>
>I've heard it's possible to get some "baycom-like" modem (ie. cheap
>and simple) to support 9600? Is this true? Are schematics available?
>

I'm emailing you a schematic of a modem that can support almost any baud
rate with appropriate component changes (a couple of capacitors and/or
resistors). The BAYCOM SOFTWARE will not support such baud rates but
this modem will.

73,

1072. Re: attenuating 100w xcvr RF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 15:50:26 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Mar23.155026.26127@ke4zv.atl.ga.us>
Source record: 113770

In article <kaulD5tH8z.4Dy@netcom.com> kaul@netcom.com (Alan Kaul) writes:
>I've noticed a few people asking about 'how to build attenuators' to
>reduce the power of 100 W rigs. SOMETIMES YOU CAN REDUCE THE POWER
>WITHOUT AN ATTENUATOR! If your rig has an ALC input (usually it is a
>jack, often RCA-or phono-type on the rear chassis), you can often force a
>power reduction by introducing a negative voltage to the center pin.

This works, however, it is not always desirable. When you throttle these
PAs down to the milliwatt level, the intrinsic noise floor of the
amplifier can nearly equal the desired signal, so you're transverting
as much noise as signal.

A 30 db coupler in the line to a dummy load is a good alternative
way to get a low power signal for the transverter.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1073. Re: 40m, 80m kit advice needed.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 16:27:48 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Mar23.162748.26320@ke4zv.atl.ga.us>
Source record: 113771

In article <PHILLIWL-2203951958130001@remote5.vanderbilt.edu>
PHILLIWL@ctrvax.vanderbilt.edu (Wm. L. Phillips) writes:
>
>1. We want our communications to be as reliable as can be expected
>(Nashville <--> eastern North Carolina). What wavelength is likely to
>give the most reliable results at a distance of approximately 600 miles?
>40m? 80m? 160m?

80m is your best bet in the evening, 160m as the night goes on, but
summertime static can make both bands miserable. They're much better
in winter. 40m is the only choice in daylight. At night it lengthens
out too much, and the international broadcasters will come booming
in to aggrevate the already high interference level.

>2. How much power will I need to use? (I know this depends on many factors.)

Yes it does. In summer, on 80m voice, you may need the legal limit at
times, though 100 watts will normally be sufficient. Using CW or data
modes, lower power will generally suffice. 50 watts should do the job
even on some of the more obnoxious summer evenings. You'll have to pick
and choose your times carefully to make it with 5 watts or less.

>3. Is it possible to have an antenna appropriate for 40m, 80m, or 160m
>that is effective, but isn't as long as a football field? I live in an
>apartment building, on the top floor.

Well, you can do it on 40 and 80, but 160 meter antennas start to
reach out to football field length. :-)

For that path, you want a fairly high angle radiator. A low dipole
will work well while a vertical is the wrong thing to use. You can
end load a 40 meter dipole to make it work on 80 as well, following
the principle of the Lattin antenna. That'll be a 66 footer which
you can probably hang low over the apartment house roof.

>4. I would like to build the stuff myself (a kit... I'm not yet to the
>point of doing it from scratch!). Can anyone recommend a maufacturer of
>40m, 80m, or 160m transceiver kits?

Well, there are two or three makers of small low power CW kits. I don't
know of anyone still offering SSB rigs as kits since Heathkit's demise,
but there may be one or two. QRP isn't likely to be the way to go to
keep a schedule on these bands, however. I'd suggest you want something
in the 100 watt class. Any of the older amateur rigs will do for this job,
and you can modify some of them to your heart's content, and probably
save money over a kit too.

Many of the older rigs can stand improvement to their audio amplifiers to eliminate hum and better shape the audio. They can stand improvements to their receiver front ends to improve overload response. And they can stand better IF filtering. Each of those steps can be a separate project that can keep you interested for several weeks to months. You're likely to learn more modifying these old radios than you will by building a kit. And best of all, you'll start with something you know worked before you got into it. That can be a major help to the neophyte designer/builder.

Something like a TS-520 or older Ten-Tec would make a good starting point. Old Drakes are good enough you probably wouldn't want to tinker with them. Best of all, you may find an older Heathkit with manuals. Any of those should be available for under $300, perhaps way under $300 if they're a bit sick.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1074. Re: What does bnc stand fo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 17:55:48 UTC
From: drted@ix.netcom.com
Message-ID: <3kscn4$9ju@ixnews4.ix.netcom.com>
Source record: 113772

In <3kpk08$n9@crl6.crl.com> rdcole@crl.com (Ron Cole) writes:

>
>Bob Liesenfeld (Bob.Liesenfeld@f100.n282.z1.fidonet.org) wrote:
>: EE>
>: EE>I have a BNC connector on my 2m ht. We also use them in our
>: EE>computer network. But what does BNC stand for? Does it stand for
>: EE>anything?
>: EE> Ed N3SDO
>: EE> Ed@fore.com
>: EE>
>: EE>---
>: EE> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
>: EE>(1:282/100.0)Hi Ed,
>: I have heard two versions... "baby N connector" and "bayonet N
---snip---
>remember the name of that thing. I only saw the thing on Goverment
>Electronics, DOD and NASA stuff.
>
>Ron
>N5HYH
>
>
I KNOW it is only a pet peeve of mine... And I really shouldn't bother sucking up bandwith with this. BUT... In this question and many others offered here in good faith, so many people are willing to jump in with baseless suppositions or vague feelings. Why do they bother? I bet some readers here could dig up copies of the standards forms used to propose and grant acceptance to any connector that is commonly accepted and rated by an international organization. This would be the undisputed source of the common nomenclature for anything. Now, maybe the official standards name of the BNC is some numerical string, and the string "BNC" was adopted from common public usage. I don't know. But I would love to see someone post a reference here from official proposals or standards documentation.

Beyond this, I am sure that commercial and nationalistic interest would compell some leaders to fabricate false meanings to common acronymns. For instance, if Bell Labs employees Neill and Councilman actually first designed and fabricated the "BNC" connector and Bell Labs submitted it for military and international acceptance under the name connector, "Bayonet, Neills, Councilman," and if the British navy adopted it for usage, I am sure some official stuffed shirts would think that the name should reflect something British. So, official word may have come down the line that the connector be known as the "British Naval Connector."

Whoa, I am frothing at the mouth and raving. I only wanted to ask
people who aren't sure about an answer to not bother replying. Please,
somebody shoot me...

--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

1075. NEED HELP IDENTIFYING HITACHI DEVICE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 18:42:44 UTC
From: owens@stout.atd.ucar.edu
Message-ID: <3ksff4$q56@ncar.ucar.edu>
Source record: 113773

Can someone help in identifying the following Hitachi part?

It is a TO-3 package device-could be a Bipolar or FET-I don't know. It has the Hitachi logo on the package and part number of: K 135 Is this a 2SK135, 3SK135, or something else? It is being used as a driver for a relay coil-28VDC @ approx. 100mA. Any help would be greatly appreciated as I can't find this listed in any data book available to me.

Thanks!
Chip Owens
owens@stout.atd.ucar.edu

--
Chip Owens (owens@stout.atd.ucar.edu)
NW0O (boatanchors forever!)

1076. Re: Simple schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 19:09:52 UTC
From: mjsilva@ix.netcom.com
Message-ID: <3ksh20$asv@ixnews4.ix.netcom.com>
Source record: 113774

In <3ks1pr$cd@azure.acsu.buffalo.edu> werner@acsu.buffalo.edu (Erik Werner) writes:

>
>I was wondering if anyone had any schematics for the biginner trying to
>learn about ham radio. I just bought the 96 ARRL handbook and there are
>few "simple" schematics. I was wondering if anyone had scans of some
and
>could share them. What I am looking for is say a simple, least number
of
>components, receiver and CW xmtr.
>
Look at "W1FB's Design Notebook", "W1FB's QRP Notebook", "QRP Classics" and "Solid State Design for the Radio Amateur", all ARRL publications. The two Notebooks are probably closest to what you're looking for, but they're all good reading.

Mike, KK6GM

1077. Re: NEED HELP IDENTIFYING HITACHI DEVICE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-23 21:58:55 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-2303951658550001@k4dii.ksc.nasa.gov>
Source record: 113775

In article <3ksff4$q56@ncar.ucar.edu>, owens@stout.atd.ucar.edu (Chip Owens) wrote:
> It is a TO-3 package device-could be a Bipolar or FET-I don't
> know. It has the Hitachi logo on the package and part number
> of: K 135 Is this a 2SK135, 3SK135, or something else?
> It is being used as a driver for a relay coil-28VDC @ approx.
> 100mA.

Chip-

According to the D. A. T. A. Transistor volume, your device is most likely a 2SK135, rated at 7 Amps/100 Watts, in a TO-3 Case, manufactured by Hitachi. The book didn't list a voltage rating, which might be the critical parameter for driving a relay coil.

Does the relay coil have a reverse-biased diode across it? Such a diode will reduce the induced voltage spike when the coil is turned off, although it will delay the relay opening.

The 3SK135 appears to be small, maybe a surface-mount package ("SOT"?), and is manufactured by NEC.

Fred

1078. Re: What does bnc stand fo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 00:15:11 UTC
From: w9sz@prairienet.org
Message-ID: <3kt2uf$jcv@vixen.cso.uiuc.edu>
Source record: 113776

>
>I have a BNC connector on my 2m ht. We also use them in our
>computer network. But what does BNC stand for? Does it stand for
>anything?
> Ed N3SDO
>
>
> I have heard two versions... "baby N connector" and "bayonet N
>---snip---
>remember the name of that thing. I only saw the thing on Goverment
>Electronics, DOD and NASA stuff.
>
>Ron
>>N5HYH
>>
>>
>I KNOW it is only a pet peeve of mine... And I really shouldn't bother
>sucking up bandwith with this. BUT... In this question and many others
>offered here in good faith, so many people are willing to jump in with
>baseless suppositions or vague feelings. Why do they bother? I bet
>some readers here could dig up copies of the standards forms used to
>propose and grant acceptance to any connector that is commonly
>accepted and rated by an international organization. This would be the
>undisputed source of the common nomenclature for anything. Now, maybe
>the official standards name of the BNC is some numerical string, and the
>string "BNC" was adopted from common public usage. I don't know. But I
>would love to see someone post a reference here from official proposals
>or standards documentation.
>
> (deleted)...
>
>For instance, if Bell Labs employees Neill and Councilman actually first
>designed and fabricated the "BNC" connector and Bell Labs submitted it
>for military and international acceptance under the name connector,
>"Bayonet, Neills, Councilman," and if the British navy adopted it for
>usage, I am sure some official stuffed shirts would think that the name
>should reflect something British. So, official word may have come down
>the line that the connector be known as the "British Naval Connector."
>Whoa, I am frothing at the mouth and raving. I only wanted to ask
>people who aren't sure about an answer to not bother replying. Please,
>somebody shoot me...
>
>--
>Bye... Ted..

>Deep in the Heart of the Armpits of Houston, Texas...
>

Hi,
I have posted this before...I don't know if anyone saw it...but I have the definition IN WRITING in the ARRL UHF/MICROWAVE EXPERIMENTER'S MANUAL right here in front of me. It has a whole section on connectors, beginning on page 5-17. "BNC" stands for "Bayonet-Neill-Concelman", "N" stands for "Neill", C stands for "Concelman", TNC stands for "Threaded Neil-Concelman". Also, OSM stands for "Omni-Spectra Miniature" and SMA stands for "Sub-Miniature type A".
The section of the book describes the connectors and why and when they are useful. Also has a lot of photographs.
I figure a textbook on this would be the definitive answer, as I haven't seen anyone else actually list a written source for the definitions of these terms.
...Where'd I put that British Naval Connector? :-)

73,
Zack W9SZ

1079. Need schematics for an FM transmitter and a receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 00:56:17 UTC
From: industry@texas.net
Message-ID: <3kt1lu$8pg_001@dialnet49.texas.net>
Source record: 113777

I need some schematics for an FM transmitter that is inexpensive, small and easy to build. I also need plans for a receiver with the same qualities. I'm transmitting DTMF tones and decoding them at the other end for a remote control. I need a 1/4 to 1/2 mile range. They can be fixed-frequency or whatever. Please email any suggestions or plans to <industry@texas.net>.
Also any FTP or WWW sites with plans/schematics on transmitters, receivers, and DTMF encoders/decoders would be appreciated. Thanks in advance...

1080. NEED HELP WITH REPEATER!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 02:00:43 UTC
From: helix@solaria.sol.net
Message-ID: <3kt94b$q8t@solaria.mil.wi.us>
Source record: 113778

HELP!!!

I am putting up (hopefully) a "homebrew" 440 MHz repeater within the Milwaukee, WI area, serving a good chunk of the Southeastern Wisconsin area (esp. outlying Milwaukee Metro). I have a GE MASTER II, 8 channel, 40 watt 450-500 ranged mobile unit, WITH instructions and everything.

I want to place this thing in the amateur band. Now...

I understand that these radios can be modified to receive/transmit properly within the amateur spectrum, but am having problems finding any appropriate documentation regarding this equipment. Seeing how old it is, I have had quite a bit of difficulty within the Milwaukee Metro area finding anything to do with any form of amateur radio.

I NEED HELP!!! If anyone has information who currently has or can point/steer me in the right direction to someone who current has information regarding modifying the GE MASTER II, 8 channel mobile radios into a repeater, I would like to have an email address and/or telephone number along with the name and callsign of the individual.

I am retrofitting this equipment into an existing MOTOROLA MOCOM 440 MHz repeater that works, but the receive isn't too hot. I've heard that GE's equipment is far more adjustable and easier to work with than MOTOROLA's.

Any comments and/or help?

Again... I NEED SOME HELP FROM ANYONE ON THIS MATTER!!!

Please send email to this address: helix@solaria.mil.wi.us

Thanks and 73 de KC6ONL!

-r

1081. NEED HELP ON BUILDING REPEATER!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 02:07:51 UTC
From: helix@solaria.sol.net
Message-ID: <3kt9hn$qju@solaria.mil.wi.us>
Source record: 113779

HELP!!!

I am putting up (hopefully) a "homebrew" 440 MHz repeater within the Milwaukee, WI area, serving a good chunk of the Southeastern Wisconsin area (esp. outlying Milwaukee Metro). I have a GE MASTER II, 8 channel, 40 watt 450-500 ranged mobile unit, WITH instructions and everything.

I want to place this thing in the amateur band. Now...

I understand that these radios can be modified to receive/transmit properly within the amateur spectrum, but am having problems finding any appropriate documentation regarding this equipment. Seeing how old it is, I have had quite a bit of difficulty within the Milwaukee Metro area finding anything to do with any form of amateur radio.

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I am retrofitting this equipment into an existing MOTOROLA MOCOM 440 MHz repeater that works, but the receive isn't too hot. I've heard that GE's equipment is far more adjustable and easier to work with than MOTOROLA's.

Any comments and/or help?

Again... I NEED SOME HELP FROM ANYONE ON THIS MATTER!!!

Please send email to this address: helix@solaria.mil.wi.us

Thanks and 73 de KC6ONL!

-r

1082. Re: RF/Wireless Jobs/Companies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 04:03:25 UTC
From: robboma@aol.com
Message-ID: <3ktgad$hue@newsbf02.news.aol.com>
Source record: 113781

In article <3kna3t$9cr@usenet.rpi.edu>, Lance Lascari WS2B wrote:
>
>
> Most of us have sent out resume's.... and we've snagged a few
> interviews, but Human Resources departments often get in the way of
> seeing what we have to offer (motivation, practical experience with
> RF/Microwave design/evaluation/behaviour). Surprisingly I've run into
> companies that seem to think that enthusiasm for ham radio is a BAD
> thing.

That's too bad but that's THEIR loss. A Ham license alone is not the Holy Grail to a good job but can definitely help. The key is to demonstrate in the interview how ham radio ties into the job your interviewing for. Even something as apparently simple as curing a TVI/RFI problem your transmitter has caused demonstrates effectiveness at solving tough, "real world" problems.

daveb@gate.net (David Bengtson) wrote:
>I think that you are looking at the proverbial chicken and egg issue. Many
>of the opportunities in the wireless industry are based on shipping
>products fast. Many of the companies are on the small side, where they
>cannot afford the year learning curve that a freshout RF engineer will
>take. Thus, the growth in demand for experienced engineers, and the dearth
>of opportunities for freshouts.

True.....but freshouts also give fresh life to tired, old organizations. I've learned allot by explaining (or trying too!!) theory and practice of design to a freshout. They are sharp, analytical and keep the old-timers on their toes with their "simple" questions.

>Based upon my experience with the hiring of freshouts, I would have to say
>that a suprising amount is due to having your resume in the right place at
>the right time.
Very, very true.

>I suspect that your best chance is to target the large companies playing
>in the wireless PCS market, where you can come in as a blank freshout,
>and be trained in the company way,
Be careful not to get pigeon-holed....
"Joe, learn PLL's 'cause you'll be doing synthesizers for the rest of your life...."

>or to look at the smaller companies, where you might be the only
>RF guy there, and so would have to do everything.
Can't recommend it.....you'll want a good mentor. You can VERY
quickly get in VERY deep in RF design. A good mentor can help steer
you clear of a disaster....and quickly help in getting you out of trouble.

I like small companies best.....you get to do a bit of everything.
Systems engineering, marketing, design engineering, EMC testing.....
You get the whole enchilada!

>I'm not suprised that some companies see a ham license as a negative
thing.
>Unless you have published articles in the ham technical journals, home-
>brewed a receiver < not an app note special >, or otherwise proved your
>technical chops in the ham radio venue, a license is irrelevant.

Disagree completely......
Designing a receiver from an "app note special" is a pretty dam good thing

for a freshout to have done. No decent engineer EVERY starts a design
from
scratch. That's pure stupidity. App notes are written by very bright
people
who's purpose is to get a designer started off on the right foot when
working
with their part. They are not meant to be the last word on receiver
design,
but they are a good start. Anyway, you'll find that copying an app note
for
a receiver design is just the beginning......debugging it will take a
newbie
some time and that time is spent learning! Nothing wrong with that.

>Working DX, doing disaster relief, etc. isn't important for a RF
engineer.
Working DX quickly teaches you something......."It's the Antenna, stupid."

>What is important is technical ability and motivation.
Agree 100%. No substitute.

>In addition,
>some of the hams that I have worked with have spent 90% of their time
>working on side projects, the ham club repeater, etc., etc., etc. That,
in

How about all those "hackers" masquerading as engineers...
They waste allot of time playing with their computers, optimizing their
SVGA drivers, windows configuration files, etc. There will always be
engineers
who can't effectively manage their time, ham license or not!

>combination with their being ignorant blowhards, makes a ham license a
>perceived negative.
I won't even touch this one!

>The thought would be " how much time is this joker going to spend working

>on a 0.2 dB NF preamp for his EME setup, rather than working on what he
>should be doing."

>Just my personal comment. Take with a grain of salt, please.
>Dave Bengtson

I understand and I did. Now for a few more of mine.

New grad hams are in a terrific position to understand the WHOLE system.....not just what the optimum bias point for a low-noise MOSFET is. If they have done packet, satellite, SSTV or anyone of a dozen other modes they are WAY ahead of the crowd. How many RF designers understand what TCP/IP, X.25, or a TNC is? Not many.

Any ham who has poked inside a modern dual-band HT can learn something about the ART of high density, low cost RF product engineering.

You got to be able to use your ham experience to your advantage and demonstrate to prospective employers that your ahead of the game.

Just my two cents!

Good luck,

Bob Masucci
WB3DBL

1083. No-Tune XVerter help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 04:33:29 UTC
From: w9sz@prairienet.org
Message-ID: <3kti2p$645@vixen.cso.uiuc.edu>
Source record: 113782

Hello,
Have any of you out there made your own board for the KK7B
no-tune 903-MHz transverter? (July 1991 QST.)
I requested and received the template for the board from ARRL and
copied the pattern onto Kodalith and then onto G-10 board. This is my
normal practice for making PC boards. The board appears to be an exact
replica of the template pattern.
For some reason, I cannot get the multiplier chain on the
oscillator section to put out any RF at 759 MHz. I have RF at 94.875 MHz
going into the multiplier/filter, and measured it at about 8 dBm. But no
power out of the filter/amplifier chain.
I don't have access to a spectrum analyzer or a receiver for 759
MHz, but do have a dBm power meter and frequency counter. Both perform
well up to 1296 MHz.
I thought I had a bad MMIC, even though the bias on all the
MMIC's is correct, so I swapped them all out. Still no mixer RF. Then I
swapped out the multiplier diode and chip caps; still no 759 MHz RF.
I tried the trick of replacing the Xtal with a 47-ohm resistor
and tuning the trimmer cap over a wide range of freqs, thinking maybe
some of the striplines were marginally tuned to the freq I needed...still
mo RF out.
I have made 4 540-580 MHz LO boards and 2 2160-2320 MHz
multipliers from the same sheet of G-10 and they all perform perfectly
over the entire frequency range. (See July 1989 QST.) I used the same
procedure to copy those PC patterns from the magazine article and make those
boards.
So this problem has me totally baffled! Any suggestions? Has
anyone else run into this problem? I'd like to get it going before the
June VHF QSO party!

Zack W9SZ

1084. Supply of Electronic Components to enthusiast in Australia

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 09:12:43 UTC
From: Arthur Hyde <rhyde@uniwa.uwa.edu.au>
Message-ID: <3ku2eb$497@styx.uwa.edu.au>
Source record: 113783

Can anyone suggest a convenient supplier of Motorola Linear integrated circuits, eg MC3363 and the like in small quantities. I am having trouble sourcing these items in Australia.

I can be contacted by Email: rhyde@uniwa.uwa.edu.au

Arthur Hyde.

1085. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 12:06:23 UTC
From: peter@Thoth.ST.3Com.COM
Message-ID: <PETER.95Mar24070623@Thoth.ST.3Com.COM>
Source record: 113792

Should this be in the FAQ?

--
--

Peter Simpson, KA1AXY Linux! Peter_Simpson@3mail.3com.com
3Com Corporation The free Unix (508) 836-1719 voice
Northborough, MA 01532 for the 386 (508) 393-6934 fax

1086. doppler shift DF for foxhunting

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 12:28:45 UTC
From: joshm@melbourne.DIALix.oz.au
Message-ID: <3kudttcmb1@melbourne.DIALix.oz.au>
Source record: 113784

Hi there can any body help me out with a desing for doppler shift direction finding equiptment that can be homebrewed if you can help please let me no.....

JOSHUA DAVID MILLER.
joshm@melbourne.dialix.oz.au

1087. Homebrew tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 15:55:26 UTC
From: dcadd@luc.ac.BE
Message-ID: <9503241555.AA03713@alpha>
Source record: 113785

Greetings from a pleasantly warm Diepenbeek in N.E. Belgium!

Bob Liesenfeld wrote concerning homebrew bottles. The degree of vacuum you need is really dependent on getting the electron mobility high enough. Putting it another way, if there's too much gas in the tube, you may end up with a thyratron instead of a triode! Typically, the vacuum needed is of the order of 1 x 10 ^(-6) mm of mercury. This is achievable with a diffusion pump, years ago the manufacturers used mercury diffusion pumps, but the same degree of vacuum can be obtained with oil diff pumps. Unfortunately, these pumps can't pump down from atmospheric pressure, and they need a 'backing pump' usually a rotary type which can reduce the pressure to about 1 x 10 ^(-2) mm of mercury before the diff pump takes over. To buy both types new is very expensive, but I've occasionally seen second hand ones offered by a variety of scrap/junk dealers. At a pinch (what an awful pun!) you could use the compressor from an old fridge (contaminate the ozone layer with its current contents!) as the rotary backing pump - it may be good enough connected as a vac pump - then you need a second hand diff pump! Plus oil or mercury! Very messy.

The long-term reliability problem (and maybe not so long term) is due to the fact that the electrode structure gradually evolves adsorbed gases because of course in a valve the electrodes get warm/hot. In early valve manufacture I think they got around this by very lengthy pumping whilst running the tube. Later, the use of RF heating (i.e. stick the whole valve inside a QRO tank coil whilst pumping loads of RF into it) combined with pumping, to heat the electrodes to red heat whilst drawing off the gas was used, and additionally a 'getter' was employed inside the tube. This is the silvery layer frequently seen on the glass. A small blob of more-or-less exotic alloy, containing barium or magnesium, was heated again by RF induction, when most of the gas had been removed as above. This deposits a layer of metal on the envelope of the valve and because the surface of this metal is chemically very clean, and also is chemically very reactive (magnesium and barium will even combine with nitrogen under these conditions) most gas which evolves from the electrodes after the valve is sealed and during its working lifetime will be effectively grabbed by the getter. This obviously helps to prolong the valve life and also avoids poisoning of sensitive cathodes, e.g. the 'modern' oxide-coated cathode which runs at maybe 5-600 C. 'Soft' valves have become soft generally due to (1) a defective seal (2) excessive gas emission from the electrodes (3) a defective getter i.e. the surface is contaminated or overloaded. Pure tungsten cathodes, whilst having the disadvantage of comparitively low electron emission and needing to be heated to white heat, nevertheless have the advantage that they are virtually immune to poisoning. Until relatively recently, tungsten was still the cathode of choice in such applications as electron microscopes which are regularly exposed to the atmosphere. There are still specialist applications where it is used - and obviously it would be the easiest cathode for an amateur tube brewer to work with. Oxide coated cathodes use a mixture

of strontium and barium salts on a heater, which are chemically changed during tube evacuation/RF heating - a little tricky perhaps to replicate and worse, the heavy metal salts are toxic and probably not available to Joe Public.

A variety of metals have been used for grid and plate structures - molybdenum for plates springs readily to mind, try consulting old valve radio books e.g. Henney or Terman - packed with fascinating info.

Finally, (!) soda glass as used in beer bottles and much domestic glassware has the advantage that it softens at low temperature, but is very susceptible to stress accumulation and cracking - reworking it is generally not done. In the glassblower's shop, here at the Limburgs Universitair Centrum we use borosilicate glass (like Pyrex etc) which needs a much higher temperature to work it (gas/oxygen flame) but which is rather better behaved than soda glass and which tends to make better glass-to-metal seals, another subject in itself. For one-offs, where the price is not prohibitive, platinum wire makes an excellent gas-tight seal (but I can't see them using it for 6146s!)

Hope this answers a few questions!
73,

Duncan G0UTY / ON9CHU G-QRP 8117
"Like the Greek Harpics of mythology. Understandable if you believe that sort of guff." Sir Henry Rawlinson (also gouty)

1088. Re: push-pull grounded screen.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 17:02:54 UTC
From: Alf Green <alf>
Message-ID: <3kutvu$oql@adm09.iac.honeywell.com>
Source record: 113786

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:
> Many VHF amps use push-pull for extra power. Some designs for single tube amps
> use grounded screen (ie cathode below ground, control grid even more negative).
> Is anyone aware of a design for an RF amplifier, using two tubes that uses grou
> screen, push-pull? If so, please let me know.
>
> I have tried to design such a beast, using a pair of 4CX1000A tubes. It never did work
> too well and are wondering if I am attempting the impossible. The problem may be the
> difficulty of matching into the high input C of the 4CX1000A at 144MHz. I know many
> designs using one tube of this type.
>
> davek G8WRB.
>
> --
>

Hmmm. TWO 4CX1000's? In my UK days, we had a 400W pep limit. I guess you must have
some really lossy coax.....

73s de Alf NU8I/G4ABB
alf@agreen.iac.honeywell.com Phoenix, AZ

1089. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 17:11:59 UTC
From: Alf Green <alf>
Message-ID: <3kuugv$oql@adm09.iac.honeywell.com>
Source record: 113787

bandy@well.sf.ca.us (Andrew Scott Beals) wrote:
> ed@fore.com (Ed Bathgate) writes:
>
> >I have a BNC connector on my 2m ht. We also use them in our computer
> >network. But what does BNC stand for? Does it stand for anything?
>
> Bayonet Naval [Navy?] Connector
>
> TNC is Threaded ... ...
>
> TNC came first, and BNC was the improvement on it.
>
>

This shows up as a thread on sci.electronics about twice a year.

There is a good summary of connector development history in the ARRL Microwave handbook.

The N and C are the initials of the developers, Neill and Concelman (sp?) who also developed the 'N' and the 'C' connectors.

BTW, TNC and BNC have the same electrical characteristics, but the TNC is mechanically much more stable. The BNC is popular simply because it is faster to connect/disconnect.

73s de Alf NU8I/G4ABB
alf@agreen.iac.honeywell.com Phoenix, AZ

1090. Need Transistor Data

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 17:36:43 UTC
From: gjk@hogpc.ho.att.com
Message-ID: <D5yGx8.EAK@nntpa.cb.att.com>
Source record: 113788

I'm trying to fix an intermittent problem with my Kenwood TS-940s. Occasionally, the radio loses lock. I've isolated the problem to a circuit which has had some repair work. If I spray a particular transistor with "circuit cool" the radio jumps back into lock. The problem may just be a flakey solder joint resulting from troubleshooting the previous problem. But, since it's such a pain to get at the circuit board, I figured I might just want to replace the transistor. According to the Kenwood Service Manual, the part is a 2SC2787(L). I've tried looking at replacement lists at local parts distributors and haven't found a substitute (yet). I'm still looking for data on the transistor itself. I'd appreciate it if somebody could send me some data about this so I could figure out at substitute. I really don't want to order from Kenwood since this takes too much time (and money!).

Thanks,

Gerry Kersus, W1GD
gjk@hogpa.att.com

1091. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 18:18:51 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3kv2eb$n5j@info4.rus.uni-stuttgart.de>
Source record: 113790

In article <3kkq1l$c53@shell.fore.com>, Ed Bathgate <ed@fore.com> wrote:
>I have a BNC connector on my 2m ht. We also use them in our computer
>network. But what does BNC stand for? Does it stand for anything?

Please not again.

The subject has been exhaustively discussed here a few weeks ago
with the result, that they are named after their inventors:
(Bayonet) Neill Concelmann connector.

1092. 1750 Meter Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 20:20:30 UTC
From: S965544@UMSLVMA.UMSL.EDU
Message-ID: <1736BC9AE.S965544@UMSLVMA.UMSL.EDU>
Source record: 113789

I am currently building a transciever for FM voice modulation on the 1750 Meter Experimental Band, and would like to hear from anyone who has tried this. I am alraedy well aware of the problems and limitations associated with this band in general, as well as with FM and voice modulation on the frequency. I am not interested in opinions or advice, only in hearing from anyone who has actually tried FM voice modulation on this frequency. Thanks.

Bill Johnson
S965544@ADMIRAL.UMSL.EDU

1093. Addresses to Scandinavian Magazines ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 21:13:41 UTC
From: cj@aristotle.algonet.se
Message-ID: <3kvckm$1u4@alecto.algonet.se>
Source record: 113791
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Attention all SCANDINAVIANS ;-)

I'm looking for names and addresses (tel and faxnumbers) to national
HAM, electronics, science or technical magazines published in Denmark,
Norway, Iceland and Finland...

If you could help me with this please reply...

PS! I'm sorry to use an International group for this but I couldn't

find any Scandinavian group with a correct carter...

Thanks in advance,

/Christer

```
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* Christer Johansson -- HTH -- * email: cj@aristotle.algonet.se *
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
>> World Wide Web: http://www.algonet.se/~cj/homepage.html <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

1094. Re: wireless ethernet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 22:02:39 UTC
From: dbashaw@synoptics.com
Message-ID: <3kvfhv$aun@inn.synoptics.com>
Source record: 113793

I'm not sure what site holds standards docs. Recently I have read
in the trade journals that there is a proposed 10BaseRadio spec
in a preliminary form. I'd like to look at it myself.

Dave
wa6qwl

1095. Re: Need Transistor Data

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-24 23:59:13 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3kvmd3$qmg@news1.databank.com>
Source record: 113795

gjk@hogpc.ho.att.com (-G.KERSUS) wrote:
>
<SNIP>
>Kenwood Service Manual, the part is a 2SC2787(L). I've tried looking at
>replacement lists at local parts distributors and haven't found a substitute
>(yet).

Gerry,

The Japanese devices are in widespread use at hi-fi/video service companies. To deal with specs and substitutions, they often use a book which is published each year that identifies 2SA thru 2SD semiconductors. The cover of the book is part Japanese, part English, but all the specs for the devices inside are in English.

I think it's called the "Transistor Data Book", and the repair shops obtain it from two companies that I am aware of: MCM Electronics (near Chicago, I think) and CEI Electronics.

Sorry, I've been out of the biz for a number of years so I don't have more information. Hopefully this will be enough to help you track it down.

73,

Jack WB3U

1096. Re: RF/Wireless Jobs/Companies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-25 02:04:34 UTC
From: n0dh@comtch.iea.com
Message-ID: <3kvtni$7iq@krel.iea.com>
Source record: 113796

RobboMa (robboma@aol.com) wrote:
: In article <3kna3t$9cr@usenet.rpi.edu>, Lance Lascari WS2B wrote:
: >
: >
: > Most of us have sent out resume's.... and we've snagged a few
: > interviews, but Human Resources departments often get in the way of
: > seeing what we have to offer (motivation, practical experience with
: > RF/Microwave design/evaluation/behaviour). Surprisingly I've run into
: > companies that seem to think that enthusiasm for ham radio is a BAD
: > thing.

Well I for one am looking for an RF Sustaining engineer. I will give serious consideration to New GRads and Freshouts with Ham BAckgrounds If you can demonstrate that you've at least done some serious homebrewing at 150 MHZ or above. You also have to make a serious commitment to moving to Spokane WA. Also looking for Rf TEST and Quality types as well. HAm experience is neither a hindrance or a help just a different kind of experience. Appliance operators however need not apply. For further info send me a direct E-MAil inquiry.

Equal Opportunity Employer...etc etc.

Dave
n0dh@comtch.iea.com

1097. No-Tune XVerter help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-25 03:08:40 UTC
From: hduff@humnet.westonia.com
Message-ID: <7800-202043401@humnet.westonia.com>
Source record: 113797

> Hello,
> Have any of you out there made your own board for the KK7B
> no-tune 903-MHz transverter? (July 1991 QST.)
> I requested and received the template for the board from ARRL and
> copied the pattern onto Kodalith and then onto G-10 board. This is my
> normal practice for making PC boards. The board appears to be an exact
> replica of the template pattern.
> For some reason, I cannot get the multiplier chain on the
> oscillator section to put out any RF at 759 MHz. I have RF at 94.875 MHz
> going into the multiplier/filter, and measured it at about 8 dBm. But no
> power out of the filter/amplifier chain.
> I don't have access to a spectrum analyzer or a receiver for 759
> MHz, but do have a dBm power meter and frequency counter. Both perform
> well up to 1296 MHz.
> I thought I had a bad MMIC, even though the bias on all the
> MMIC's is correct, so I swapped them all out. Still no mixer RF. Then I
> swapped out the multiplier diode and chip caps; still no 759 MHz RF.
> I tried the trick of replacing the Xtal with a 47-ohm resistor
> and tuning the trimmer cap over a wide range of freqs, thinking maybe
> some of the striplines were marginally tuned to the freq I needed...still
> mo RF out.
> I have made 4 540-580 MHz LO boards and 2 2160-2320 MHz
> multipliers from the same sheet of G-10 and they all perform perfectly
> over the entire frequency range. (See July 1989 QST.) I used the same
> procedure to copy those PC patterns from the magazine article and make those
> boards.
> So this problem has me totally baffled! Any suggestions? Has
> anyone else run into this problem? I'd like to get it going before the
> June VHF QSO party!
>
> Zack W9SZ
>

Hi Zack... Hmmm...My first thought would be to check the multiplier
diode... It looks like you covered that one though. Make sure it is the
correct part or an equivalent.
You might also play around with the coils in the oscillator by spreading
or compressing then or even removing turns. I had trouble with this
even though I was getting the 90-odd Mhz out, I couldn't seem to get a
harmonic until I played with the coils right at the oscillator.
Otherwise, make sure your freq. counter is working :)
These may be obvious things that you've already covered but worth a try.
Let me know how you make out !
73 Hugh Duff VA3TO/VE3OYH Toronto

NFX v1.3 [000]

--

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1098. Re: Homebrew tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-25 03:54:31 UTC
From: stevedas@aol.com
Message-ID: <3l045n$5kg@newsbf02.news.aol.com>
Source record: 113798

It may be possible to reduce the cost of the vacume system in a one-off type device by using just a combination compressor type vacume pump and a large suppy of liquid nitrogen on a cold finger which is a poor mans cryopump. Or course the cold finger has to be "tipped off" while cold. Good Luck

Steve Swartz N0SGE

1099. M56760 PLL info ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-25 04:28:56 UTC
From: hduff@humnet.westonia.com
Message-ID: <7800-175085401@humnet.westonia.com>
Source record: 113799

Looking for data format and programming information on the M56760
PLL I.C. Datasheets would be nice ! Also curious to know who the
manufacturer is (Mitsubishi ??)

My Kenwood TM-741 triband FM rig uses these PLL's in the band modules.
I'd like to design a "front panel" for these modules so that I can
use any one of them standalone (without the need for the TM-741
chassis). This would require an audio amp with volume control, a
squelch control, a mic input, a couple of regulators for the various
required DC voltages and a microcontroller to talk to the PLL and shift
registers as well as monitor the PTT line. I have a test bed all laid
out...just need to determine the format and data to be sent to the
PLL chip.

Thanks...Hugh VA3TO Toronto hduff@humnet.westonia.com

• NFX v1.3 [000]

--

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1100. Re: Simple schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-25 05:03:00 UTC
From: Deeter_Merz@f239.n109.z1.fidonet.org
Message-ID: <NOMSGID_1=3A109=2F239.0_950325_000300_14c82488@fidonet.org>
Source record: 113800

-=> Quoting Werner@acsu.buffalo.edu to All <=-
We>
We> I was wondering if anyone had any schematics for the biginner
trying
We> to learn about ham radio. I just bought the 96 ARRL handbook and
there
We> Erik

What I would do if I were you (and I have done this to an extent myself
seeing
as I am in your position as well, cept I know quite a lot about
electronics)
is I would pick up your ARRL handbook and read it. About three or four
times.
It may seem boring at first, but press on. I have learned a lot in
about three
weeks time. Don't worry about understanding all of the formulas and
math and
stuff at first (although if you can, it is a big plus). Just read and
get
a general idea from it. You gotta want to learn. If you don't, the
book will
be boring. Otherwise it is a great reading source (not the type of
book to
take to the beach, but if ya wanna learn radio and electronics, it is
probably
the best).

Hope I helped some, and anyone should feel free to comment on what I
say.

Deeter Merz
___ Blue Wave/QWK v2.12

1101. Re: No-Tune XVerter help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-25 08:40:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3l0kto$45h@news1.databank.com>
Source record: 113801

w9sz@prairienet.org (Zack Widup) wrote:
>
<SNIP>
> I'd like to get it going before the June VHF QSO party!
>

Hmmm . . .

VHF Q-S-O party . . .

Is that like, well, you know, one of those CONTEST things?

1102. Source for Nichrome Wire?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-25 08:43:07 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3l0l3j$45h@news1.databank.com>
Source record: 113802

Anyone know where I can obtain a small quantity of 14 to 18 gauge nichrome wire? I'll be using it to tame parasitics in an old Gonset KW.

I tried salvaging this from a toaster, but it's impossible to solder after it's been oxidized by heat (even new toasters have been heated at least once).

Any and all help will be appreciated.

73, Jack WB3U

1103. Gen.Rad.Co. Cambridge.Mass.USA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-25 17:18:24 UTC
From: switehed@cix.compulink.co.uk
Message-ID: <D60Aqo.6y3@cix.compulink.co.uk>
Source record: 113803

Hi!

Anyone out there know anything about this equipment.
Fitted inside a wooden box.(with a great smell of camphor).

Amateur Band Frequency Meter. Manufactured by General Radio Co. Cambridge
Mass. USA.
Type 558-P. Belieived produced around 1930's.

Thanks for any info.

Stan..G3RDA.

1104. Re: Simple schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-25 17:41:14 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3l1jfm$8gl@nuclear.microserve.net>
Source record: 113804

Deeter_Merz@f239.n109.z1.fidonet.org (Deeter Merz) wrote:

>What I would do if I were you (and I have done this to an extent myself
<snip>
>is I would pick up your ARRL handbook and read it. About three or four
>times.

IMO, this is one of the best pieces of advice for any newcomer. I did
the same thing, many years ago, and the Handbook gradually became
the foundation for my understanding of RF and electronics. Information
in the Handbook was sufficient to allow me to pass the General and pick
up the 2nd Class 'Phone, both without study guides.

73,

Jack WB3U

1105. Re: 6 meters/transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-25 20:48:23 UTC
From: daustin@community.net
Message-ID: <3l1vin$gv8@odin.community.net>
Source record: 113805

In article <1995Mar16.130259.1@iccgcc.cle.ab.com>, braidich@iccgcc.cle.ab.com says:
>
>
>
>I built my Ten-Tec Xverter in Oct. Works great. No TVI. I use mine
>with a 100 watt xcvr & home brew attenuator. Well worth the money.
>GL & 73 George, WA8VFA

Where do I get info on such a device. I have HF system. Wanting to play
around on 6 meters. (SSB/CW)
Tnx ahead of time.
Dave Austin
daustin@community.net or http:/community.net/~daustin

1106. Re: FM to SSB?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-26 02:48:23 UTC
From: tvr@cnmat.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Mar25184823@cnmat.CNMAT.Berkeley.EDU>
Source record: 113806

For the purposes of discussion, if you have something like an FM receiver chip, presumably you could extract the output of the IF before the limiter stage, and process for SSB. A project in a recent ARRL handbook uses an MC3362 in just that way for QRP HF receiver. But the problem i see is the VCO: if it's within a few KHz, that's fine for FM. But i think you need to come alot closer to make SSB work at all (at least without DSP hackery), not to mention sound plausible. Such a VCO may be relatively easy to make for HF, but you won't get that stability very easily at VHF/UHF.

The T2 phasing exciter described in a recent QST is also supposed to be able to generate FM as well as SSB [April 1993, p. 30], but i don't think that's what you had in mind. Probably none of this is, but it'll probably stir up discussion nonetheless and some of us may learn something... But previous posters are right, you're better off starting from scratch rather than trying to hack something up.
-- KD6PAG

1107. Tempatrimmer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-26 04:15:36 UTC
From: demerson@heineken.tuc.nrao.edu
Message-ID: <3l2pp8$lbh@solitaire.cv.nrao.edu>
Source record: 113807

About 25 years ago, I bought a small trimmer capacitor with a variable temperature coefficient. This was intended to be used to stabilize drifting VFOs, and was superb at this task. It think it was called a "tempatrimmer" and made by Oxley in the U.K., although I'm not sure of these facts.

Does anyone know if it's still possible to get such devices, in the U.K., U.S.A. or anywhere?

Thanks,
73
Darrel, aa7fv & g3sys.

aa7fv@amsat.org

1108. Homebrew tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-26 05:05:22 UTC
From: EUGENE.WELCOME@rook.wa.com
Message-ID: <5F441C8A@rook.wa.com>
Source record: 113808

Hi again Duncan: I caught another mis-conception about tubes on Fido and because of my nature I put my foot in mouth and typed away. I hope this conference is receptive to trivia from the past.

No one dares ask me the time. They will be able to build the clock by the time I am finished.

***> Yep, but there are also valves like 12AX7W etc. These are
***> commercial tubes with usualy a coating over the filament to give
***> them a longer life.

Actually a commercial grade tube has precise alignment of the elements with more element supports. Military spec's call for heavier glass envelopes along with the hours of on line testing or so called burn in testing. As far as the filament is concerned, extra coating is not applied to the filament. There however is a cathode placed over the pure tungsten filament wires that is oxide coated. This coating is made up of barium and strontium oxides. In commercial and military tubes this coating is tightly controlled for thickness, composition and hardness. The oxide eventually flakes off with time and with tight manufacturing controls, this can be predicted for reliability applications demanded of the tubes in combat or most unforseen hazards they hope the tubes can survive. Now of course, this is not required as much now, except the large special purpose tubes the military or what industry still use.

Some info about Tungsten Filaments. Pure tungsten was one of the first materials to be used as a thermionic surface.(electron emission) Tungsten operates at a temperature of about 4070 degrees F with an emission rating of 2.7 amperes per square inch of surface. The emission efficiency at this operating point is about 0.004 Amp per watt of heating power. As with all other thermionic emission materials, the characteristics vary greatly with small changes in operating temperature. A so-called "cold" tungsten filament at 3600 degrees F produces negligible emission. Tungsten has a great advantage over other materials in its physical strength and its ability to have an effective infinite emitting life.

Thoriated tungsten filaments was developed to improve emission efficiency. A small percentage of thorium oxide is mixed with tungsten and the material is then made into the necessary physical structure required for the tube's filament. Then this filament is heated to just below the melting point. A monoatomic layer of thorium oxide works to the surface and is converted to pure thorium. This allows the use of tungsten's stength and higher operating temperatures yet will allow the thorium to emit at the temperature that thorium normally melts.

The results are, lower filament temp. of about 3000 degrees F and has a very high emission value of 7.6 amperes per square inch of surface. It also has a higher efficency of about 0.070 Amp emission per watt of heating power. Take a 5U4GB full wave rectifier, it uses thoriated tungsten filaments and can handle a peak of 1 amp of current. Example. The filament is 5 V at 3 A = 15 Watts times 0.070 A = 1.05 peak amp. If it had only tungsten filaments then the following applies. Filament is 5 V at 3 A = 15 Watts times 0.004 A = 0.060 peak amp. Of course the plate structure would get excessivly hot at 1+ amps so a continuous rating of 0.275 amps output current.
Pure tungsten is used only in tubes that have the cathode element added over the filament structure as mentioned above. Since we use AC power to light our tubes instead of batteries of long ago, tubes would introduce AC hum into the system and that is what brought about the developement of the indirect heated cathode. Besides, this gave the designers more choices of electron emissive elements that can be heated indirectly and yet not require a voltage directly to make it glow. Yet allows huge amounts of current to flow. Tungsten filaments are in reality cathodes in a tube stucture so the added indirect heated cathode as mentioned above opened up better designed tubes at lower watts of heater supply. Take the cathode coated with barium and strontium oxides. The operating temperature is lowered to about 1560 degrees F. The emission current is 3 amps per square inch of cathode surface with an efficiency of the order of 0.3 A emission per watt of heater power. One of the last rectifier tubes developed for TV's The 5AR4. It had the same base connections as the 5U4GB but with an indirect heated cathode directly connected to one side of the filament, pin 8. In fact this tube can be used in place of the 5U4 tube if the DC tap (rectified AC) to the filament is from pin 8 only. The 5AR4 fil. V = 5 at 1.9 A = 9.5 watts yet can handle 1 amp peak current easily. Filament is 5 V at 1.9 A = 9.5 Watts times 0.300 A = 2.85 amp. The max current for the 5AR4 is 0.250 Amp due to the smaller overall structure size of the glass bulb and plate size. A much cooler tube. Also indirect heated cathodes lowered the manufacturing costs of tubes. More Watt per Buck or translated to todays prices. More Watt per Kilo-Buck. :(

Keep Vacuum tubes off the endangered spicies list! Use them.

73, Gene, K7"EEK" !! a Mouse !!!
eugene.welcome@rook.wa.com

1109. Homebrew tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-26 05:05:22 UTC
From: EUGENE.WELCOME@rook.wa.com
Message-ID: <503C4EC9@rook.wa.com>
Source record: 113809

Hi Duncan: Thanks for an excellent post. What I offer enhances what you said and to save space I didn't repeat any text of yours. I do recommend yours for reading. It gives insight to Valve making. I offer some facts from the past about gassy tubes. I show a correct statement and a common mis-quote and I follow it with what really takes place as I was taught. I will also reset all Tube references to Valves. :-) I have worked on enough European Xray Machines in my career to feel comfortable with either notation. I had posted this on Fido in 1994 as a responce to gassy tubes and repost it to enhance your excellent post. Now I have to find those recommended vacuum pumps. I need more 6146's.

****** Its been a long time now, but I have read that a Blue glow on
****** the envelope of the tube is OK, if you have a Blue glow in
****** between the elements you have a bad gassy tube.
****** Whoa! It can't be both "OK" and "bad!"

But it can be "gassy" and be quite harmless, such as surface gas glow inside the glass envelope. See detailed explanation later.
Gas inside the element structure is not desired unless this valve was designed as a regulator, gaseous rectifier or gaseous triode/thyratron or tetrode/thyratron.
-6 -8
The vacuum in a vacuum valve = 10 to 10 mm of mercury.

Any molecule of air or gas of any kind left inside a vacuum valve after it has been evacuated will interfere with the free movement of electrons from the cathode to the anode (or any other elements in the valve). The manufacturer exhausts mos all the gas by mechanical pumping and then seals the outer glass or metal envelope of the valve. Inside are all the elements of the valve plus a small piece of chemically active metal, such as magnesium, called a "GETTER". By magnetic induction, the elements and the getter are heated. The getter explodes and combines chemically with the molecules of gas that are released by heating of the metal elements, or that are still in the valve, depositing part of itself in combination with the gas molecules on the inside of the envelope. From the outside this deposit appears as either a mirror-like or darkened area. Getters can be made from other materials such as barium, barium berylliate, zirconium, phosphorus and various mixtures of these. Some getters are designed to continuously remove gas which in effect maintains vacuum during the operation of the valve. They call these "KEEPERS".
A high degree of vacuum is known as "HARD VACUUM". A vacuum valve which is gassy for any reason is known as "SOFT VACUUM". Valves become soft because of leaks through the glass or metal envelope at sealed

edges or because of unintentional overheating of the elements, which may liberate some of the gas molecules that are normally present in metals. Keep those plates orange or less in color.:) Not white hot.:(Soft vacuum valves usually show a faint purple or light blue haze with-in the elements. The intensity of this glow varies directly with the plate current flowing through the valve.
Some valves, when operated at high plate voltages, produce a blue glow where electrons strike the inner surface of the glass envelope. This does not indicate the presence of gas but is the conversion of electric energy into light energy as the electrons strike some of the getter molecules or actinic glass molecules on the inner surface of the glass envelope.
Effect of gas upon the valve neutralizes the control of the grid over the current flow and can destroy the valve in short order. Positive ions created continuously by collisions between gas atoms and free electrons neutralize the space-charge so that large currents may be drawn at low plate voltages. In addition, the space-charge neutralization effectively increases the thermal efficiency of the cathode. This is desirable for mercury vapor rectifiers or thyratrons but in vacuum valves this spells destruction of the valve. There would be no way to control the current as the grid would be ionized positive resulting in the valve acting as a gas diode. (The grid lost control.) Now that takes care of the small signal type valve amplifiers.
Take power valves. You can not use getters due to the higher operating temperatures of the plate structure. The heat would evaporate the getter totally and poison the valve by destroying the vacuum.
Certain metals have the property of absorbing gases when raised to a high temperature. Example Tantulum will absorb gases when very hot. This makes tantulum very desirable to use for making plates and grids in power valves. Zirconium is another useful metal in this regard. At 1400 degrees C it will absorb oxygen, nitrogen, carbon monoxide and carbon dioxide. This metal is used in special valve designs that are very hard to evacuate during manufacture.

Real Radios Glow in the Dark.

73, Gene, K7"EEK" !! a Mouse !!! A Non-offensive Signature Line.
eugene.welcome@rook.wa.com

1110. Re: No-Tune XVerter help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-26 05:43:31 UTC
From: w9sz@prairienet.org
Message-ID: <3l2uu3$g48@vixen.cso.uiuc.edu>
Source record: 113810

In a previous article, jackl@pinetree.microserve.com (WB3U) says:

>w9sz@prairienet.org (Zack Widup) wrote:
>>
><SNIP>
>> I'd like to get it going before the June VHF QSO party!
>>
>
>Hmmm . . .
>
>VHF Q-S-O party . . .
>
>Is that like, well, you know, one of those CONTEST things?
>

Yep! But VHF contests are very different from HF contests. They don't take up much of the band, and if you live in fairly flat Illinois, are best done portable from hilltops! The pace is usually much slower, too. And most of the CW is 10 WPM or less.

All my VHF/UHF equipnemt is homebrew, too.

Try it, you may like it!

Zack W9SZ

1111. Re: No-Tune XVerter help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-26 07:44:06 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3l3625$st5@news1.databank.com>
Source record: 113811

w9sz@prairienet.org (Zack Widup) wrote:
>
>For some reason, I cannot get the multiplier chain on the
>oscillator section to put out any RF at 759 MHz. I have RF
>at 94.875 MHz going into the multiplier/filter, and measured
>it at about 8 dBm. But no power out of the filter/amplifier chain.

Hi Zack:

The company I work for manufactures microwave television
transmitters for 2.5 GHz. Before moving into marketing,
I was involved in component-level work with this equipment,
so I know how critical circuit components can be as you
approach these frequencies. I also know how necessary
an analyzer can be when things don't work properly.

I'm not familiar with the exact schematic you're using,
nor is it part of my library. Nevertheless, I will assume
that circuit techniques are generally the same as those
I've worked with in the past.

Just wondered if you know anyone who has built the equipment
from the magazine article successfully? If not, I'd sure
be tempted to analyze the dimensions of the striplines and such.
Multiplier circuits seem to be particularly critical in this
regard; sometimes, the smallest error can be sufficient to
totally inhibit all output.

What I'm getting at is that the print for the board might not
be to scale. It wouldn't be the first time a print shop
resized a graphic slightly to make it fit the page, and
stripline mistuning will show up long before component leads
no longer match the holes in the print.

Just a thought.

73,

Jack WB3U

1112. Need Transistor Data

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-26 18:13:09 UTC
From: EUGENE.WELCOME@rook.wa.com
Message-ID: <897599E9@rook.wa.com>
Source record: 113815

> Gerry Kersus, W1GD gjk@hogpc.ho.att.com wrote to all. help!?
> According to the Kenwood Service Manual, the part is a 2SC2787(L).

Hi Gerry, The transistor can be replaced by Phillips/Sylvania ECG107 or the NEC replacement line NEC107 or RCA SK9229. I have had good results with the substitutions by these three vendors. Many wholesale electronic supply houses offer the cross references free. Just ask.

73, Gene, K7"EEK" !! a Mouse !!! A Non-offensive Signature Line.
eugene.welcome@rook.wa.com

1113. Re: Gen.Rad.Co. Cambridge.Mass.USA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-26 23:27:43 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2603951727430001@nb-dyna80.interaccess.com>
Source record: 113817

In article <D60Aqo.6y3@cix.compulink.co.uk>, switehed@cix.compulink.co.uk
("Stan Whitehead") wrote:

> Amateur Band Frequency Meter. Manufactured by General Radio Co. Cambridge
> Mass. USA.
> Type 558-P. Believed produced around 1930's.

>
> Stan..G3RDA.

Sounds like quite a find, Stan, especially if it's still in its box.
There are people here who are very knowledgeably about GRC. I'm not one
of them, but I'm sure they will reply. You might also want to post on
"rec.antiques.radio+phono" to see what you learn.

Dave Moorman, K9SW
Downers Grove, Illinois

1114. Troubles with Ocean State Elec

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-26 23:59:32 UTC
From: dl278@cleveland.Freenet.Edu
Message-ID: <3l4v55$j36@usenet.INS.CWRU.Edu>
Source record: 113816

Anyone else had trouble getting Ocean State Elec to ship orders
in a reasonable period of time ? I'm quite disappointed with them,
told them so after they "blew it" on an order and then they
did it again. Doubt that I'll bother with them, which is a shame
as their catalog has a lot of stuff that is hard to'find elsewhere.
Although I'm of the opinion from their actual performance that they don't
have a lot of the stuff in stock as they used to.

Their excuses don't hold much water when I can mail an order to All
Electronics and have the parts in 20 days and one mailed to OS
the same day took 2 months and then it was a letter cancelling the order
because 3 of 20 items were out of stock.

Bill
--
email: bgraham@tecnet1.jcte.jcs.mil
ampr: N5LMX@K9IU.IN.USA.NA (but I'm in Germany (DA1WG), honest!)
"My head hurts, my feet stink and I don't love Jesus!"- J. Buffett

1115. Focal Point of a Microwave Dish

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 01:59:23 UTC
From: marwynn@phoenix.net
Message-ID: <3l565r$igg_001@news.phoenix.net>
Source record: 113718

I am in need of a formula for the focal-point of a microwave dish. I have a 18" dish that I want
to put on 10 GHZ. I can't find the formula. If anyone could help, I would sure appreciate the help.

Thanks

Marwynne Kuhn WB5PWG

1116. MT-500 / Mico-10 conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 02:27:54 UTC
From: Rich.Yost@bbs.mhv.net
Message-ID: <3l57ra$ra7@over.mhv.net>
Source record: 113719

[No readable article body recovered]

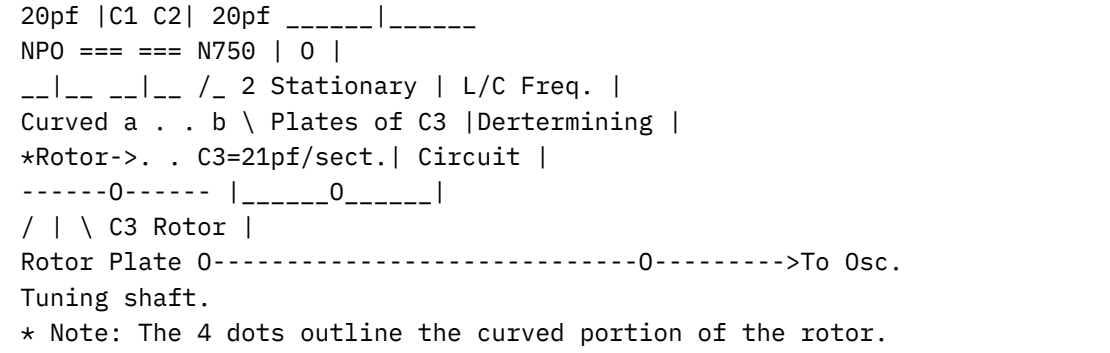
1117. Tempatrimmer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 02:53:41 UTC
From: EUGENE.WELCOME@rook.wa.com
Message-ID: <F8CA9486@rook.wa.com>
Source record: 113813

>About 25 years ago, I bought a small trimmer capacitor with a variable
>temperature coefficient. This was intended to be used to stabilize
>drifting VFOs, and was superb at this task. It think it was called
>a "tempatrimmer" and made by Oxley in the U.K., although I'm not
>sure of these facts. Does anyone know if it's still possible to get
>such devices, in the U.K., U.S.A. or anywhere?

Hi Darrel,
You can make this unit by using a "Differential Capacitor". E.F. Johnson used these in their VFO's. My first experience was with the 6N2 VFO Kit I built in the early 60's and shortly after, the RangerII kit. The differential cap was used in both kits. I show a semi-graphic schematic version of the Differential Cap as it would be connected in an oscillator circuit of a VFO. The differential characteristics come from the way the single rotor meshes with two stator plates. This rotor plate can mesh an equal amount with both plates at half capacitance. Further rotation increases capacitance on one and decreases capacitance on the other and still maintain an average capacitance when summed. The insertion of a 20pf NPO cap (C1) in series with one stator (C3a) and a 20pf N750 cap (C2) in series with the other stator of (C3b) allows the choice of 0 coefficient to a negative coefficient of 750 PPM/degree Celsius, translated Picofarads change per Picofarad of capacitance per degree Celsius. This allows for temperature changes that are positive to be offset by a correct selection of negative compensation. At this point I say go Digital. :) The above method works good but a little slow to find the correct adjustment. I spotted several differential capacitors in the Ocean State Electronics Flyer. Address is below.

Note: Capacitor values were selected at random.


O------O-------------------------O--------->To Osc.
20pf |C1 C2| 20pf ______|______
NPO === === N750 | O |
__|__ __|__ /_ 2 Stationary | L/C Freq. |
Curved a . . b \ Plates of C3 |Dertermining |
*Rotor->. . C3=21pf/sect.| Circuit |
------O------ |______O______|
/ | \ C3 Rotor |
Rotor Plate O----------------------------O--------->To Osc.
Tuning shaft.
* Note: The 4 dots outline the curved portion of the rotor.

This listing is for informational purposes only. Inclusion does not imply any endorsement, nor does exclusion of other suppliers imply a negative endorsement.

Ocean State Electronics 800-866-6626:401-596-3080: FAX 401-596-3590
P.O. Box 1458 Transmitting capacitors and rotary inductors
Westerly, RI 02891 CW keys, RF parts, power supplies etc.

Taken from the Mega-List of Brian Carling

73, Gene, K7"EEK" !! a Mouse !!! A Non-offensive Signature Line.
eugene.welcome@rook.wa.com

1118. $*$*$ 30 Weak Signal Challenge (HAM Post) - Now $40 $*$*$

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 03:55:43 UTC
From: ir000411@interramp.com
Message-ID: <3l5cvv$gkj@usenet.interramp.com>
Source record: 113720
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna

$*$*$ 30 Weak Signal Challenge (HAM Post) - Now $40 $*$*$

Five weeks have passed since the original posting of this challenge.
During that period, the Web page was accessed over 1000 times.
The weak signal recording has been listen to and processed by
many. Several operators using their best audio filters have been
able to copy my call. And yet, a correct identification of the calling
station has not been made. I am increasing the amount offered to $40
and will continue to escalate the prize until someone cracks the problem.

Details on the challenge can be obtained from my Web page:

http://www.webcom.com/~af9y/

If you do not have a Web Browser, you can ftp the following:

FTP ADR: ftp.webcom.com/pub/af9y/www/

Sound File: unkn422.zip This is the Zipped Wav File

Ref Files: af9ypage.zip GIFs of AF9Y Web Page (with challenge info)
fftdsp38.zip FFTDSP Demo Program
fft422.zip View of unkn422 in next release

The winner will be announce in the UseNet groups carrying this post
and my Web page.

Final Note for those trying their own signal processing techniques:

Many have asked about the WAV file format used for the
A/D recording. The format is a PC Windows standard which
contains 43, 8 bit-bytes of header (which can be thrown away)
followed by a consecutive series of 8 bit A/D data. The sample
rate was 8192 samples/sec.

Good Luck,
de Mike Cook - AF9Y

1119. Re: Focal Point of a Microwave Dish

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 04:46:59 UTC
From: werner@acsu.buffalo.edu
Message-ID: <3l5g03$kna@azure.acsu.buffalo.edu>
Source record: 113721

Marwynne Kuhn (marwynn@phoenix.net) wrote:
>I am in need of a formula for the focal-point of a microwave dish. I have a 18" dish that I want
>to put on 10 GHZ. I can't find the formula. If anyone could help, I would sure appreciate the help.

>Thanks

>Marwynne Kuhn WB5PWG

According to Phisicsfor Scientist and Engineers, Serway, p822,

"The focal point is

f=R/2 Where R is the inner radius of the dish."

What the accompaning illustration shows is that the radius is actually
the curvature of the dish. in ascii graphics..

```
*
*
* *
*
*
|-f-|
|---C----|
```

Erik

1120. 1750 METER BAND

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 05:22:15 UTC
From: HUBMML@LURE.LATROBE.EDU.AU
Message-ID: <01HOMVHXY7YQ94E65U@LURE.LATROBE.EDU.AU>
Source record: 113814

HI THERE
Noticed the message from Bill Johnson and his request for
info regarding FM on the 1750 meter band.
I haven't tried this band yet, but have been
searching for a circuit of
any transverter which will allow
me to operate on this band using my
Icom 735. I want, in particular, phone operation
and not CW, so SSB or FM, or AM modes would be OK.
I have the circuit in 73 Amateur Radio, 1988 by
Dave Curry, but don't know if all the parts are still
available.Any help gratefully received.
Kind regards, Murray. VK3EZM
Dr M Lewis
School of Human Biosciences
LaTrobe University
Australia.

1121. gps antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 06:22:24 UTC
From: rdavison@accessone.com
Message-ID: <3l5lj0$mne@pulm1.accessone.com>
Source record: 113723

Has anyone done any gps antenna homebrewing? If so, please e-mail me your experiences.

Regards,
Randy Davison
K7VOE

1122. DIELECTRIC GREASE, YES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 11:31:30 UTC
From: bpooley@fox.nstn.ca
Message-ID: <41300.bpooley@fox.nstn.ca>
Source record: 113724
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.homebrew

Walt, K2WK (waltk@PICA.ARMY.MIL) wrote:- ....

:Dielectric Grease, NOT!

:So, I want to lay to rest this business of dielectric grease,
:it doesn't exist and was a fig-newton of someone else's imagination.

:If binding dissimilar metals, a conductive grease is what is
:prescribed. 73 de Walt - K2WK

Walt: I have here the remains of a tube of Dow Corning 5 Compound,
described on the tube as "a silicone dielectric......5 Compound is used for
insulator and bushing flashover protection".

I used it on antenna connectors from MF thru CB to VHF when I was in the
marine electronics business. Used to stuff PL259/SO239 connectors full of
it, and they would unscrew easily two or three years later, and
that was on Nova Scotia's Cape Island fishing boats - one of the world's
unfriendliest environments for electronics. They would still conduct,
too, as indicated by power and SWR measurements. Admittedly this wasn't
dealing with dissimilar metals, but a daily sloshing with salt water
gives ample opportunity for corrosion. A side-effect, true of any
silicone grease I've met, is that a trace of this stuff on your fingers
means that black plastic electrical tape won't stick to anything you touch!

As to needing conductive grease for corrosion protection, most of us
have used Vaseline or similar petroleum jelly on car battery terminals for
decades. It isn't conductive, but the car still starts.

So the point of this ramble was to resurrect what you hoped was laid to
rest: Dielectric Grease, YES!

73, Ben VE1AHX

****
Ben Pooley Allendale Electronics Limited, Lockeport, N.S.
bpooley@fox.nstn.ca Phone (902) 656-2652 Fax (902) 656-2158

1123. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 13:58:52 UTC
From: zlau@arrl.org
Message-ID: <1995Mar27.135852.19451@arrl.org>
Source record: 113725

WB5RUE Muenzler, Kevin (MUENZLERK@uthscsa.EDU) wrote:

: It stands for itty Bitty N Connector, hi.
: Actually I think it stands for bayonet N Connector. Where N is just
: a type of connector that Amphenol (sp?) came out with.

According to Allen Nemetz of the Amphenol North America Division,
in the Sept/Oct 1980 issue of r.f. design:

Credit goes to Paul Neill at Bell Labs for the N connector.
Credit goes to Carl Concelman for the C series.

The article was "A Design'ers Guide to RF Connector Selection."
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1124. Defect in Far Circuits PCB for ARRL Tandem Match

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 15:26:30 UTC
From: rdewan@uhura.cc.rochester.edu
Message-ID: <1995Mar27.152630.1026@galileo.cc.rochester.edu>
Source record: 113727

Off and on, I have been putting together the Tandem Match computing
power and SWR meter that is in the current ARRL Handbook and the
Antenna Book. I finally got the system to work and now I am working
on led bar graph and numeric display using lm3914 and icl7107, respectively.

Couple of gothchas:

i) This is the irritating one. I used a pcb available from Far Circuits.
It is a really expensive PCB ($19). An 1/8" line from Test Point 9 to the input
of the 100k resistor for the summing op amp is missing. I won't bother
with you with the time and aggravation it caused me to find it. It is
possible that mine was the only pcb with the defect, but I doubt it as
the pads that should have been connected are well formed and there is
not even a hint of a line.

ii) The power supply section is hokey. The original article in QST,
the Far Circuits version and the current Handbook ('95) versions are
all different from each other. The trick is to get the lm336 to
produce the reference voltages with different supply voltages. The latest
version has a LM334 current source for the +2.5v reference but just a
resistor for the -2.5v. This can be a problem if the V- supply is about
-5v. The resistor between the V- LM336 and the V- supply needs to be
halved to 3K. A much better solution would be to use another current source
such as a LM334 in the -2.5v circuit and program it for 1ma or so.

A hint:
If you are going to use all digital display using LM3914 and ICL7106/7
then you can delete the whole divide portion of the circuit and do
it in the display chips instead. Both these chips have provisions for
external reference which can be set to Vf-Vr and in effect perform the
division.
A related catch: keep the 2n2222 in the divide section to prevent hunting and
spurious noise driven SWR readings when there is no power.

Fun fun fun

Regards de Rajiv aa2ui ex aa9ch

1125. Hot Carrier Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 15:35:02 UTC
From: sjohnson@melpar.esys.com
Message-ID: <D63vAE.CIw@melpar.esys.com>
Source record: 113732

About 10 years ago there was an article in QST about replacing the stock diodes in the TS-830's product detector with hot carrier diodes. Supposedly these diodes create less noise. I did the modification to the 830 and (subjectively) thought the rig was a bit quieter.

Has anyone else had experience with this? I am contemplating repeating the mod. on a newly acquired TS-440S.

Steve Johnson
N2FT

1126. Re: Focal Point of a Microwave Dish

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 15:53:57 UTC
From: glenne@sr.hp.com
Message-ID: <3l6n2l$7f1@canyon.sr.hp.com>
Source record: 113726

Erik Werner (werner@acsu.buffalo.edu) wrote:
: Marwynne Kuhn (marwynn@phoenix.net) wrote:
: >I am in need of a formula for the focal-point of a microwave dish. I have a 18" dish that I want
: >to put on 10 GHZ. I can't find the formula. If anyone could help, I would sure appreciate the help.
: >Marwynne Kuhn WB5PWG

: According to Phisicsfor Scientist and Engineers, Serway, p822,

: "The focal point is

: f=R/2 Where R is the inner radius of the dish."

: What the accompaning illustration shows is that the radius is actually
: the curvature of the dish. in ascii graphics..

: *
: *
: * *
: *
: *
: |-f-|
: |---C----|

I'd not recommend applying this formula to anything other than the special case of a focal plane dish; one which has the focal point even with the outer edge of the dish and F/D of .25, (f=C in the above rendering). It is only correct for this case.

In general, for standard (not offset feed) dishes the focal point is f = D^2/(16*c), where c is the depth of the dish, measured at the center. Be careful that both the diameter and the depth are measured using points actually on the dish surface.

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| ftp://col.hp.com/hamradio/packet/n6gn/index.html |

1127. Re: Supply of Electronic Components to enthusiast in Australia

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 16:00:08 UTC
From: d.diamond@trl.oz.au
Message-ID: <d.diamond.188.00100107@trl.oz.au>
Source record: 113722

In article <3ku2eb$497@styx.uwa.edu.au> Arthur Hyde <rhyde@uniwa.uwa.edu.au> writes:
>Path: newsserver.trl.OZ.AU!harbinger.cc.monash.edu.au!news.uwa.edu.au!usenet
>From: Arthur Hyde <rhyde@uniwa.uwa.edu.au>
>Newsgroups: rec.radio.amateur.homebrew
>Subject: Supply of Electronic Components to enthusiast in Australia
>Date: 24 Mar 1995 09:12:43 GMT
>Organization: The University of Western Australia
>Lines: 7
>Message-ID: <3ku2eb$497@styx.uwa.edu.au>
>NNTP-Posting-Host: arthur.physiol.uwa.edu.au

>Can anyone suggest a convenient supplier of Motorola Linear integrated
>circuits, eg MC3363 and the like in small quantities. I am having trouble
>sourcing these items in Australia.

>I can be contacted by Email: rhyde@uniwa.uwa.edu.au

>Arthur Hyde.

Arthur, have you tried Stewart Electronics? ph 03 543 3733. Also try Truscotts
Electronic World ph 03 723 3860.

73, Drew, VK3XU.

1128. Re: 32kHz oscillator drives me nuts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 16:08:57 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1995Mar27.160857.27278@schbbs.mot.com>
Source record: 113728

>Here is what was originally suggested by the article:
>
> 32kHz C, 22p
> +--|O|--+--||---+
> | | |
> | | |
> +--|>---+--|>---+--|>--->> to CLK of LS161
> | LS04 | LS04 | LS04
> | | |
> +--===--+--===--+
> 470R 470R

You might try this:

1) The one side of the XTAL should connect only to C and *not*
to the output of the '04.

2) C could be much larger. Try 0.1 uF, perhaps larger.

3) When I have made similar circuits LS04, I used 2.2K for the feedback
resistors.

4) I also used a 0.1 uF to AC couple between the first two '04s that
have the feedback resistors. This allows each '04 to have
optimum input DC bias for amplifying small changes.

5) It may be that you may have to go to *slower* parts. You could try
using CD4069s (pin compatable with a 74LS04) and 33K feedback
resistors (exact value not important... these parts have very
high input resistances).

32kHz 0.1 uF
+--|O|---------||----+
| |
| 0.1 uF |
+--|>---+-||--+--|>--+--|>--->> to CLK of LS161
| LS04 | | LS04 |
| | | |
+--===--+ +-===--+
2.2K 2.2K

Good Luck!

- Dan Tayloe, WB0NVB, Phoenix, Az

1129. Re: Source for Nichrome Wire?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 16:52:12 UTC
From: rburgan@detroit.freenet.org
Message-ID: <3l6qfs$20e@detroit.freenet.org>
Source record: 113733

You might try one of your local electrical contracting companies.
--

1130. New to Manhattan asks: Best place to get parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 16:53:14 UTC
From: troika@panix.com
Message-ID: <troika-2703951153580001@troika.dialup.access.net>
Source record: 113729
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I have recently moved to Manhattan, and was wondering
if anyone could give me advice on where I can buy parts
locally. (i.e., chips, discrete components, etc.) I would
also like to know of any surplus houses (how I miss All
Electronics in LA!)

Thanks
Mark Coniglio
troika@panix.com

--
Mark Coniglio -- Troika Ranch / Dance Theater

mail: troika@panix.com
http: www.art.net/Studios/Performance/Dance/Troika_Ranch/TroikaHome.html

1131. Re: 1750 METER BAND

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 16:53:57 UTC
From: werner@acsu.buffalo.edu
Message-ID: <3l6qj5$r05@azure.acsu.buffalo.edu>
Source record: 113730

HUBMML@LURE.LATROBE.EDU.AU wrote:

>I have the circuit in 73 Amateur Radio, 1988 by
>Dave Curry, but don't know if all the parts are still
>available.Any help gratefully received.
>Kind regards, Murray. VK3EZM
>Dr M Lewis
>School of Human Biosciences
>LaTrobe University
>Australia.

Could you post a post script scan of the circuit?

Erik

1132. Re: 6 meters/transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 17:47:55 UTC
From: braidich@iccgcc.cle.ab.com
Message-ID: <1995Mar27.124755.1@iccgcc.cle.ab.com>
Source record: 113739

In article <3l1vin$gv8@odin.community.net>, daustin@community.net (Dave Austin) writes:
> In article <1995Mar16.130259.1@iccgcc.cle.ab.com>, braidich@iccgcc.cle.ab.com sa>>
>>
>>

Check out any issue of QST for the ADR & phone no. of TEN-TEC. TEN-TEC
has been building ham gear for over 20 years & recently entered the kit
business. The 20 Meter to 6 Meter Transverter is less than $100, has
a 8 watt RF power input, and works with SSB & CW. 73 & GL, George
WA8VFA

1133. Re: attenuating 100w xcvr RF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 17:55:19 UTC
From: braidich@iccgcc.cle.ab.com
Message-ID: <1995Mar27.125519.1@iccgcc.cle.ab.com>
Source record: 113735

In article <1995Mar23.155026.26127@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary
My 100 watt to 5 watt attenuator uses a 50 ohm 13 db PI type network.
Info is in any ARRL Handbook. A DPDT relay switches unit out on recive.
73, George WA8VFA

1134. facsimile on the MAC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 18:12:31 UTC
From: csummers@bnr.ca
Message-ID: <3l6v6f$s53@batph8.bnr.ca>
Source record: 113734

I have a program that takes input from the microphone and converts it to a picture on the Mac. My question is, what is the frequencies of several weather facsimile services that I can listen to for weather pictures?

--
Chuck Summers KS4IT
csummers@bnr.ca
Bell Northern Research, Inc.
705 Westech Drive
Atlanta, GA 30092
(404)246-2706

1135. Re: hairpin-filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 18:17:01 UTC
From: zlau@arrl.org
Message-ID: <1995Mar27.181701.26490@arrl.org>
Source record: 113741

SM5LYM mikael.landing@teknikum.uu.se wrote:
: Looking for design-equations or design-program for hairpin-filters.
: Are going to build front end filter for 1.8GHz receiver!

I'm not aware of any inexpensive programs capable of accurately designing hairpin filters. I know the Compact Software stuff works, but its in the $15,000 category.

It is certainly possible to design them by trial and error--the early designs were done this way. The spacing between the lines determines the bandwidth. Actually, the width of the hairpin also does, but to a lesser extent. The impedance matching is done by adjusting the tap point. The center frequency is primarily determined by the length of the lines. Jim Davey did the early work, and found that it was quite useful to measure return loss, as opposed to just insertion loss.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1136. Jobs for Hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 18:31:02 UTC
From: cfishman@fsac3.pica.army.mil
Message-ID: <9503271331.aa12053@FSAC3.PICA.ARMY.MIL>
Source record: 113736

I have been out of college since 1968 with a BSEE and a masters in management since 1974....I don't manage but I like to shove electrons araound in the world of RF. My ham ticket has helped me almost as much as my college degrees in getting many jobs. When the guy interveiwing you is also a ham the ice breaks very fast and you have an edge...
If you are interested in RF and have not been exposed to CAD programs in school, spend $150 and by the ARRL designer....it's a subset of Compact and showing that you plunked done bucks to advance you knowledge couls help get that job...The time has never been better for people who can spell RF....afterall, a cellphone is a radio....

There are great spinoffs from the cell and PCS market...if you want to impress a interviewer show him(or her) a ham rig using parts from a cell phone.....have fun counting your money

Clark Fishman WA2UNN cfishman@pica.army.mil

1137. Re: TNC schematics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 19:09:08 UTC
From: ski@eclectic.res.wpi.edu
Message-ID: <3l72gk$td@eclectic.res.wpi.edu>
Source record: 113738
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Uh, sorry to do this, but ....

ME TOO!!!!

I am also interested in a schematic for a TNC type modem.

(Just got a used IC02-AT and want to try packet)

Thanks

Joseph M. Krzeszewski
N5LHF
ski@sidehack.gweep.net

1138. 70cm xvtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-27 22:02:25 UTC
From: cusick@dstos3.dsto.defence.gov.au
Message-ID: <1995Mar28.083225.1@dstos3.dsto.defence.gov.au>
Source record: 113744

I am keen to build up a 70cm transverter (at least a downconverter for the moment), that has an IF of 2m or 10m. Has anyone built such a beast and can suggest where I might find schematics/ideas please ?

73's,

Greg
VK3BRQ

1139. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 00:00:00 UTC
From: mzenier@eskimo.com
Message-ID: <D67q8G.KLA@eskimo.com>
Source record: 113731

in <1995Mar27.135852.19451@arrl.org>, Zack Lau (KH6CP) wrote:
: WB5RUE Muenzler, Kevin (MUENZLERK@uthscsa.EDU) wrote:
: : Actually I think it stands for bayonet N Connector. Where N is just
: : a type of connector that Amphenol (sp?) came out with.

: According to Allen Nemetz of the Amphenol North America Division,
: in the Sept/Oct 1980 issue of r.f. design:

: The article was "A Design'ers Guide to RF Connector Selection."

It's interesting that the confusion goes a long way back. One of the
Radition Laboratory Series books, (the one on microwave measurement),
says that BNC stood for "Baby type N connector". This book has a
publication date of 1947.

My guess is that's hearsay, as only the Department of Redundancy Department
would call something a "Baby N Connector Connector". Not to mention
the confilict with TNC connectors.

Until someone digs into the archives of the Army Navy RF Cable Coordinating
Committee, and finds out some reference to the orginal design of the UG-88/U,
we'll never know.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1140. Heathkit HA-202 info please

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 02:07:24 UTC
From: CJKM92A@prodigy.com
Message-ID: <3l7r0s$vug@usenetp1.news.prodigy.com>
Source record: 113751

I have a Heathkit HA-202 2 meter amp and am looking for some info on it.
Does anyone have a manual for this amp.?

LEE WAY CJKM92A@prodigy.com
KE4QMP

1141. Re: NEED HELP ON BUILDING REPEATER!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 06:03:13 UTC
From: jdevenport@lanl.gov
Message-ID: <3l88r1$jt2@newshost.lanl.gov>
Source record: 113756

In article <3kt9hn$qju@solaria.mil.wi.us>, helix@solaria.sol.net (Rob Radvanovsky) says:
>
>HELP!!!
>
<snip!>

Have you called any of your local 2-way radio shops asking for instruction/maintenance manuals for the Master II gear? There is no secret to putting it on 440, if its original frequency was between 450 and 470 MHZ generally all you have to do is order proper crystals for the transmitter and receiver and align it to the new frequency. No parts changes are generally needed. You can look at the existing crystals, if any are still in the equipment, and see how the xtal frequency is related to the output frequency. Matter of fact, most crystal mfr's already have all this info in their data banks and all you have to do is call/write them and tell them you have a MASTR II and hopefully the model numbers off the tx and rx and tell them what frequencies tx & rx you now want and they will do the rest. There are also several outfits that will take your old channel element and re-fit it with the desired new crystal and set it up on frequency for a very reasonable fee, $25 or so per element ($50 for both tx & rx). If I were you I'd call each and every commercial 2-way shop in your area, there must be several or dozens, until I found one willing to sell/rent the information. Often these shops will have a ham or 2 on board that may even be willing to help photocopy pertinent pages, etc. One or more of your area shops will have at one time or another serviced MASTR II's and will have the info or be able to order it for you.
There are many used equipment dealers around that sell MASTR II's and perhaps service literature can be obtained from them too.
Here's one from a recent issue of Mobile Radio Technology magazine:
SCHAEFFER RADIO Co.
1301 Grant St.
Box 395
Denver IA 50622
(319) 984-6220

Or:
AIR COMM
4614 E. McDowell Rd
Phoenix AZ 85008
(602) 275-4505

If you have prior radio service experience it should not be too difficult to set these up with no docs at all.

BTW, as one having 20+ years of servicing both GE and Batwing (Motorola) equipment I would not rush to say one is better than the other... it depends on which model radio you are referring to. SOME of the GE mobiles are more easily made into repeaters because they have completely separate transmitter and receiver sections, allowing

isolation for better repeater operation. It's been a while, but seems like the MASTRII fits in that category. I can't think of a Motorola mobile except for the Micors that are easily made into repeaters (also the older Motrans) but the Micor is otherwise not one of my favorite radios. But as far as service and performance go Motorolas haven't dominated 70% or more of the 2-way market for the last 30 years just because they have slick salespeople...

73,

1142. MMIC (MAR8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 07:03:57 UTC
From: jmaas@aston.baan.nl
Message-ID: <D652AL.12tr@baan.nl>
Source record: 113742

Hello all,

So i am working with an MAR8.
Voltage i use is 10V. The resistor to the MAR (max. of 7.5V) is 390ohm.

The input signal to the MAR is coming from a dual gate mosfet (with in between a 2db atten.)
; the gain of the mosfet is
variable with the voltage on gate 2.

When the input signal for the MAR is increased by the output of the mosfet the
DC on the MAR is decreasing, from 7.2V to 3V!!!.

I dont know what is happening and why it is happening........

Also the gain is not so high i was aspecting(only 1.5*Uinput)???? STRANGE..

Is the anyone who can explain this future????

Tnx from PA3GSB the johan

73..

1143. Linear Amplifier Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 10:19:32 UTC
From: cingersn@bdam.win.net
Message-ID: <9@bdam.win.net>
Source record: 113737

Does anyone know where I can obtain a schematic and preferably a construction article for an HF Linear amplifier that will take 100W in and give me 300 to 500 out? I would like to build one but do not want to have to mortgage my home for the parts!!

Thanks

Carl Ingerson N1DXM

1144. Help me ID a display chip from an aircraft radio!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 13:45:18 UTC
From: kic@vnet.net
Message-ID: <3l93te$680@ralph.vnet.net>
Source record: 113758

Someone please help me identify a display chip from an aircraft radio.
The chip is a 16 pin DIP package has "KW-515F-15," "58774," "9504" markings.
I also have a different mfg. of the same chip with "JAPAN 3015-F" marking.
It seems to me the display element is some type of filament for daylight viewing.
It may also be a vacuum floresent 8 segment display chip.
Can you tell me a second source for this chip?

1145. Big switch needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 14:20:14 UTC
From: wrt@eskimo.com
Message-ID: <D65MHt.7qI@eskimo.com>
Source record: 113762

I need a 9-position single pole switch for the plate circuit of a 1500 watt amplifier. Where does one get such a thing these days? Willing to pay good $$$ for a quality item. All suggestions appreciated.

Thanks, W7LZP

1146. Re: NEED HELP ON BUILDING REPEATER!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 14:28:38 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Mar28.142838.17234@ke4zv.atl.ga.us>
Source record: 113677

In article <3l88r1$jt2@newshost.lanl.gov> jdevenport@lanl.gov (Jim Devenport) writes:
>But as far as service and performance go Motorolas haven't dominated 70%
>or more of the 2-way market for the last 30 years just because they have
>slick salespeople...

Are you *sure* about that? :-)

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1147. Re: MMIC (MAR8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 14:49:50 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Mar28.144950.17447@ke4zv.atl.ga.us>
Source record: 113740

In article <D652AL.12tr@baan.nl> jmaas@aston.baan.nl (Johan Maas) writes:
>Hello all,
>
>
>So i am working with an MAR8.
>Voltage i use is 10V. The resistor to the MAR (max. of 7.5V) is 390ohm.
>
>The input signal to the MAR is coming from a dual gate mosfet (with in between a 2db
atten.)
>; the gain of the mosfet is
>variable with the voltage on gate 2.
>
>When the input signal for the MAR is increased by the output of the mosfet the
>DC on the MAR is decreasing, from 7.2V to 3V!!!.
>
>I dont know what is happening and why it is happening........
>
>Also the gain is not so high i was aspecting(only 1.5*Uinput)???? STRANGE..
>
>Is the anyone who can explain this future????

Well, whipping out trusty old Ohm's Law, it looks like the MAR is drawing
an extra 10 ma when you crank up the input signal. Could it possibly be
that you are *DC coupling* the FET to the MAR? It sounds like that when
you adjust the gate 2 bias, you're changing the FET's DC output voltage,
and that's driving the MAR into heavy conduction. You need a chip coupling
capacitor between the FET drain and the MAR input.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1148. Mechanical filter for 390A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 15:17:11 UTC
From: garret@strobe.ATC.Olivetti.Com
Message-ID: <3l999n$94k@olivea.ATC.Olivetti.Com>
Source record: 113676

Do you know where I can find a mechanical filter (f = 455Kc , bw = 2Kc) for
Collins 390A/URR ??

thans in advance.

73 + 51

1149. Re: 144/440 hpa

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 15:28:27 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Mar28.152827.39504@ucl.ac.uk>
Source record: 113749

In article 0026FA53@bfs.uwm.edu, pff@bfs.uwm.edu (Paul Fischer) writes:
> I am looking for schematics for 144/440 high power amplifiers. any info would
> be greatly appreciated. Ed and Bill thanks for your input. Is there any easy
> way to combine these? I find most designs are for a single band.

There are loads of QST articals on how power amps. Everything from a 2C39A to 3CX1500A7.
See ARRL manuals. I once bought a number of large power tubes
1500W tetrodes, that were used at 1215MHz, but never done anything with them.

There was once an artical in QST that used a 4CX250B as a 2m amp, but that could be used as
a tripler to 70cm. I could probably dig a reference out. e-mail me directly
if you want it.

I on once looked at using a stripline design on 144 and 432 MHz, thinking as one is
3x the other, a line resonating at 2m would resonate at 70cm too. When I looked more
closely at the maths, the third harmonic resonance is *not* exactly on the third harmonic,
so it's not as easy as I thought.

There are a few 50Mhz/144Mhz designs areound too. Again I can probably find it. I have
a small collection of high power amp designs.

davek G8WRB.

1150. Re: Homebrew tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 15:52:04 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D65qqu.K3C@hpqmoea.sqf.hp.com>
Source record: 113678

Duncan Cadd (dcadd@luc.ac.BE) wrote:
: Greetings from a pleasantly warm Diepenbeek in N.E. Belgium!

<snip>

: thyratron instead of a triode! Typically, the vacuum needed is of the order of
: 1 x 10 ^(-6) mm of mercury. This is achievable with a diffusion pump, years ago
: the manufacturers used mercury diffusion pumps, but the same degree of vacuum
: can be obtained with oil diff pumps. Unfortunately, these pumps can't pump
: down from atmospheric pressure, and they need a 'backing pump' usually a
: rotary type which can reduce the pressure to about 1 x 10 ^(-2) mm of mercury
: before the diff pump takes over. To buy both types new is very expensive, but
: I've occasionally seen second hand ones offered by a variety of scrap/junk
: dealers. At a pinch (what an awful pun!) you could use the compressor from
: an old fridge (contaminate the ozone layer with its current contents!) as the
: rotary backing pump - it may be good enough connected as a vac pump - then you
: need a second hand diff pump! Plus oil or mercury! Very messy.

<snip>
: Duncan G0UTY / ON9CHU G-QRP 8117

Nice, factual, interesting!

About 6 months ago I posted a little suggestion on one of the hifi
groups. They *do* contain some reasonable (I.E. can reason) people, but
there is a fairly loud group of people with little factual knowledge who
have latched on to various beliefs with a tenacity challenging the most
extreme religious fanatic. One of the most popular beliefs is that any
valve amplifier, no matter how badly designed, HAS to be better than any
possible semiconductor-based design.

My suggestion was that with the Russians searching for any and all
means of earning hard currency, one could get them to take valves up to
MIR to be exposed to space for evacuation and outgassing then sealing,
to be brought back to earth and sold at a premium price, because, surely,
natural vacuum must sound better than man-made stuff.

They couldn't handle British humour, too many swallowed it.

On the good side, someone responded about possible oil contamination
from a diff pump, a second pointed out that low earth orbit isn't such
a wonderful vacuum. Only two, depressing, n'est-ce pas?

Cheers
David GM4ZNX (G-QRP 3252)

1151. COLLINS-KWM-2A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 16:19:59 UTC
From: collins@access.ods.gulfnet.kw
Message-ID: <m0rtdzr-0002MAC@access.ods.gulfnet.kw>
Source record: 113679

I am looking for speech processing system for collins-kwm-2a
and also mods for new bands.

thank u for help best wihes from Kuwait

E-MAIL:collins@access.ods.gulfnet.kw

Faisal, (9K2CA)

1152. Communications Quarterly Highlights, Spring '95

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 16:56:15 UTC
From: nw2l@aol.com
Message-ID: <3l9f3f$6og@newsbf02.news.aol.com>
Source record: 113743

"COMMUNICATIONS QUARTERLY" Reports a Milestone in Communications Receiver Development!

The upcoming Spring 1995 issue of "COMMUNICATIONS QUARTERLY" will feature an article titled: "The Watkins-Johnson HF-1000A Milestone in Communications Receiver Development." This informative piece is written by Scott D. Prather, KB9Y, an author who is frequently published in the Quarterly.

Those of you who would like to learn about this new receiver will find a plethora of information that will explain in detail what it is and how it works. Mr. Prather begins his article: "The Watkins-Johnson HF-1000 is the first affordable, stand-alone commercial receiver to use digital signal processing (DSP) at the IF level. In the HF-1000, DSP provides IF selectivity, demodulation, noise blanking, fine tuning, passband tuning, and signal strength calculation, along with several other features ... The use of DSP in the HF-1000 represents a major turning point in receiver technology." One key piece of information offered by Mr. Prather is that the unit is relatively simple to use. He explains: "I found I could execute about 90 percent of the receiver's features without referencing the manual." In conclusion, the author continues: "So, what's it like to use a digital receiver? It's unbelievable! ... the HF-1000 [is] the most enjoyable receiver I've ever operated." "Watkins-Johnson has made a brilliant move into the future of communications receivers."

The article features such topics as: an overview of the HF-1000, the HF-1000 RF assembly, a brief tutorial on Digital Signal Processing, the HF-1000 digital control assembly, and using the HF-1000. Other features include a schematic of the Siliconix Si8901 high-intercept mixer and photographs of the RF and digital assemblies within the HF-1000.

If you'd like to know more, pick up your copy of "Communications Quarterly" -- on newsstands in May.

Nancy Barry
Assistant Editor

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Inquiries, editorial correspondence and requests for subscription information may be directed to the above address or, via e-mail, to any one of the following addresses: CommQuart@aol.com; CQ@genie.geis.com; 72127.745@compuserve.com or p00259@psilink.com.

1153. Re: Linear Amplifier Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 18:08:41 UTC
From: rdewan@uhura.cc.rochester.edu
Message-ID: <1995Mar28.180841.8069@galileo.cc.rochester.edu>
Source record: 113745

In <9@bdam.win.net> cingersn@bdam.win.net (Carleton C. Ingerson) writes:

>Does anyone know where I can obtain a schematic and preferably a
>construction article for an HF Linear amplifier that will take
>100W in and give me 300 to 500 out? I would like to build one but
>do not want to have to mortgage my home for the parts!!

A nice one appeared in QST a couple of years back. It used a 3cx800
to put out a kw.

Three other possibilities:
i) Use the 3-500z amp schematic in the handbook. Leave one tube out
and redesign the input/output tank to work with one less tube (twice the
input and plate load). The handbook has the charts to redesign the
tanks. You could save further by skimping on the power supply current
rating.

ii) Build a solid state one according to Motorola app notes. Partial
kits are available from Communication Concepts Inc (they regularly
advertise in the QST)

iii) buy a used sb300 for $300. May be the easiest option of all.
Redo the swithching if you want qsk.

Best of luck

Rajiv
aa2ui

>Thanks

>Carl Ingerson N1DXM

1154. Re: MMIC (MAR8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 19:08:53 UTC
From: w9sz@prairienet.org
Message-ID: <3l9ms5$jc1@vixen.cso.uiuc.edu>
Source record: 113746

In a previous article, jmaas@aston.baan.nl (Johan Maas) says:

>Hello all,
>
>
>So i am working with an MAR8.
>Voltage i use is 10V. The resistor to the MAR (max. of 7.5V) is 390ohm.
>
>The input signal to the MAR is coming from a dual gate mosfet (with in between a 2db
atten.)
>; the gain of the mosfet is
>variable with the voltage on gate 2.
>
>When the input signal for the MAR is increased by the output of the mosfet the
>DC on the MAR is decreasing, from 7.2V to 3V!!!.
>
>I dont know what is happening and why it is happening........
>
>Also the gain is not so high i was aspecting(only 1.5*Uinput)???? STRANGE..
>
>Is the anyone who can explain this future????
>
>
>Tnx from PA3GSB the johan
>
>73..
>

Hi,
The MAR-8 requires a voltage of 7.5 volts and a current of 36 mA.
A 390 ohm resistor is too big. With 10 volts on the input, you need a
resistor value of (10-7.5v)/0.036A = 70 ohms.
Also, the MAR-8 is the only MAR MMIC which is not unconditionally
stable and goes into oscillation easily. If you experience this, there
was a circuit in QST which provides feedback. It is simply a 2.7K ohm
resistor in series with a 0.01 uF capacitor bridged from the iinput to
the output of the MAR-8. It reduces total gain by 4-5 dB but kills the
oscillation. I have used this successfully several times.
But I think the trouble is really too large a bias resistor in
the input line. Try 70 ohms and see how it goes!

Zack W9SZ

1155. Re: 70cm xvtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 19:12:12 UTC
From: w9sz@prairienet.org
Message-ID: <3l9n2c$jsa@vixen.cso.uiuc.edu>
Source record: 113747

In a previous article, cusick@dstos3.dsto.defence.gov.au () says:

>I am keen to build up a 70cm transverter (at least a downconverter for
>the moment), that has an IF of 2m or 10m. Has anyone built such a beast
>and can suggest where I might find schematics/ideas please ?
>
>73's,
>
>Greg
>VK3BRQ
>
>

Yes!! The Ed Krome (KA9LNV) transverter in August and Sept 1991 QST. It
is an EXCELLENT performer!!
IF is 10 meters (28 MHz.)
Zack W9SZ

1156. Re: MMIC (MAR8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 19:44:27 UTC
From: myers@West.Sun.COM
Message-ID: <3l9our$5hb@abyss.West.Sun.COM>
Source record: 113748

In article <1995Mar28.144950.17447@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>In article <D652AL.12tr@baan.nl> jmaas@aston.baan.nl (Johan Maas) writes:
>>Hello all,
>>
>>
>>So i am working with an MAR8.
>>Voltage i use is 10V. The resistor to the MAR (max. of 7.5V) is 390ohm.
>>
>>The input signal to the MAR is coming from a dual gate mosfet
>>(with in between a 2db atten.); the gain of the mosfet is
>>variable with the voltage on gate 2.
>>
>>When the input signal for the MAR is increased by the output of
>>the mosfet the DC on the MAR is decreasing, from 7.2V to 3V!!!.
>>
>>I dont know what is happening and why it is happening........
>>
>>Also the gain is not so high i was aspecting(only 1.5*Uinput)???? STRANGE..
>>
>>Is the anyone who can explain this future????
>
>Well, whipping out trusty old Ohm's Law, it looks like the MAR is drawing
>an extra 10 ma when you crank up the input signal. Could it possibly be
>that you are *DC coupling* the FET to the MAR? It sounds like that when
>you adjust the gate 2 bias, you're changing the FET's DC output voltage,
>and that's driving the MAR into heavy conduction. You need a chip coupling
>capacitor between the FET drain and the MAR input.

It doesn't have to be a chip cap, but those are usually the best
kind.

I second Gary's suggestion; the dead giveaway is the decreasing
output voltage with increasing input voltage....

If there is a capacitor already, then make sure it isn't leaking
or shorted.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Damn I'm smooth" (Anon.) *

1157. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 20:51:48 UTC
From: sorgatz@avatar.tti.com
Message-ID: <1995Mar28.205148.14150@ttinews.tti.com>
Source record: 113750

In article <3kv2eb$n5j@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>In article <3kkq1l$c53@shell.fore.com>, Ed Bathgate <ed@fore.com> wrote:
>>I have a BNC connector on my 2m ht. We also use them in our computer
>>network. But what does BNC stand for? Does it stand for anything?
>
>Please not again.
>
>The subject has been exhaustively discussed here a few weeks ago
>with the result, that they are named after their inventors:
>(Bayonet) Neill Concelmann connector.

Really, do we have to do this damn thing everytime a new load of
cannon fodder hits college? Couldnt this one be put in the Ham radio
FAQ?? Along with the fm vs am for aircraft, how to soldier to aluminum,
how to use a dip meter, how to tune a pi section, and the galaxy of
other stupid things that you should already know if you're a ham??

jeez!

sorgatz@avatar.tti.com (or:es@soldev.tti.com) *Eliminate net-spam & cascades!*
3100 Ocean Park Blvd. Santa Monica, CA 90405 +------------------------------+
(THE OPINIONS EXPRESSED DO NOT REFLECT THE VIEWS OF CITICORP OR ITS MANAGEMENT!)
(This material Copyright 1995, All rights reserved)

1158. Help with Telmetry System

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 21:47:19 UTC
From: norton@coral.bucknell.edu
Message-ID: <3la057$skv@coral.bucknell.edu>
Source record: 113752

Subject: Wireless tach/altim. project
Newsgroups: rec.models.rc
Summary:
Keywords:
X-Newsreader: TIN [version 1.2 PL2]

Greetings Everyone:

I am a junior Electrical Engineering major at Bucknell University and I plan on designing and building a telemtry system for RC aircraft as a senior project next year. I plan on featuring altitude, tachometer and battery monitoring functions on the system, primarily because I have ideas/plans for each of these sensors. Airspeed is a tricky one as I would have to mess with atmospheric pressure, humidity...etc(I think)

What I am looking for is any technical info on RC tx/rx systems. I hope for simplicity's sake that I will be able to use an old two channel radio set as the foundation of my wireless data link. While the system will be transmitting digital information, I think that I may be able to use phase shift (PSK) or frequency shift (FSK) keying on a hacked AM or FM tx/rx. I will have only two data levels, "0" and "1", so I think that I should just be able to use two distinct frequencies or phase shifts modulated around a carrier freq. Any suggestions, comments or ideas on this? Are there any publications in the RC world that get into the meat of RC gear info?

Additional concerns are: frequency concerns...should I use 27 Mhz, 72 or 50?

Thanks for the help folks.

Greg Norton
norton@coral.bucknell.edu
Bucknell University
C0580
Lewisburg, PA 17837

1159. Re: MMIC (MAR8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-28 23:58:15 UTC
From: jdevenport@lanl.gov
Message-ID: <3la7qn$8n3@newshost.lanl.gov>
Source record: 113753

In article <3l9ms5$jc1@vixen.cso.uiuc.edu>, w9sz@prairienet.org (Zack Widup) says:
<snip!>
> Also, the MAR-8 is the only MAR MMIC which is not unconditionally
>stable and goes into oscillation easily. <snip!>
>
> Zack W9SZ
>
Hee, I didn't realize ANY of the MAR's were "UNCONDITIONALLY stable"
as advertised by the early full page ads. Haven't messed with them in
several years now but when they first came out we bought several of the
Mini-Circuits MAR experimenter's kits and found they ALL were quite
touchy about PC layout. If the PC strips feeding input and output weren't
pretty close to perfect they would oscillate like crazy; hardly
"unconditionally stable". Of course I've noticed similar behavior with
"unconditionally stable" op amps too. I think "Unconditionally stable"
is sorta like cold fusion or anti-gravity... awfully difficult to find
in real life.

1160. Re: Source for Nichrome Wire?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: ccashion@spd.dsccc.com
Message-ID: <3lbsgc$h38@sun001.spd.dsccc.com>
Source record: 113668

WB3U (jackl@pinetree.microserve.com) wrote (jl> >
jl> Anyone know where I can obtain a small quantity of 14 to 18 gauge
jl> nichrome wire? I'll be using it to tame parasitics in an old Gonset KW.

Nichrome wire might be available from an electrical supply house. Even if
they do not have it, they may be able to direct you to somebody that does.

If this does not work, buy a new clothes dryer heater element. This may be
more wire than you want, but at least it is there. Clothes dryer elements
are available in several sizes and configurations from almost any supplier
of repair parts for dryers. I have replaced two in my own dryer over a
twenty year period.

jl> I tried salvaging this from a toaster, but it's impossible to solder
jl> after it's been oxidized by heat (even new toasters have been heated
jl> at least once).

I have never seen nichrome that has been soldered. I have seen connections
to nichrome, and I have made connections to nichrome, and they are always
screw/nut/washer clamps. I have tried to solder to aluminum and failed.
I have tried to solder to chrome and failed. Tin...yes. Silver...yes.
Nichrome, I would at least be surprised.

Since you already have toaster elements, and you can get nuts and screws,
you really do not need to call supply houses.

jl> Any and all help will be appreciated.

you are welcome

jl> 73, Jack WB3U

Charles (x-w5isz)
--
Charles Cashion, DSC Communications, 214-881-0952 ccashion@digi.lonestar.org
1000 Coit Rd.,Plano,TX,75075-5813...If it waddles like a duck, and it quacks
like a duck, and it consorts with known ducks, it must be prepared to accept
the consequences of being labeled a duck! -- Larry Johnson, UTA, 1970.

--
Charles Cashion, DSC Communications, 214-881-0952 ccashion@digi.lonestar.org
1000 Coit Rd.,Plano,TX,75075-5813...If it waddles like a duck, and it quacks
like a duck, and it consorts with known ducks, it must be prepared to accept
the consequences of being labeled a duck! -- Larry Johnson, UTA, 1970.

1161. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: mthomas@mike.ucns.uga.edu
Message-ID: <3lbu5n$nso@hobbes.cc.uga.edu>
Source record: 113669

Ed Bathgate (ed@fore.com) wrote:

: But what does BNC stand for?

How about Bet Nobody Can agree on the answer :-).

Mike Thomas
KE4LAU

1162. Re: Simple schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D67nBy.HyH@hpqmoea.sqf.hp.com>
Source record: 113670

Erik Werner (werner@acsu.buffalo.edu) wrote:
: I was wondering if anyone had any schematics for the biginner trying to
: learn about ham radio. I just bought the 96 ARRL handbook and there are
: few "simple" schematics. I was wondering if anyone had scans of some and
: could share them. What I am looking for is say a simple, least number of
: components, receiver and CW xmtr.
: Erik

Erik. You are about to make a very common mistake. One that has been known to wreck a beginner's self-confdence and discourage him from building anything ever again. It can be avoided, though.

The smallest number of components rarely means the simplest circuit to get going. Components are cheap, but confusion is very expensive. As a beginner you need to build things that are sure-fire workers, because these will encourage you to go further. It helps a lot if their workings are well explained, so that you can trace any mistakes you've made and get the thing going. It's a great feeling when you've ovecome a few obstacles and got your first radio going without help.

Imagine I designed two different radios:

1) I try to use the minimum number of components. Performance just marginal, as much gain as possible squeezed out of each stage. Perhaps not only do you need the right part number transistors, but also ones with higher than average performance for their types. You'd need to get duplicate parts, hopefully from different manufacturer's batches and sit there selecting them until the radio works. Perhaps you may need to mess around with the values of some resistors to suit the transistors you have got. (There is far more variation in characteristics between transistors supposedly of the same type than there is between resistors supposedly of the same value)

********** This is no exaggeration, some published circuits really have been this bad ! Just because somerthing is published does not mean that it's going to work. If something you try doesn't work, it is not necessarily your fault.

2) I try to design a sure-fire project with plenty of allowance for the tolerences of all components, divided up into clearly separated stages, each with a specific function and careful explanation of how it works. Each stage of modest gain, but with more stages to give the required total gain. I write about how to test it with simple equipment, one stage at a time, until the whole thing is complete and working.

Do you get the idea ?

You need to be careful where you get designs from. The ARRL is pretty careful about what it publishes, and employs a variety of very competent people who check and edit things before publication.

Your new (1995 not 1996, I expect) Handbook is a complete re-write, not the usual annual update. The style has changed a lot, and while the old version was great fun, it did tend to just throw circuits at the readers, and leave them to sort them out for themselves. The new book is a lot more thoughtful and a lot of care has been taken to explain how circuits work, and what compromises the designer had to make.

Can I repeat someone before's advice to read it several times. Each time you'll pick up a lot more, built on the foundations laid by the previous times.

Have Fun!

David GM4ZNX

1163. Re: MMIC (MAR8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <3lc4r4$r65@canyon.sr.hp.com>
Source record: 113671

Jim Devenport (jdevenport@lanl.gov) wrote:

: >
: Hee, I didn't realize ANY of the MAR's were "UNCONDITIONALLY stable"
: as advertised by the early full page ads. Haven't messed with them in
: several years now but when they first came out we bought several of the
: Mini-Circuits MAR experimenter's kits and found they ALL were quite
: touchy about PC layout. If the PC strips feeding input and output weren't
: pretty close to perfect they would oscillate like crazy; hardly
: "unconditionally stable". Of course I've noticed similar behavior with
: "unconditionally stable" op amps too. I think "Unconditionally stable"
: is sorta like cold fusion or anti-gravity... awfully difficult to find
: in real life.

No, it's not that hard to find. Unconditionally stable doesn't mean you
can't make an oscillator out of the part if you try. It doesn't mean
that your "amplifier" won't oscillate if you do things wrong.
What it means, generally, is that the part will not oscillate for any
combination of passive (reflection coefficient <= 1) input and output
loads at any frequency apart from external feedback. One way this
quality can be represented is by analyzing the Linville Stability
Factor.

To do this requires a fixture which does not provide feedback to the
DUT. The fixture should also be representative of the application
environment if the results are to be reasonably useful. By measuring
two port S parameters for the DUT in this environment, Linville's factor
can be calculated. This can verify that the device will not oscillate
apart from external feedback. Available active device measurement
software/hardware packages can do this for you.
It is important to recognize that there are a variety of possible
sources for external feedback which could cause an unconditionally
stable part to oscillate. Input/output coupling by way of parasitic
capacitance is a familiar one but common lead impedance; not
sufficiently grounding the common leads, is another. Poor power supply
decoupling can be a problem too.

In the distant past I've carefully measured the MAR-8 and found the
advertized numbers to be reasonably close, though on the samples I
measured, I did find the range of potential instability exceeded that
which was advertized. I was measuring in a carefully constructed
and measured fixture with the measurement plane moved to the the edge
of the part body by using deembedding. The common leads and the body
of the DUT were effectively trapped in a conductive wall of the fixture.
All measurements were after careful calibration.

As I remember, I only measured at a few different bias points however it
is likely that near worst cast behaviour was obtained.
If someone really wants details, I can probably find the data.

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

```
|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| ftp://col.hp.com/hamradio/packet/n6gn/index.html |
| |
|-----------------------------------------------------------------------|
```

1164. Need software for circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: drake@oasys.dt.navy.mil
Message-ID: <3lcj36INN1qc@oasys.dt.navy.mil>
Source record: 113672

My 13 yr old asked me to post a request for a circuit design program which will run on a PC. He can't find anything locally at the computer stores, but did download a shareware program last night from a BBS (I don't know what the title is). If anyone knows of one or can make a suggestion about where to look please respond via email.

Thanks

John Drake

drake@oasys.dt.navy.mil

1165. Re: Anyone have data on 3HA5 tube?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Mar29.150240.22061@ke4zv.atl.ga.us>
Source record: 113673

In article <3la83n$daq@newsbf02.news.aol.com> jimn0oct@aol.com (JimN0OCT) writes:
>I have tried all of my sources for this little tube, and would like to
>know its function as well as specs for operation. May good propagation
>look upon the kind soul who can provide me with this!

3HA5 High Mu Triode

Fil volts 2.7
Fil ma 450
Max plate watts 2.6
Max plate volts 220
Element capacitances pf
Input 4.3
Output 2.9
Grid-Plate 0.36

This tube was intended for Class A amplifier service. The following
are typical operating characteristics.

Plate volts 135
Grid bias -1.0
Plate current ma 11.5
Gm 14,500 umhos

All this data from the GE Essential Characteristics tube manual.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1166. Re: Are people still using CX100A5's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Mar29.151009.22153@ke4zv.atl.ga.us>
Source record: 113674

In article <3la85b$dbd@newsbf02.news.aol.com> jimn0oct@aol.com (JimN0OCT) writes:
>for microwaving?? How much is this 2.5 GHz tube going for? Where can I
>get one? CAN I get one?

The 3CX100A5 is still a popular power triode for the upper UHF spectrum, up to about 2.5 GHz. The glass envelope version is the 2C39 which should be avoided for most uses. I haven't bought any brandy new ones in many a year, but new surplus ones are fairly easy to find, and should run under $25 in sealed US government pouches. Guaranteed good pulls should cost under $10. Check a major hamfest, like Dayton.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1167. Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: russ.wuertz@spacecoast-bbs.com
Message-ID: <8A663FB.00910000A8.uuout@spacecoast-bbs.com>
Source record: 113675

On cable I saw as a doctor told us from the Space Shuttle that radio broadcasters are licensed to broadcast through time. Having gone to school for electronics... they never actually say that as he put it, but the instructor was HEARING my thoughts telepathicly, picking at them and made sure I understood that they were my thoughts and not broadcasted thoughts that everyone heard.

No one is supposed to tell anyone about this. Resonance apparently is the techneque for getting a dipole through time. He did say it was done with capacitors... and apparently is pretty easy.

At the same College was where police go to school for Drugs alcohol and crime. Probably their instructor tells them about time communication and Telepathy. (robbing thoughts)

Robbing thoughts makes a person suicidal and homicidal. The TV news who apparently is telling our Congressmen what to do because they own the broadcasting weapon... waged war on us. They hear YOUR thoughts as you sit and watch the TV and they can be in a different time period.

While they were attacking us... I could not tell anyone about this, because of how crazy it sounds for them to be doing.

1168. Re: WTD: GP300 Service Manuals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3lcgd6$mrq@abyss.West.Sun.COM>
Source record: 113763
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

In article <3lb1eu$3qo@nntp.interaccess.com>,
George Vuckovic <vuckovic@interaccess.com> wrote:
>I'm looking for any Motorola GP300 Service manuals (16 Channel Version,
>UHF Wideband) as well as any information regarding paging capabilities
>between two GP300s. Can I, for example, us QuickCall or whatever it's
>called to turn on my partner's radio? Can Burst tones be used to do
>this? I know the Ritron Patriots are capable of this QuickCall style
>paging, but is the GP300?

Sounds like you need both the service manual and a user's manual for
the GP300. Try Motorola National Parts at (800) 422-4210.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Damn I'm smooth" (Anon.) *

1169. Communications Quarterly Columnist to Speak at Dayton

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: nw2l@aol.com
Message-ID: <3lck67$ssh@newsbf02.news.aol.com>
Source record: 113764

"Communications Quarterly" Columnist to Speak at
Dayton Hamvention - K1BQT on "Hi-tech Scrounging"

Attention "Quarterly Devices" Fans: If you're headed to the Dayton Hamvention this year, check out the VHF/UHF forum of the Midwest VHF/UHF Society. Rick Littlefield, K1BQT, "Quarterly Devices" columnist for "Communications Quarterly" magazine, will share the secrets of "high tech scrounging" or, as he calls it, "that artful pocess every resourceful designer must master i order to gain access to the world of high-tech R&D."

Learn what products are fair game for sample requests, where to fing out about new electronic components, and how to obtain samples for your latest project. K1BQT, a master scrounger himself, will teach you some tricks of the trade. Check your Hamvention program for date, time and place.

-- Terry Littlefield, KA1STC
Editor, "Communications Quarterly"

1170. ### Help wanted: Construc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: clint.bradford@woodybbs.com
Message-ID: <93.6222.7584.0NFB9B98@woodybbs.com>
Source record: 113765

Subject: ### Help wanted: Construction of a Gel cell charger...

>>I've recently acquired a 12V 10Ah sealed lead acid battery, and am
>>interested in constructing a charger for it.

I am NOT technically-minded enough to answer your electronics questions.

BUT - I have experience with "keeping it simple." No, this suggestion
isn't a homebrew idea, but it sure is simple.

Two items have given me positive results with my storgae batteries - the
Canadian Exide MEGA-CELL Fully-Automatic Charger, available at Auto
Parts stores nationally, works marvelously for me on my two Yuasa
38-amp-hour batteries. I set it on "Fully-Automatic / Conditioning,"
and trickle/condition two cells in parallel.

The other item is available at your local Kubota lawnmower shop. (I am
sure there are many others out there other than the Kubota.) "Battery
Pal" is their trickle unit, and I have had good results with it. About
$25.00 retail.
---

 wcECHO 4.0 AR-Net: ATTENTION to Details Mira Loma, CA 909-681-6221

1171. CQ Magazine Highlights - May, 1995

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: nw2l@aol.com
Message-ID: <3lck6q$ssu@newsbf02.news.aol.com>
Source record: 113766

HIGHLIGHTS OF MAY, 1995 "CQ" MAGAZINE

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Communications, Inc.

Results of the 1994 CQ World-Wide WPX CW Contest highlight the May, 1995, issue of "CQ", along with a fascinating report on the 9G5TL DXpedition to Ghana for the 1994 CQ World-Wide DX Contest.

Operating a DXpedition station during a major contest is the dream of many an avid DXer and contester. But imagine doing it from a country that, just two years earlier, had considered it a crime to operate a ham radio station. "The 9G5TL Story," by Warren Hill, KF7AY, tells the exciting tale of planning and preparing for this ham radio adventure, the thrills of operating from a rare country during the biggest contest of them all, and of the long-term benefits of the operation to ham radio in Ghana.

The 1995 CQ WW WPX Contest is now history (for the uninitiated, that's short for the CQ World-Wide Worked All Prefixes Contest, in which you try to contact as many stations with as many different callsign prefixes as you can during a 48-hour period). And the results are in from the 1994 event. May's "CQ" magazine reports fully on the CW portion of the contest. Here's a brief list of the trophy winners:

Single Operator, All Band --
-- World: John Crovelli (W2GD), P40W
-- USA: Tyler Stewart, KF3P
-- Oceania: Michael Sato, AH6MZ
-- Canada: John Sluymer, XL3EJ
-- Canada, low power: Gary Caldwell, XL7NTT
-- Japan: Satoshi Hara, JH5FXP

Single Operator, Single Band --
-- World: Martin Monsalvo AZ4F (LW9EUJ)
-- World, 7 MHz: Bob Furzer, 9K2ZZ
-- World, 3.5 MHz: Pavel Vachal, OK1DXS
-- Oceania: Boyet Lorenzo, 4F3AAL
-- USA: John Yodis, K2VV

-- USA, 28 MHz: Phil Koch, K3UA
-- USA, 21 MHz: Scott Jones, WR3G

Multi-operator, Single Transmitter --
-- World: Station ZX0F (PY0FF & YU1RL, operators)
-- USA: Station WC4E (WC4E, K1ZX, G4BKI/W4,
WB4BBH, W1CW, W1YL, operators)

Multi-operator, Multi-Transmitter --
-- World: Station 9A1A (9A2OG, 9A2DQ, 9A2EU,
9A2LJ, 9A2NJ, 9A2KL, 9A2AJ, 9A3GW, 9A3TW,
9A3NR, 9A3TF, 9A3MJ, 9A4WW, F2CW, S58KW,
operators)

Contest Expdition --
-- World: Station HV4NAC (I2UIY & I2VXJ, operators)

Combined SSB/CW --
-- World: Jim Neiger, N6TJ (ZD8Z)
-- Europe: Gerard Parat, F6FGZ
-- USA: Tyler Stewart, KF3P

Club (SSB/CW) --
-- World: Northern California Contest Club
-- USA: Yankee Clipper Contest Club

The May issue of "CQ" magazine should be in subscribers'
mailboxes and on the newsstands by late April. "CQ-The
Radio Amateur's Journal" is the leading indepndent ham
radio magazine in the US. It is celebrating its 50th
anniversary in print during 1995. To contact CQ or its
authors online, send e-mail to any of the following
addresses: CQMagazine@aol.com, CQ@genie.geis.com, or
72127.745@compuserve.com.

1172. Re: What happened to Heath.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:00:00 UTC
From: carlh@midas.bwc.org
Message-ID: <3lb7hh$5g8@bwc.bwc.org>
Source record: 113767

: > I have always heard of Heath and Heath kits. I see Heath equipment
: >advertised on the net. But I have never seen a Heath ad in 73, CQ, QST, or
: >anywhere else. Does Heath still exist? Are they still making kits? ....

: The Heath Company still exists, but they are no longer making "HeathKits".
: ......

Yes I remember (1970?) building the 5 HF band receiver. It used tubes
even for the power supply. No circuit board only point to point wiring.
A few years ago my last kit was a Heath TNC which was produced before they
closed up the kit shop.

Things change and I will always remember thoses kits with very detailed
step by step instructions. Some of the small kit producers are providing
very good low cost kits. But Heath has set the standard. R.I.P.

****
* Carl Horn email: carlh@bwc.org, chorn@nyx.cs.du.edu *
* 4X/WL7BDO *
* WWW: http://nyx10.cs.du.edu:8001/~chorn/home.html *
****

1173. Anyone have data on 3HA5 tube?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:03:03 UTC
From: jimn0oct@aol.com
Message-ID: <3la83n$daq@newsbf02.news.aol.com>
Source record: 113754

I have tried all of my sources for this little tube, and would like to know its function as well as specs for operation. May good propagation look upon the kind soul who can provide me with this!

73 Jim N0OCT
Where there is smoke, there is incomplete combustion!

1174. Are people still using CX100A5's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 00:03:55 UTC
From: jimn0oct@aol.com
Message-ID: <3la85b$dbd@newsbf02.news.aol.com>
Source record: 113755

for microwaving?? How much is this 2.5 GHz tube going for? Where can I get one? CAN I get one?

73, Jim N0OCT
Where there is smoke, there is incomplete combustion!

1175. 1750 Meter Band, Focal point of Microwave Dish, and "What doe BNC Stand for?"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 01:25:27 UTC
From: ka7oei@uugate.wa7slg.ampr.ORG
Message-ID: <56605@uugate.wa7slg.ampr.org>
Source record: 113680

On the first: Having operated on that band for several years (several years ago - Beacon 'CT' on 177.75, CCW and BPSK from Arizona and Utah - and having heard transcontinental LowFER DX and having been heard...) The FM will work, but it will go a short distance.

The problems with FM will not necessarily be the limited distance (several 10's of miles are likely, assuming that you have a *good* antenna/ground system and that the receiver is also good...) but rather the conflicting requirements of an efficient antenna system (for lhighest radiation resistance) and sufficient bandwidth for an FM signal to exist.

A typical "good" LowFER station (is there such a thing?:-) has a 35 foot mast with a 15 foot radius tophat structure, and a slightly-elevated ground system (NOT buried... ground is pretty lossy...) with a base-fed antenna with a loading coil at the base.

The loading coil, is, at a minimum, wound using #14 (or heavier) solid wire (or, better yet, if you can afford it, Litz wire!!!), preferably using a basket-weave technique (to reduce distributed capacitance). With a 1 watt Input (>95% efficiency transmitters *are* available, and easily built!). Once you have done all of this, you should reasonably expect a current of greater than 150 milliamps (RF).

You *could* use a TV horizontal oscillator coil (which work, but they suck rocks...)

An efficient antenna system also implies a very high Q. A High-Q also implies narrow bandwidth. Narrow bandwidth and FM do not mix. To cite an example, my Lowfer station wasn't *really* good on the TX side (Not a really good ground, not as clear of trees as I'd like, an "OK" litz-wire loading coil... I got an RF current of about 200 mills...) when I ran SSB (using my TR-7... It *is* possible...) I had a serious problem with 'sideband cutting'... I could tune for muffled sound, or tinny sound, but I had to comprimise... and that's just a few KHz... FM will want at least 6-8 KHz even if you *do* run really narrow deviation (i.e. 1 KHz or so... Keep in mind that Carson's rule says that even with 1 Hz deviation, you'll still take about 6 KHz of bandwidth with a 3 KHz hi-frequency response .. Unfortunately, a good antenna usually rules out a wide frequency response... Maybe you'll want to try one of those TV horizontal oscillator coils after all...

As for BNC: Bayonet Neil Concleman (sp?) - It's in the ARRL UHF-Microwave handbook.

As is info on using dishes for microwave and locating their feedhorn...

A quick and dirty way of locating the feedpoint is also to hold a small piece of white paper in front of the dish (a half sheet of notebook paper works...) while pointing it at the sun... Unless your dish is flat-black, you'll be able to "focus" the sun on the paper to some extent... I did this experimentally, and it agreed very well with the info in the ARRL UHF-Microwave handbook...

<Clint>

turner@vsat.ussc.com

P.S. I seem to recall some tricks done by Longwave Broadcasters to 'widen' their antenna system's frequency response without extreme detriment to efficiency... I'd have to research that to 'remember' it, though...

de KA7OEI

1176. Re: Anyone have data on 3HA5 tube?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 01:56:57 UTC
From: dunnt@starbase1.caltech.edu
Message-ID: <dunnt-2803951759430001@tom-dunn.caltech.edu>
Source record: 113757

3HA5 High MU triode. Miniture type: identical to type 6HA5 except for heater rating. Rf amp used in television VHF tuners. 7 pin 3,4 filement,2,7 cathode,5 plate,and 1 grid (6 not used) Enough said?

73 Tom WB6IQD dunnt@starbase1.caltech.edu

> I have tried all of my sources for this little tube, and would like to
> know its function as well as specs for operation. May good propagation
> look upon the kind soul who can provide me with this!
>
>
> 73 Jim N0OCT
> Where there is smoke, there is incomplete combustion!

1177. Re: Linear Amplifier Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 05:49:56 UTC
From: rohrwerk@giskard.holonet.net
Message-ID: <3lase4$j9u@colossus.holonet.net>
Source record: 113681

cingersn@bdam.win.net (Carleton C. Ingerson) writes:

>Does anyone know where I can obtain a schematic and preferably a
>construction article for an HF Linear amplifier that will take
>100W in and give me 300 to 500 out? I would like to build one but
>do not want to have to mortgage my home for the parts!!

>Thanks

>Carl Ingerson N1DXM

The Motorola bulletins provide lots of data, parts layouts, etc., on all kinds of amps. Communications Concepts, Inc., in Ohio provides kits for some of these; I think a 300 watt amp running off 28 or 50 volts runs about $350, without output filters or heat sink (?). Get their most recent catalog. Of course, nothing runs at such a low gain as to take 100 watts in for 300-500 watts out -- you gotta crank your drive down, OM!

John Seboldt K0JD
Minneapolis, MN

1178. Re: MMIC (MAR8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 06:46:25 UTC
From: jmaas@aston.baan.nl
Message-ID: <D66w5D.2vG@baan.nl>
Source record: 113759

Hi Zack.

Oke tnx for your reply.

The only thing is the maximum voltage on the MAR8 is 7.5V.
When the resistor is too low in resistance the Umax is probably exeeded which can damage the MAR amplifier???

Can that be a problem?

73 Johan PA3GSB

1179. Re: TNC schematics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 06:48:59 UTC
From: koellner@wall.scn.de
Message-ID: <3lavsr$ine@marina.scn.de>
Source record: 113760

Sami Laine (phineas@bbs.dream.fi) wrote:
: Are 9600 TNC schematics available via net?
:
: I've heard it's possible to get some "baycom-like" modem (ie. cheap
: and simple) to support 9600? Is this true? Are schematics available?
:
: --
: Sami Laine.....Yo-Kyla 82 A 2, 20540 Turku, Finland
: phineas@dream.fi.....OH1JKT......+358-21-2542137,(FAX 2542749)

--
hello,

a 9600 baud parallel port modem is available for baycom 1.6. it uses
schematics designed by DF9IC and is G3RUH compatible. It works really fine
and is cheap (abt. DM 100)

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU

Guenter Koellner TN EM A 33, Siemens AG., Germany
koellner@scn.de <http://www.scn.de/~koellner> +49 89 722 41962

1180. WTD: GP300 Service Manuals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-29 07:15:42 UTC
From: vuckovic@interaccess
Message-ID: <3lb1eu$3qo@nntp.interaccess.com>
Source record: 113761
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

I'm looking for any Motorola GP300 Service manuals (16 Channel Version, UHF Wideband) as well as any information regarding paging capabilities between two GP300s. Can I, for example, us QuickCall or whatever it's called to turn on my partner's radio? Can Burst tones be used to do this? I know the Ritron Patriots are capable of this QuickCall style paging, but is the GP300?

--

Owner, Weniger Lighting Systems | George Vuckovic |
Director, Emergency Response Medical Services | vuckovic@interaccess.com |
EMS, Security, Communications |__My_Opinions_Are_My_Own__|
Weniger Lighting Systems -- Emergency Lighting Sales, Service, Installation
---

1181. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: jachim@earth.execpc.com
Message-ID: <3le0g7$ccu@homer.alpha.net>
Source record: 113684

Erik K.Sorgatz (sorgatz@avatar.tti.com) wrote:

: Really, do we have to do this damn thing everytime a new load of
: cannon fodder hits college? Couldnt this one be put in the Ham radio
: FAQ?? Along with the fm vs am for aircraft, how to soldier to aluminum,
: how to use a dip meter, how to tune a pi section, and the galaxy of
: other stupid things that you should already know if you're a ham??

: jeez!

Just which study guide gives this information? I would like to get
a copy of this book so I can reference it's infinite database of
radio knowledge.

Or did someone hit you with a magic wand the second you passed the tests
and fill your head with every bit of radio information?

I for one never knew what it stood for, and just because I became a
ham, there's I should it.

What else do i need to know "if I'm already a ham"?

Matt

1182. Re: Tempatrimmer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <D68wn3.AFw@hpqmoea.sqf.hp.com>
Source record: 113685

Darrel Emerson (demerson@heineken.tuc.nrao.edu) wrote:

: drifting VFOs, and was superb at this task. It think it was called
: a "tempatrimmer" and made by Oxley in the U.K., although I'm not
: sure of these facts.

I've pulled a 10 year old (I think) Oxley catalogue out of my
bookcase. There are two variable tempco capacitors

The Tempatrimmer (6.5pf @ 20c) +/- 2000ppm/degreeC

The Thermatrimmer (2.5pf) +/- 1000ppm/degreeC (cheaper if I recall)

Oxley Developments Co Ltd
Ulverston
Cumbria LA12 9QG
England

Phone number (but might have changed..) 0229 52621 but try
international enquiries.

I put a circuit for a thermistor bridge + varactor circuit that can
do this job ith generally available components in chapter 14 of the
ARRL handbook.

Cheers
David GM4ZNX

1183. Toko 1159A adjustments

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: mckee@fc.hp.com
Message-ID: <3lenhv$k3q@tadpole.fc.hp.com>
Source record: 113686

I have a 2M transverter with a Toko 1159A filter in it. This filter is centered at 138 MHZ, and appears to roll off before 148 MHZ. It has two screws on it which allow it it be tweaked. Unfortunatly, I don't have a datasheet for it and don't know what it is that the screws actually adjust. I hope its something simple like the position of the two skirts, but I thought I'd ask if anyone knows for sure...

73,
de Bret N0MTA

1184. Irradiated Wire ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: <>
Message-ID: <3leqdk$e1g@xap.xyplex.com>
Source record: 113687

I bought a spool of nice 16-gauge insulated stranded wire from a surplus electronics shop. When I got home, I noticed the manufacturer's byline on the spool said "leaders in irradiated wire". It didn't say whether this particular spool was irradiated.

But if it is, is this anything to worry about? Will my antennas glow in the dark?

--- Gary

/****
* Gary W. Thorburn KD1TE
* correct email address: gthorburn@eng.xyplex.com
****/

1185. 100 Watt HF Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199503301128.LAA20948@chaos.magibox.net>
Source record: 113688

I think I have a need that others might share.

I'd like to try to find a design to build a HF amp to take a 1-5W HF QRP transmitter to 50-100W. I've built a 5/40W VHF booster amp and it works very well. 5-100 would probably require 2-3 stages but could use relatively inexpensive transitors. A single band amp would be fairly easy, but a nice feature would be a multiband tuner.

Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

1186. Building SHARP reject filter for 13.845 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfD69IwC.4qz@netcom.com>
Source record: 113689

I play with direct conversion transceivers such as the old Ten-Tec Power Mite series. In my location (Denver), I get interference from a shortwave radio station (WWCR in Nashville, TN.) that runs on 13.845 MHz and is very strong much of the time (causing AM detection in the receivers). I suspect they are in the megawatt range.

To add insult to injury, WWCR is christian broadcasting (I think the callsign is meant to say "Christian Radio" for CR).

Anyway, it occured to me that I might be able to build a sharp notch filter out of a single series resonant 13.845 MHz crystal. I don't need tunability - just 20-30dB deep notch within 10 kHz of 13.845.

I have no other sources of interference like this, so if I notch out 13.845, I'll be happy. I'll just consider it my contribution to the church.

If I transform the 50 ohm receiver path up to 500 ohms or so, wire the crystal to shunt to ground, then transform back down to 50 ohms (using broadband toroid transformers), will I achieve my desired effect?

73 Dave WB0GAZ dgf@netcom.com

1187. Re: Irradiated Wire ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: cramer@mksol.dseg.ti.com
Message-ID: <3let4u$gb0@mksrv1.dseg.ti.com>
Source record: 113690

Gary Thorburn (thorburn@.xyplex.com) wrote:
: I bought a spool of nice 16-gauge insulated stranded wire from a surplus
: electronics shop. When I got home, I noticed the manufacturer's byline on
: the spool said "leaders in irradiated wire". It didn't say whether this
: particular spool was irradiated.

: But if it is, is this anything to worry about? Will my antennas glow
: in the dark?

Well, I don't know what irradiated wire is but it may be wire that has been exposed to radiation. Things exposed to radiation don't glow unless they are "activated" by the radiation. I doubt that the wire has been activated. If it were, it would be radioactive material (no not radioactive as uses 2m often:)). I wouldn't worry about it being irradiated.

Maybe it was irradiated to strengthen it. I belive there are techniques that use radiation to harden metals. Radiation is also used to purify things, so maybe the wire was intended for use in a sanitary environment (i.e. medical).

It would be interesting to know the applications of irradiated wire and if it really is what the name implies.

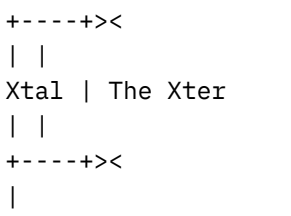
Norm
cramer@dseg.ti.com

1188. VFO

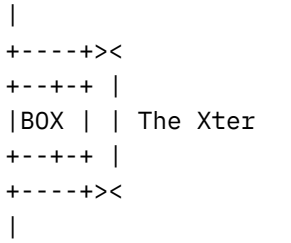
Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: papo@bigcat.bellcore.com
Message-ID: <3leueu$fe6@athos.cc.bellcore.com>
Source record: 113691

Howdy:

I got this ye olde CONAR transmitter for 15 bucks and I would like
to plug a VFO in it. Right now the transmitter has a port in which
crystals are inserted.



What I would like to have is to be able to have a VFO in which the
only thing I have to do is to insert a box to the terminals
and that's it.



Although I saw the circuit of the 80 meter xter with VFO on the Amateur Radio
page, I was not able to make head and tails. Somebody sugested to use
a chip, I think it was the U06 something, but I do not
know where to find the specs. Anyway, if anybody has a good idea
about anything, just let me know.

'73

--
Luis Roberto Anaya-Rivera papo@donuts0.bellcore.com
The Installator papo@bigcat.bellcore.com
Bellcore, NJ Ham: N2ZXE/AG

1189. Re: Need software for circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: drayegon@america.com
Message-ID: <NEWTNews.25834.796584864.drayegon@drayegon.america.com>
Source record: 113692

> My 13 yr old asked me to post a request for a circuit design program
> which will run on a PC.
If anyone knows of one or can make a
suggestion about where to look please respond via email.

John The best for the dollar out there is from ARRL. It ain't cheap. but then
neither are 13yr old's HIHI

73 Ray AD4RR

1190. Re: Irradiated Wire ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: Gerald Schmitt <ggs@aerie.lanl.gov>
Message-ID: <3lf4dv$7qv@newshost.lanl.gov>
Source record: 113693

Don't worry radiation comes in many forms an flavors including heat. I suspect this logo has to do with an annealing process. Not all radiation is ionizing radiation which is what you were refering to. There might be some application for activated wire but you would not get it on a spool cheaply. If you want to watch out for something beware of Mexican rebar. We found a load of it contaminated with Cobalt-60 a few years ago.

My opinions only not a LANL policy statement

1191. Re: Mmic (mar8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <796572499.AA00937@hamlink.mn.org>
Source record: 113694

JJ>From: jdevenport@lanl.gov (Jim Devenport)
JJ>Newsgroups: rec.radio.amateur.homebrew
JJ>Subject: MMIC (MAR8)
JJ>Organization: LANL
JJ>Message-ID: <3la7qn$8n3@newshost.lanl.gov>
JJ>Date: 28 Mar 1995 23:58:15 GMT
JJ>
JJ>In article <3l9ms5$jc1@vixen.cso.uiuc.edu>, w9sz@prairienet.org
JJ>(Zack Widup) says:
JJ><snip!>
JJ>> Also, the MAR-8 is the only MAR MMIC which is not
JJ>> unconditionally table and goes into oscillation easily. <snip!>
JJ>>
JJ>> Zack W9SZ
JJ>>
JJ>Hee, I didn't realize ANY of the MAR's were "UNCONDITIONALLY stable"
JJ>as advertised by the early full page ads. Haven't messed with them
JJ>in several years now but when they first came out we bought several
JJ>of the Mini-Circuits MAR experimenter's kits and found they ALL were
JJ>quite touchy about PC layout. If the PC strips feeding input and
JJ>output weren't pretty close to perfect they would oscillate like
JJ>crazy; hardly "unconditionally stable". Of course I've noticed
JJ>similar behavior with "unconditionally stable" op amps too. I think
JJ>"Unconditionally stable" is sorta like cold fusion or
JJ>anti-gravity... awfully difficult to find in real life.
JJ>
JJ>---
JJ> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
JJ>(1:282/100.0)
Well there seems to be a bit of confusion over what constitutes
"unconditionally stable". In dealing with the Mar/Mav series of
Mini-Ckts amps, this term refers to the matching of the input and output
of the device. That is the value of S11 and S22. Most of these amps are
designed to work in a 50 Ohm system, and the "unconditionally stable"
commment refers to the fact that the mag and phase of the S11 and S22
parameters can vary from their matched values, without the amp breaking
into oscillation. It does not however mean that you can't buid an
oscillator out of them wheather or not you intended to! Running output
leads next to input leads, coupling output coils to inputs, etc. can all
easilly make these guys oscillate.
I have found that carefull construction over a large ground plane
generally works good. In stubborn cases I have added small value caps
form the output lead, right at the device to ground. Not a solid
engineering fix, but seems to be a quick fix for narrow band

applications.
Also I have found that the Mar/Mav line amps are quite easy to blow up
but not so easy to tell if they are good or bad.... I usually try a new
device if I suspect that it may be popped.
By the way Mini-Ckts offers some graet lit. on these amps, free for the
asking.
72 Bob Liesenfeld WB0POQ

1192. Re: Linear Amplifier Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: poco@nervm.nerdc.ufl.edu
Message-ID: <poco-3003951827110001@ppp-07-nerdc-ts4.nerdc.ufl.edu>
Source record: 113695

In article <9@bdam.win.net>, cingersn@bdam.win.net (Carleton C. Ingerson) wrote:

> Does anyone know where I can obtain a schematic and preferably a
> construction article for an HF Linear amplifier that will take
> 100W in and give me 300 to 500 out?

Carl:

The ARRL handbook has several tube and solid-state based amps (I haven't seen this years' handbook but certainly past editions have had construction articles.) Another approach would be to contact some of the big tube manufacturers like eimac. I'm sure they would have tons of application notes probably free for the asking. Hope this gets you closer to getting started. 73

Gary
KA9RAO

1193. FW: RF JOBS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: jallyn@airdata.COM
Message-ID: <2F7B413A@wddmssmtp.nwest.airdata.com>
Source record: 113696

ARE YOU SEEKING A CAREER OPPORTUNITY IN RF ENGINEERING?
Your interests in amateur radio maybe relevent to an exciting career.

If you have 2 to 5 years or more experience in RF Engineering and a passion for Wireless Data Communications, then McCaw Cellular Communications would like to talk to you. The Wireless Data Division of McCaw currently has several RF Engineering employment opportunities in the Seattle Area at our headquarters. These opportunities are in CDPD Systems Performance Engineering and RF Test Engineering.

As the champion of Cellular Digital Packet Data (CDPD) technology, McCaw is the recognized innovator in wireless communications. Our new alliance with AT&T brings an even greater opportunity for technical challenge and achievement. We're seeking highly motivated individuals to work in our open, supportive and dynamic enviornment.

Qualifications should include experience with RF systems design or cellular system engineering. Your background in any of the following will be helpful: UHF analog and digital radio systems and telephony; RF test and measurement; Packet switching and router-based networking; MS-DOS/Windows or Unix operating systems; experience with Ericsson and/or AT&T cellular equipment desireable; MSEE or BSEE required.

To apply, please send your resume and cover letter to katherine.deforest@airdata.com or mail it to People Development, McCaw Cellular Communications, 10230 NE Points Drive, Kirkland, WA 98033. Attention: Katherine DeForest. No phone calls please.

1194. Re: TNC schematics?-APOLOGY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: jdevenport@lanl.gov
Message-ID: <3lfgbk$d95@newshost.lanl.gov>
Source record: 113697

The "Baycom" modem schematic I have emailed to several of you will NOT operate at 9600 baud or any speed approaching that rate.
After not being able to find data for 9600 baud operation with these IC's I contacted the factory tech support people and I find I have been blowing smoke..... these IC's will NOT support baud rates much in excess of 1200 baud. I have used them with varying degrees of success up to 1800 baud unmodified but have never tried anything higher.
I THOUGHT I had seen data sheets for component values for baud rates 'way up there but I was sorely mistaken.
Again, my apologies.
73,

1195. Re: Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: drayegon@america.com
Message-ID: <NEWTNews.25652.796611046.drayegon@drayegon.america.com>
Source record: 113698

Russ you were a couple of days early today is the 29 not 4-1-95

1196. Re: push-pull grounded screen.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3lebej$100@newsbf02.news.aol.com>
Source record: 113699

What did you do with the control grid? Did you drive it or ground it? I built a 140 MHz grounded screen 4CX5000 several years ago. It worked very well in grounded screen but it still required bridge neutralization. The filament by-passing was a real headache also.

1197. Re: Source for Nichrome Wire?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3lebmo$10n@newsbf02.news.aol.com>
Source record: 113700

You might try locating the real problem. Nichrome is a poor shotgun approach. If the amp uses 572's the self neutralizing frequency is below 30 MHz. It is hard to stabalize an amp that operates above or close to the self neutralizing frequency. Try the following: Short wide anode to tuning capacitor lead. Short wide grid pin to chassis connections. Neutralize the tubes (see the Ameritron 811H, Heath Warrior, and othe 811 amps for circuits).

Also: Add a small mica cap in series with the resistor in the parasitic supressors. This allows you to use increased loading of the supressor coil at low VHF frequencies without excessive resistor heating. If you want more details E-mail me or call me at 404-760-7355.

1198. Re: Irradiated Wire ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3lfupp$dud@newsbf02.news.aol.com>
Source record: 113701

We use irradiated coax and wire because the insulation doesn't melt when the assembly line workers talk to each other while holding the soldering pencils on the wire. It's has a higher insulation melting temperature but doesn't cost as much as teflon. So far as I know it doesn't glow in the dark, unless they hold the blowtorches on through most of the day. ;-)

1199. 40M kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 00:00:00 UTC
From: holt@sdd.hp.com
Message-ID: <3lg3hvINNl9@hpsdlxs0.sdd.hp.com>
Source record: 113702

Anybody have any recommendations for a 40M receiver (or transceiver) kit I could recommend to a friend? It seems like I always see ads for these, but now that I need one...

Thanks.
--
Holt Mebane, N4HR
Hewlett-Packard
San Diego Technical Graphics Division
619-592-4882

1200. Re: WTD: GP300 Service Manuals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 02:04:28 UTC
From: root@cincy.msr.hp.com
Message-ID: <3ld3jc$rq3@hpscit.sc.hp.com>
Source record: 113682
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

George Vuckovic (vuckovic@interaccess) wrote:
: I'm looking for any Motorola GP300 Service manuals (16 Channel Version,
: UHF Wideband) as well as any information regarding paging capabilities
: between two GP300s. Can I, for example, us QuickCall or whatever it's
: called to turn on my partner's radio? Can Burst tones be used to do
: this? I know the Ritron Patriots are capable of this QuickCall style
: paging, but is the GP300?
The GP300 has a number of signalling decode features that are
primarily documented (like most current M radios) in the RSS
manual (radio service sofware)

The only dynamic encode is DTMF -which the radio is not able to
decode (last time I looked)

I am assuming we are talking about the US domestic model since I
believe that the European version may have the capibility for
unit to unit signalling (5/6 tone) via the keypad/display

The hardware service manual is just for fixing broken HW with
the usual parts and schematics. These do not usually document
the radio functionality to well on current production radios.

Good Luck

: --
: --
: Owner, Weniger Lighting Systems | George Vuckovic |
: Director, Emergency Response Medical Services | vuckovic@interaccess.com |
: EMS, Security, Communications |__My_Opinions_Are_My_Own__|
: Weniger Lighting Systems -- Emergency Lighting Sales, Service, Installation
: --

--

****
**** /_ _ ****
*** / //_/ ***
**** / ****
****
john Yelmgren HPDESK: john YELMGREN / HPATC2/01
Hewlett-Packard UnixMail: jyelmgr@hpccoa.corp.hp.com
4501 Erskine Road Telephone: (513)985-6292
Cincinnati, Ohio Fax: (513)985-6300
45242 Telnet: 985-6292

These are my statements not HP's !!

1201. Re: 1750 METER BAND

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-30 02:13:25 UTC
From: jdc3538@ultb.isc.rit.edu
Message-ID: <1995Mar30.021325.2446@ultb.isc.rit.edu>
Source record: 113683

In article <01HOMVHXY7YQ94E65U@LURE.LATROBE.EDU.AU> HUBMML@LURE.LATROBE.EDU.AU writes:
>HI THERE
>Noticed the message from Bill Johnson and his request for
>info regarding FM on the 1750 meter band.
>I haven't tried this band yet, but have been
>searching for a circuit of
>any transverter which will allow
>me to operate on this band using my
>Icom 735. I want, in particular, phone operation
>and not CW, so SSB or FM, or AM modes would be OK.

The IC-735 can be "opened up" by clipping a diode. Check the usual "mods"
sites.

I anticipate followups by the anally-challenged by noting that you will
reduce output to 1 watt, not transmit out of band, vote for Bill Clinton
a second time, etc., etc., etc.

73...Jim N2VNO
>I have the circuit in 73 Amateur Radio, 1988 by
>Dave Curry, but don't know if all the parts are still
>available.Any help gratefully received.
>Kind regards, Murray. VK3EZM
>Dr M Lewis
>School of Human Biosciences
>LaTrobe University
>Australia.

1202. [WANTED] 5KHz receiver circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-31 00:00:00 UTC
From: peterh@adacel.com.au
Message-ID: <peterh.796634052@server>
Source record: 113703
Cross-posted to: sci.electronics,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi,

This is another request for a design for a receiver circuit that
will detect a 5KHz carrier signal.

It needs to be a compact and low-power. It's detecting a 5KHz
pulse that's being generated from a very weak transmitting source.

I had a promising reply from Paul Wenz but am unable to contact
him via email. Paul, if you read this can you email me your
fax or email address where I can contact you.

Thanks in advance,

Peter.
--
____
Peter Homann email: peterh@adacel.com.au
Adacel Pty Ltd Work : (03) 596-2991
250 Bay St, Brighton 3186, VIC, AUSTRALIA Fax : (03) 596-2960

1203. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-31 00:00:00 UTC
From: anonymous@anonymous
Message-ID: <3lfpf6$nls@henri.mindspring.com>
Source record: 113704

```
test
```

1204. Re: 1750 METER BAND

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-31 00:00:00 UTC
From: clifto@indep1.chi.il.us
Message-ID: <D6AJwn.2I3@indep1.chi.il.us>
Source record: 113705

In article <1995Mar30.021325.2446@ultb.isc.rit.edu> jdc3538@ultb.isc.rit.edu (J.D. Cronin) writes:
>The IC-735 can be "opened up" by clipping a diode. Check the usual "mods"
>sites.
>
>I anticipate followups by the anally-challenged by noting that you will
>reduce output to 1 watt, not transmit out of band, vote for Bill Clinton
^^^^^^^^^^^^^^^^^^^^
>a second time, etc., etc., etc.
^^^^^^^^^^^^^

Never mind! How do I get the diode connected again?

:-) :-) :-)

--
Cliff Sharp Never get into fights with ugly people.
WA9PDM They have nothing to lose.
clifto@indep1.chi.il.us --The Fourth Law of Reality

1205. Re: What does BNC stand for?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-31 00:00:00 UTC
From: mike@net-works.com
Message-ID: <03311995.220218@net-works.com>
Source record: 113706

Re: Re: What does BNC stand for?

> Subject: Re: What does BNC stand for?
> References: <3kkq1l$c53@shell.fore.com> <3kv2eb$n5j@info4.rus.uni-stuttgart.d
> Erik K.Sorgatz (sorgatz@avatar.tti.com) wrote:
> : Really, do we have to do this damn thing everytime a new load of
> : cannon fodder hits college? Couldnt this one be put in the Ham radio
> : FAQ?? Along with the fm vs am for aircraft, how to soldier to aluminum,
> : how to use a dip meter, how to tune a pi section, and the galaxy of
> : other stupid things that you should already know if you're a ham??
> : jeez!

Well you could always just DROP this message area! Or just go about your
business and let someone who wants to help answer the question.

Mike N9HQH

1206. Re: Need software for circ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-31 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <796644318.AA00962@hamlink.mn.org>
Source record: 113707

DD>From: drake@oasys.dt.navy.mil (John Drake)
DD>Newsgroups: rec.radio.amateur.homebrew
DD>Subject: Need software for circuit design
DD>Organization: Carderock Division, NSWC, Bethesda, MD
DD>Reply-To: drake@oasys.dt.navy.mil (John Drake)
DD>Message-ID: <3lcj36INN1qc@oasys.dt.navy.mil>
DD>Date: 29 Mar 1995 16:22:46 -0500
DD>
DD>My 13 yr old asked me to post a request for a circuit design program
DD>which will run on a PC. He can't find anything locally at the
DD>computer stores, but did download a shareware program last night
DD>from a BBS (I don't know what the title is). If anyone knows of one
DD>or can make a suggestion about where to look please respond via
DD>email.
DD>Thanks
DD>
DD>John Drake
DD>
DD>drake@oasys.dt.navy.mil
DD>
DD>---
DD> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
DD>(1:282/100.0)
Hi,
The ARRL produces an EXCELLENT one called "ARRL Radio Designer" for
about $150.00. You can reach them at 225 Main Street, Newington, CT.
06111
(203) 666-1541. I would be happy to give you more details here if you
would like. Bob Liesenfeld WB0POQ

1207. Re: 100 Watt HF Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-31 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3lhjed$5cd@vixen.cso.uiuc.edu>
Source record: 113708

In a previous article, CNS@psimemphis.COM (C. Nathan Sykes) says:

>I think I have a need that others might share.
>
>I'd like to try to find a design to build a HF amp to take a 1-5W HF
>QRP transmitter to 50-100W. I've built a 5/40W VHF booster amp and
>it works very well. 5-100 would probably require 2-3 stages but
>could use relatively inexpensive transitors. A single band amp would
>be fairly easy, but a nice feature would be a multiband tuner.
>---
>Nathan Sykes email: cns@psimemphis.com
>Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
>Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM
>---
>

A great little amp is the Motorola AN-762 (Application Notes) amp which
appears in the Motorola RF Devices Manual, and was in the ARRL Handbook
in the late 80's.

It uses two MRF454 transistors in push-pull and puts out 100-140 watts
for 5 watts of drive. I made a circuit board from the template in the
ARRL handbook and had many of the parts in my junquebox. The rest I think
I got from Communications Concepts, Inc.

This is a broad-band amp (1.8-30 MHz) and has no tuning, but you do need
a lowpass filter on the output.

I have been very pleased with the performance of this amp!

Good luck. I hope this helps!
73, Zack W9SZ

1208. Re: Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-31 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3lhjnf$6d7@vixen.cso.uiuc.edu>
Source record: 113709

In a previous article, russ.wuertz@spacecoast-bbs.com (RUSS WUERTZ) says:

>
> On cable I saw as a doctor told us from the Space Shuttle that radio
>broadcasters are licensed to broadcast through time. Having gone to
>school for electronics... they never actually say that as he put it, but
>the instructor was HEARING my thoughts telepathicly, picking at them and
>made sure I understood that they were my thoughts and not broadcasted
>thoughts that everyone heard.
>
> ....
>

Sounds like it would make a good Dr. Who episode!

Zack W9SZ

1209. Re: Big switch needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-31 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3lhnup$o05@newsbf02.news.aol.com>
Source record: 113710

How much voltage in dc supply to PA?

1210. Re: 40M kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-31 00:00:00 UTC
From: rhaynes@csc.com
Message-ID: <3lhhtg$fi9@explorer.csc.com>
Source record: 113711

Holt Mebane (holt@sdd.hp.com) wrote:
: Anybody have any recommendations for a 40M receiver (or transceiver) kit I
: could recommend to a friend? It seems like I always see ads for these, but now
: that I need one...

Try an Oak Hills Research QRP kit. They are Heath quality parts and all of
the kits I have from them have been no_problem kits. Phone of order or catalog
is (616) 796-0920. They also have great watt meters and a killer audio filter
kit. Both are in daily use here.

73's Richard N5QXF --- ps: I don't own or own stock in or work for OHR.

1211. Are people still using CX100A5's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-31 00:00:00 UTC
From: paul.whatton@posnet.co.uk
Message-ID: <950401084008365@posnet.co.uk>
Source record: 113712

In a message of 29 Mar 95 Jimn0oct wrote to All: J> Subject: Are people still using CX100A5's? Date: 28 Mar 1995 19:03:55

J> for microwaving?? How much is this 2.5 GHz tube going for? Where can I
J> get one? CAN I get one?

J> 73, Jim N0OCT
J> Where there is smoke, there is incomplete combustion!

J> --- WILDMAIL!/WC v4.12
J> * Origin: Internet (2:254/236.0)

The 3CX100A5 (aka 2C39 or 7289) is a GREAT tube! It is still just about the only way for amateurs to generate QRO on the lower microwaves (23 and 13cms) economically. They yield up to 13dB gain in a good circuit.

I'm using a single one in a cavity on 1296MHz SSB/CW and have an on-going project to build a pair- I'll finish the metalwork some day!

As with all tubes a main factor limiting output power is temperature. These tubes can be used with just convection cooling to about 10W and with force-air cooling to about 100W output. Some amateurs unscrew the air cooling fins and replace them with a water cooling coil. I'm told you can get lotsmore power out that way!

They also make very easy to build amplifiers for 70cms and I guess 2metres. To build a 432 amp all you do is mount the tube at one end of a half-wave strip-line (about 195cms long and 40cms wide). You can even solder the tube in to a piece of PCB and throw both tube and stripline away when it nees changing. Being a triode bias is very easy- ground the grid ring, and bias the cathode with a simple transistor. With 5.9V on the heater and abut 1kV on the anode you can't fail!

As you might have gathered I like these tubes (g). As for availability, well I guess you COULD buy a new one :-(But the surplus ones I've got were given to me. There are always 2C39s for sale at ham-fests and the going rate for a used good one in the UK is about UKP 5 (8 dollars).

Happy building!

73 de Paul G4DCV. Internet: paul.whatton@posnet.co.uk

... AmigaBee BBS 2:254/214 Tel UK+ 81 695 5328 * Amiga Ham radio file area *
--- Spot 1.3a #997
* Origin: Paul's Point off AmigaBee (2:254/214.6)

1212. HV Diodes ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-03-31 00:00:00 UTC
From: wsw@cellware.de
Message-ID: <wsw.217.008F980E@cellware.de>
Source record: 113713

Hi out there!

For a homebrew tube-PA I am looking for HV diodes which can bear 3KV and 1.5A.
Do you know any manufcturer/type to use?

Thanks for any help!

73s, Stefan (DD6FM)

_____ ____
| / c / e / l / l / w / a / r / e / |
| Stefan Wimmer |
| Breitband Technologie GmbH |
| Tel: ++49(30)4670 8235 Gustav-Meyer-Allee 25 |
| Fax: ++49(30)4630 7658 13355 Berlin, Germany |
| Email: sw@cellware.de |
| WWW: http://www.cellware.de/ |
|_____|

Do 't tou h the f op ydi ks su f ce!

1213. M1 Frequency Counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: HERSHEYR@ix.netcom.com
Message-ID: <3ljo7k$h23@ixnews3.ix.netcom.com>
Source record: 113618

I have an optoelectronics M1 frequency counter and have been trying to interface it to my PC with no luck. I have built an rs232 to ttl converter and used my owen software and various others with no luck. Is there a special ID address to make the software work like Icom radios. There is and interface from them and icom but i would rather build it my self. Are the plug ends the same as icom radios?. Thanks
Rich
KA8DED

1214. Re: Help: 10 Ghz Gunplexer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: mgarrett@prairienet.org
Message-ID: <3ljsb0$1vm@vixen.cso.uiuc.edu>
Source record: 113619

In a previous article, marwynn@phoenix.net (Marwynne Kuhn) says:

>I am trying to get a 10 Ghz gunplexer to function with audio. I have the transmiter
>portion built. It consist of a stable voltage regulator and inject audio on the
>gun diode. The audio is coulpled with a 100 mfd capacitor and the audio is about
>1/2 volt peak to peak. The receiver is the part that I am having a problem with.
>I have 30 mhz receiver being feed for the IF of another 10 Ghz gunplexer. I can here the
>1000 hz tone that I am injecting into the transmitter on ther receiver with the power
>on or off of the receiver gunplexer. I don't understand that. The signal strength is
>weak but you can here it with out much problem. I don't beleive that is how it is supposed
>to work is it? Any Ideas ? Any Comments or suggestions would be appreciated.
>
>Marwynne Kuhn WB5PWG
>
This is just a comment but it sounds like you might be getting enough signal
in the reciever gunplexer to be rectified. How far apart are the units?
Your post did not state that the signal strenth is good when the recieve
gunplexer is on but hopefully you have a good distance before things
start to get marginal for you.
I am also interested in doing something similar to your project and would
like to hear more on your progress and range. I would also be interested
if you plan on making a permanant link out of these units.
--
Mark Garrett mgarrett@prairienet.org
KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM

1215. 40M kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: sipy@ripco.com
Message-ID: <D6D5Dt.Gy@rci.ripco.com>
Source record: 113620

HO>Anybody have any recommendations for a 40M receiver (or transceiver) kit I
HO>could recommend to a friend? It seems like I always see ads for these, but n
HO>Holt Mebane, N4HR

Hi, Holt.
I recently found an advert. for lowband kits. Here it is.
Send $1 U.S. for a catalog to -

Bill Kelsey, N8ET
Kanga US
3521 Sprint Lake Drive
Findlay, OH 45840
(419) 423-4604

- Have fun!
- Mike Sipin. KA9CQL.
sipy@ripco.com

* SLMR 2.1a * SMARTDRIVE.SYS not found. (A)bort, (R)etry, (D)umbdrive?

--

1216. Re: Helical Resonators - Round or square?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3ljt50$ace@abyss.West.Sun.COM>
Source record: 113621

In article <D6CHJp.4Iz@news.hawaii.edu>, <jeffrey@math.hawaii.edu> wrote:
>I want to build a helical resonator with an Fo = 147 MHz.

I've got quite a few helical resonators around the house. I think you usually end up seeing square or square with angled corners in production devices bceause that is easier to make in mass production.

>Also, the covers are said to be optional.

I wouldn't omit the covers. The resonator is usually tuned with a very small amount of capacitance, without a cover it would be easy to detune your resonator.

>Comments (with regard to round or square, and covers) are welcome!

Why not take a break from looking for TV sets and start looking for discarded land mobile radios? The front end out of a GE Mastr Exec II or MVP is nice, the front end from a Micor is good, etc. There's lots of resonators out there; the VHF High band business resonators will either tune to 147MHz directly or with a minimum of modification.

Hey, 147MHz? That's 2m. What are you doing on 2m?

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Damn I'm smooth" (Anon.) *

1217. Re: Irradiated Wire ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: ballnt@aztec.asu.edu
Message-ID: <3liims$hks@news.asu.edu>
Source record: 113622

In a previous article, cramer@mksol.dseg.ti.com (Norman W Cramer) says:
>
>Well, I don't know what irradiated wire is but it may be wire that has been
>exposed to radiation. Things exposed to radiation don't glow unless they are
>"activated" by the radiation. I doubt that the wire has been activated. If it
>were, it would be radioactive material (no not radioactive as uses 2m often:)).
>I wouldn't worry about it being irradiated.
>
>Maybe it was irradiated to strengthen it. I belive there are techniques that
>use radiation to harden metals. Radiation is also used to purify things, so
>maybe the wire was intended for use in a sanitary environment (i.e. medical).
>
>It would be interesting to know the applications of irradiated wire and if it
>really is what the name implies.
>
>Norm
>cramer@dseg.ti.com

It's the insulation that is irradiated. Ordinary polyethylene has vary good
electrical properties but it is stiff and it melts at a low temperature.
The molecules of polyethylene are very long and straight, if you can tie them
together at random intervals (called cross-linking) the polymer becomes more
like rubber, flexible and resistant to melting. One way to cross link is to
use chemical agents like peroxides and heat the polymer after it is applied
to the wire. The other way is to expose it to radiation after it is extruded
onto the wire. The radiation is most often from an electron accelerator, not
from radioactive substances.

--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

1218. Arrl South Texas Frequency Coordinator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: marwynn@phoenix.net
Message-ID: <3lk4lt$d80_001@news.phoenix.net>
Source record: 113623

Does anyone know who the South Texas Frequency Coordinator is? I would like to coordinate a link frequency. I think I need the UHF Freq. coor. Thanks

Marwynne Kuhn WB5PWG

1219. Anyone messing with 10gigs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: jjesse@FOUR.net
Message-ID: <3lka9m$po9@ultrix.FOUR.net>
Source record: 113624

Hello,
New to the net and was wondering if anyone is building up for
10ghz narrowband. I building up around a Frequency West brick osc.
And still gathering parts.
73
Jon WS1K

1220. Resonance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: russ.wuertz@spacecoast-bbs.com
Message-ID: <8A69310.00910000C4.uuout@spacecoast-bbs.com>
Source record: 113625

We're being shown that the radio and TV can communicate through time and they seem very nasty. The only cure for it, is for more people to do it. They rob thoughts of people who listen to the radio and TV and talk right back from old movies and radio shows.

I see how well they do it. They seem insane because hearing thoughts is an insane thing to do, and they loose their sence of reality. But computer messages and software can also be sent through time because it can be broadcast.

Can anyone give me some hints? I called NBC in Jacksonville and they asked me if I wanted to buy some information, and that the ARE doing just that. They also said that they were just the carriers for the movies, but the TV news also grilled me and talked back.

If we all have to do it... to stay alive... then maybe we just better get together and give each other some needed information on the subject.

1221. FS: Ranger 2950 and scanners

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: stew@sam.neosoft.com
Message-ID: <stew.26.00761558@sam.neosoft.com>
Source record: 113626

[No readable article body recovered]

1222. Fixed: FS: Ranger 2950 and scanners

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: stew@sam.neosoft.com
Message-ID: <stew.28.0077CF52@sam.neosoft.com>
Source record: 113627

I've got a few things for sale:

- One Ranger 2950 ten meter rig in absolute mint condition. Has instructions, documentation, all original brackets and accessories and original box. I am selling this radio as a package deal with a 250 watt 10 meter HF amp. This amp has a built-in pre-amp, and a toggle switch for SSB/AM operation. This amplifier may ONLY be used by a licenced amateur operator. You also get a high power SWR/power meter (up to 1000 watts) with mounting bracket. All this for $400.00.

- Pro-34 hand held 200 channel fully programable scanner. This scanner covers all the usual frequencies as well as 800Mhz. It is cellular restorable. $175.00.

- Uniden Bearcat 200XLT hand held 200 channel fully programable scanner. This scanner also covers all the usual frequencies and 800 Mhz. It is also cellular restorable. $175.00.

Please email me if you are interested in any or all of the above. Thanks!

Stewart
stew@neosoft.com

1223. Address/Phone # for MiniCircuts?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: schiller@adobe.com
Message-ID: <1995Apr1.000705.8259@adobe.com>
Source record: 113628

Could some kind soul please post or e-mail
the address or phone # for Mini Circuts ?
It sounds like they make some useful stuff.

thanks,
Steve

1224. Still Looking for DR-M06 TX MOD. WIll Pay $30 for info.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <3lkgpu$ea3@henri.mindspring.com>
Source record: 113629

I am still looking for a TX modification for the ALinco DR-M06 6 meter transceiver. I have received some information via E-mail, but none has been specific enough on the location of the pads that need to be jumpered. I need to get this radio to transmit on 45.75 so I can use my Agile Video Modulator (In 45 MHz, Out 50-750MHz) as a transverter. I am still offering $30 to anyone that can supply information leading to a succesful mod.

Thanks and 73's

Pieter Ibelings
AC4OP

MY ADDRESS HAS CHANGED SINCE LAST POSTING:

wave@mindspring.com

1225. Re: Helical Resonators - Round or square?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D6DKGC.Itx@news.hawaii.edu>
Source record: 113630

myers@West.Sun.COM (Dana Myers) writes:

><jeffrey@math.hawaii.edu> wrote:

>>I want to build a helical resonator with an Fo = 147 MHz.

>I've got quite a few helical resonators around the house. I think
>you usually end up seeing square or square with angled corners
>in production devices bceause that is easier to make in mass
>production.

Hi Dana: From further reading I've learned that the disadvantage
of square resonators is the seam; apparently it lowers the Q, and
to overcome the loss one is supposed to silver-solder the seam.
So I'll use copper *tubing*.

>>Also, the covers are said to be optional.

>I wouldn't omit the covers. The resonator is usually tuned with a
>very small amount of capacitance, without a cover it would be
>easy to detune your resonator.

Correct! Again, the ARRL Handbook said that covers are optional
but this morning at the beach I talked with an RF EE and he said
tuning is typically done capacitively via a screw through the top
cover. He drew several response curves in the sand showing the
difference between inductive and capacitance tuning. (It's amazing
what gets discussed on the beach here!)

>Why not take a break from looking for TV sets and start looking
>for discarded land mobile radios?

Haven't see any in the dumpsters, although I've found some discarded
maritime mobile transceivers at the harbor, but I promptly cleaned them
up and sold them. Besides, I'd rather build the resonators by hand.

>Hey, 147MHz? That's 2m. What are you doing on 2m?

Maybe I can get some Techs interested in HF CW!

73 buddy,
Jeff NH6IL

1226. Helical Resonators - Round or square?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D6CHJp.4Iz@news.hawaii.edu>
Source record: 113631

I want to build a helical resonator with an Fo = 147 MHz. The ARRL Handbook gives the design criteria for both round and square resonators, with no comment as to which performs best. Since copper pipe is readily available from hardward stores I am considering the round design. Also, the nomograph gives the design data for round resonators.

Also, the covers are said to be optional.

Comments (with regard to round or square, and covers) are welcome!

Oh, I don't plan on silver plating the shield and coil - that's only supposed to increase the unloaded Q by 3%.

73 from Hawaii,
Jeff NH6IL

1227. Re: MMIC (MAR8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: gerhard@netmbx.netmbx.de
Message-ID: <3liauv$p8s@newsun.netmbx.de>
Source record: 113632

In article <3la7qn$8n3@newshost.lanl.gov>,
Jim Devenport <jdevenport@lanl.gov> wrote:

>Hee, I didn't realize ANY of the MAR's were "UNCONDITIONALLY stable"
>as advertised by the early full page ads. Haven't messed with them in
>several years now but when they first came out we bought several of the
>Mini-Circuits MAR experimenter's kits and found they ALL were quite
>touchy about PC layout. If the PC strips feeding input and output weren't
>pretty close to perfect they would oscillate like crazy; hardly
>"unconditionally stable". Of course I've noticed similar behavior with
>"unconditionally stable" op amps too. I think "Unconditionally stable"
>is sorta like cold fusion or anti-gravity... awfully difficult to find
>in real life.

"unconditionally stable" means that a device won't oscillate with
any combination of input and output load impedances, provided there
is no external feedback.

EVERY amplifier that has positive power gain is capable of oscillation,
you just need the right feedback. A ground loop or a unsuitable
decoupling cap might be enough.

--
Gerhard Hoffmann # phone: +49 30 782 02 33
Gleditschstr. 79 # fax: +49 30 782 02 63
D10823 Berlin # on the air: dk4xp
Germany # in the air: d-1441, d-kick

1228. 1296 Hi Power

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: Charles.Dowdell@f222.n2613.z1.fidonet.org
Message-ID: <796801991.AA02881@rochgte.fidonet.org>
Source record: 113633

I am researching and planning on building a high power 1296 amp. The highest power I have run across up to this point is approx. 150 watts.... with a very short tube life....even water cooled... Let me know what direction I should head in for a 500 watt 1296 amp....

Any info regarding EME is also appeciated. N2TYQ

Charlie

1229. 70cm xvtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: Daniel.Lopes%f10.n101.z88@fluxline.mi.org
Message-ID: <797090974.AA00903@fluxline.mi.org>
Source record: 113634

Hello there:
I think you can get a kit or a pc-board from a place called
DOWN EAST MICROWAVE... the phone # is (207)948-3741.. i think it's in
Mass. or New Hampshire.. hope this helps...
Danny N1HRS...73"s from JAPAN

1230. Recruiting Elmers from the Internet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: pschleck@gonix.com
Message-ID: <pschleck.796747779@gonix.com>
Source record: 113714
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space

As readers of the rec.radio.amateur.* newsgroups are probably aware, I maintain a periodic information posting known as the Amateur Radio Elmers Resource Directory (aka the "Elmers List") which provides a list of net Elmers, indexed by topic, and their E-mail addresses. (For users of threaded newsreaders, this article is linked to the base article of the Directory itself).

As noted elsewhere, the Amateur Radio Elmers Resource Directory is 4 years old as of last month. In order to maintain its value to the net, I have strived to keep it accurate and up-to-date. In addition to reviewing the currency of the entire list every 2 years, I am constantly scouring the newsgroups for new Elmers to join the list.

There's always been an implicit invitation for any qualified person to join the list. However, since I've lost about 1/3 of the list due to attrition from my last biannual mass-ack (i.e., no response at their last-known E-mail addresses), felt the need to send out this explicit invitation. I'd like to replace the lost Elmers with new, motivated, quality Elmers from the net. Areas of expertise that are most desirable for the list right now include:

- Military Affiliate Radio System (MARS), particularly Army and Navy/Marine-Corps. MARS (as I currently don't have any MARS Elmers from those branches)
- Advanced homebrewing techniques (surface-mount, VLSI, DSP, spread-spectrum, etc.)
- TCP/IP Packet Radio and Gateways/Internetworking (particularly local IP coordinators and/or subnet managers/operators/leaders)
- Amateur Satellites/Space Operation (particularly Microsats and SAREX)
- Amateur-related Software for Unix/PC/Mac/Amiga/Psion/HP-95
- College Clubs and organizational guidance/strategies
- Boy Scout Amateur Radio Merit Badge Counselors
- Unix/Linux/X-Windows programming and configuration
- Amateur Radio Organizational Contacts (I am especially looking for contacts for the ARRL Field Organization, GRAPES, AMSAT, QCWA, QRP Int., NARA(?), QRZ, CSVHFS, LAMBDA, ARES, RACES, FEMA, any state OES or EMA, as well as any regional frequency coordinating body)
- Band, Mode or, Brand-specific equipment (actual manufacturer or dealer contacts would be quite welcome, as long as they reveal their affiliation and at least provide *some* free services)
- Maintainers of unique amateur-radio-related anonymous File Transfer Protocol (FTP) sites and World-Wide Web (WWW) Home Pages (as opposed to those that are substantially a rehash of, or pointers to,

existing sites).
- Maintainers of unique amateur-radio-related mailing lists
- Editors/contacts for amateur-radio-related publications

Although expertise in any other area would, of course, be welcome also.

I'd like to emphasize that participation is totally voluntary, with very minimal obligations (1 or 2 polite inquiries a month, if feedback from existing Elmers is any indication). If you find that it is too much work, you are welcome to bow out, no questions asked. In the 4 years I have managed the list, only a handful of Elmers explicitly resigned, and usually only because of severe professional or personal obligations, or their interests or expertise changed. You don't even need access to netnews, just a reliable E-mail address.

I've also attempted to seek out people on the net who I think would be good Elmers. If you've received a personal E-mail invitation from me, I urge you to give it serious consideration. The net would appreciate your volunteerism.

If you'd like to volunteer, or just discuss further what volunteering would involve or if your contribution would be desirable and fit within the Elmers List's mission and editorial policies, send me some E-mail to the Elmers list administrivia mailbox below (the default Reply-To: of this message; an autoreply daemon will respond with an acknowledgement message and I'll be in touch with you personally very soon).

--
73, Paul W. Schleck, KD3FU
elmers-request@gonix.com

Maintainer, Amateur Radio Elmers Resource Directory

1231. Pls help me find TIL306 & TIL308 LEDs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfD6C05H.Hqz@netcom.com>
Source record: 113715

I'm trying to find a source for a couple of TIL308 and TIL306 7-segment LEDs. Both have integral 7-segment drivers; one has a counter/latch too. I've searched my catalogs to no luck. I think these are/were TI part numbers. Could anyone take a look at your catalogs & offer a source?

Thanks very much!

73 Dave WB0GAZ dgf@netcom.com

1232. Re: 100 Watt HF Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Apr1.111400.6441@ke4zv.atl.ga.us>
Source record: 113716

In article <199503301128.LAA20948@chaos.magibox.net> CNS@chaos.magibox.net writes:
>I think I have a need that others might share.
>
>I'd like to try to find a design to build a HF amp to take a 1-5W HF
>QRP transmitter to 50-100W. I've built a 5/40W VHF booster amp and
>it works very well. 5-100 would probably require 2-3 stages but
>could use relatively inexpensive transitors. A single band amp would
>be fairly easy, but a nice feature would be a multiband tuner.

Nathan, a pair of 6146s will handle this nicely. Tubes remain the
easiest way to get high power and high gain in the same package.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1233. Re: Need software for circ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Apr1.113531.6572@ke4zv.atl.ga.us>
Source record: 113717

In article <796644318.AA00962@hamlink.mn.org> Bob.Liesenfeld@f100.n282.z1.fidonet.org (Bob Liesenfeld) writes:
>DD>From: drake@oasys.dt.navy.mil (John Drake)
>DD>My 13 yr old asked me to post a request for a circuit design program
>DD>which will run on a PC. He can't find anything locally at the
>DD>computer stores, but did download a shareware program last night
>DD>from a BBS (I don't know what the title is). If anyone knows of one
>DD>or can make a suggestion about where to look please respond via
>DD>email.
>Hi,
> The ARRL produces an EXCELLENT one called "ARRL Radio Designer" for
>about $150.00. You can reach them at 225 Main Street, Newington, CT.
>06111
>(203) 666-1541. I would be happy to give you more details here if you
>would like. Bob Liesenfeld WB0POQ

ARRL Radio Designer is indeed an excellent small signal circuit simulator and design *aid*, however, that may not be what John is looking for. He may be looking for a schematic capture program, which RD is not, or a board layout program, which RD also is not. Or he may be looking for a program that produces component values for a design, which RD also is not directly. Hayward's _Introduction to Radio Frequency Design_ includes some programs that directly calculate component values for some circuits (oscillators, filters, etc). I now consider Hayward's book an essential item, as well as Chris Boswick's _RF Circuit Design_, and a shelf full of other references.

Radio Designer is a very useful program, but we should be clear that it doesn't actually design circuits. It's more a replacement for a lot of cut and try on the bench. Programs like Tango are more traditional schematic capture and board layout programs. And Mathcad is a *very* useful design aid. I'd recomend Mathcad to anyone doing circuit design. I'd also recomend Radio Designer, and a schematic capture program, and a board layout program, etc. There isn't one package that meets all needs.

For learning electronic circuitry, however, there are a couple of electronic "lab" programs that are available that demonstrate electronic circuits in action in a graphic way. While useless for actual design, they are great teaching aids. This may actually be what John is seeking.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary

Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1234. Doppler RDF info needed!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: Don Lafontaine <lafont02@cnmtl.cn.ca>
Message-ID: <D6EAKo.Ets@sunqbc.risq.net>
Source record: 113635

Hi all, I recently bought a set of boards for Doppler RDF sets at a hamfest. Problem is, they did not come with a parts list or parts placement diagram. I would really appreciate anyone that can help me out with this (BIG!) problem. The markings on the boards are as follows:

(C) Dick Smith
ZA-1643a

There is the Main Board, ASU Board, and Display Board.

If you have the info I am looking for, I would really like to hear from you. You can email me at: lafont02@godzilla.cn.ca

73!

Don Lafontaine (VE2UFO)

1235. Really good low noise 12V wall-transformer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: hl1@hudson12.acpub.duke.edu
Message-ID: <3lkqmv$a9u@news.duke.edu>
Source record: 113636

After reading the really interesting and informative QST article this month, and being tired of
switching over to gell cells when I want to do some serious listening, I am wondering if someone
of the net can name a really well designed and low noise 12-16 Volt / .5 -2 amp wall transformer
type power supply that I can buy to supply my AR3000.

The unit I am using right now has four diodes in a bridge (I tried soldering .01 uf caps across
them to surpress the pn junction turn-on spike: more noise not less) and a 1000 mf 24V filter
cap. There is also a 5 megaohm resistor between negative DC and AC neutral (what is this for?)

Does Drake, Yaesu, Icom, etc make a really good unit that you could give a part # for?

1236. 220 amp schematics wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: mcgaver@earth.execpc.com
Message-ID: <3lktsd$f1n@homer.alpha.net>
Source record: 113637

I am looking for some "Motorola" data sheets which show circuits from
which one could build an amplifier. I am looking for amps in a class from
25+ watts to about 100 watts. I have spoke to some people who are
familiar with this but so far no one has come through.
I would be grateful for ANY Help,
Thanks
Rick NK9G mcgaver@execpc.com

1237. Re: LDS Church Conference on April 1-2, 1995

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: n7ws@aol.com
Message-ID: <3lli4v$l79@newsbf02.news.aol.com>
Source record: 113638

Why is this stuff appearing in a forum for radio amateurs? Sure some of
you are hams, even one of my best friends, but I think it's in poor taste.
Wes Stewart, N7WS
n7ws@aol.com

1238. Re: 1296 Hi Power

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: Gerald Schmitt <ggs@aerie.lanl.gov>
Message-ID: <3lmdn6$2fd@newshost.lanl.gov>
Source record: 113639

There was some discussion over on compuserve of a 700 watt one off
that Downeast had made. It was solid state I believe the guy was asking
$1500 or so for it. Now that would make you king of the local repeater.

1239. Re: Help: 10 Ghz Gunplexer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: sjnoll@rain.org
Message-ID: <3lmg4f$2pg@news.rain.org>
Source record: 113640

1/2 volt of audio on the Gunn Diode sounds like way too much.
It may be many many MHz wide (FM), and AMing too, or even going in and out of microwave oscillation. Do you have access to a spectrum analyser to see?

Do you know if the two units are on frequency - that is - 30 MHz apart? Can you hear anything when you tune one of the Gunn's frequency with no modulation on? I think you should.

I agree that there's so much signal, and that because it's so strongly modulated (maybe turning entirely on and off at 1000 Hz) that the detector diode is simply rectifying it and it's local oscillator (Gunn diode) doesn't have to be on.

I assume that these are Solfan units, or something like them?

73,

--
*** Steve J. Noll, Ventura CA, WA6EJO, sjnoll@rain.org ***

1240. Re: Address/Phone # for MiniCircuts?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: sjnoll@rain.org
Message-ID: <3lmgkk$2pg@news.rain.org>
Source record: 113641

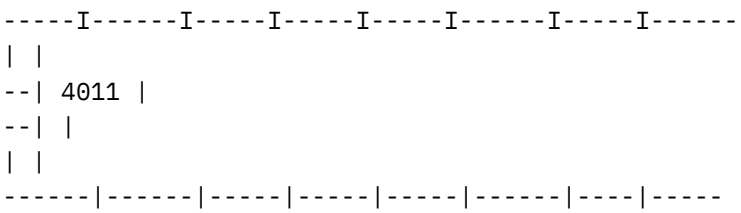
```
Mini-Circuits
P.O. Box 350166
Brooklyn, NY 11235-0003
718-934-4500
718-332-4661 FAX

--
*** Steve J. Noll, Ventura CA, WA6EJO, sjnoll@rain.org ***
```

1241. Where is pin 1 on the 4011 chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: dlwright@ucsd.edu
Message-ID: <dlwright.30.0008F046@ucsd.edu>
Source record: 113642

I want to be sure I have the pin numbers correct for a small project I am playing with. How do I find pin 1 on the 4011 chip. I know it has something to do with the relationship with the notch at one end of the chip. If the chip is positioned with the notch to the left, where is pin 1? Upper left??



1242. Re: Where is pin 1 on the 4011 chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <796843962snz@lfheller.demon.co.uk>
Source record: 113643

In article <dlwright.30.0008F046@ucsd.edu> dlwright@ucsd.edu "Dan Wright" writes:

> I want to be sure I have the pin numbers correct for a small project I am
> playing with. How do I find pin 1 on the 4011 chip. I know it has something
> to do with the relationship with the notch at one end of the chip. If the
> chip is positioned with the notch to the left, where is pin 1? Upper left??
>
> -----I------I-----I-----I-----I------I-----I------
> | |
> --| 4011 |
> --| |
> | |
> ------|------|-----|-----|-----|------|----|-----
|
|
Pin 1 (assuming you are looking from the top)

--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

1243. Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: RAINS@NKU.EDU
Message-ID: <01HOV6IIBIXU9N4FGL@NKU.EDU>
Source record: 113644

Does anyone know how to make a circuit that will cause a beep to be sent after I let off on the mic button? I would like to give this a try, but I am not too sure on how to do it. Any help is greatly appreciated.

73 de AA9KM
Justin
rains@nku.edu

1244. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: elmer@pennet.microserve.com
Message-ID: <elmer.20.000FA968@pennet.microserve.com>
Source record: 113645

In article <01HOV6IIBIXU9N4FGL@NKU.EDU> RAINS@NKU.EDU writes:

> Does anyone know how to make a circuit that will cause a beep to be
>sent after I let off on the mic button? I would like to give this a try, but I
>am not too sure on how to do it. Any help is greatly appreciated.

I don't know how to design the circuit but you could get your beep perhaps by
taking one of those goofy gizmos that generate a beep or whatever they have at
novelity shops apart and working with it.

73's, N3DQC

1245. Re: 1750 METER BAND

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D6FKCs.zn@news.hawaii.edu>
Source record: 113646

jdc3538@ultb.isc.rit.edu (J.D. Cronin) writes:

>I anticipate followups by the anally-challenged by noting that you will
>reduce output to 1 watt, not transmit out of band, vote for Bill Clinton
>a second time, etc., etc., etc.
>
>73...Jim N2VNO

Hi Jim,
Amateurs are the only radio service entrusted to self-police
themselves. That means looking out for yourself and your fellow
hams. It's too bad you carry into the service an attitude of
mistaking someone with a friendly reminder as being `anally-challenged'
(whatever that means - seems many folks are fascinated with that
region of the body.)

None of us have all parts of the CFRs entirely memorized. With that in
mind, you shouldn't snap at someone who is only trying to keep you out
of trouble with the law.

73 from Hawaii,
Jeff NH6IL

1246. Re: Tempatrimmer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: jgrubs@voxbox.norden1.com
Message-ID: <7Zgy3c1w165w@voxbox.norden1.com>
Source record: 113647

```
-----BEGIN PGP SIGNED MESSAGE-----

EUGENE.WELCOME@rook.wa.com (eugene welcome) writes:

| >About 25 years ago, I bought a small trimmer capacitor with a variable
| >temperature coefficient. This was intended to be used to stabilize
| >drifting VFOs, and was superb at this task. It think it was called
| >a "tempatrimmer" and made by Oxley in the U.K., although I'm not
| >sure of these facts. Does anyone know if it's still possible to get
| >such devices, in the U.K., U.S.A. or anywhere?
|
| Hi Darrel,
| You can make this unit by using a "Differential Capacitor". E.F.
| Johnson used these in their VFO's.

Dual diffential variables were the heart of the famous Matchboxes.

-----BEGIN PGP SIGNATURE-----
Version: 2.6.2
Comment: jgrubs@voxbox.norden1.com

iQCVAwUBL389Vd74r4kaz3mVAQGp9wP/ae2hqG9kACNd32101o9EiExWB8uLqzPD
wTPcIf+cpw7apgLJVAjJa5GrFTnBK7sbwOfaOXPaTd18c8k26lMfpGIuSq0KEZWo
mis07DlXAmakHtLYpZoP70x5Th6nX+Op0x+uqqJXOvDuQCKGTXNKnc05gWCm8Er/
3CdzKstGqSo=
=MCu+
-----END PGP SIGNATURE-----
```

1247. Re: Address/phone # for mi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <796843235.AA01004@hamlink.mn.org>
Source record: 113648

SS>From: schiller@adobe.com (Steve Schiller)
SS>Newsgroups: rec.radio.amateur.homebrew
SS>Subject: Address/Phone # for MiniCircuts?
SS>Organization: Adobe Systems Incorporated
SS>Reply-To: schiller@adobe.com
SS>Message-ID: <1995Apr1.000705.8259@adobe.com>
SS>Date: Sat, 1 Apr 1995 00:07:05 GMT
SS>
SS>Could some kind soul please post or e-mail
SS>the address or phone # for Mini Circuts ?
SS>It sounds like they make some useful stuff.
SS>
SS>thanks,
SS>Steve
SS>
SS>---
SS> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
SS>(1:282/100.0)Hi Steve,
Mini-Circuits PO Box 350166 Brooklyn, NY. 11235-0003 (718)
934-4500.
Yes they do make some really neat stuff.
Bob Liesenfeld WB0POQ

1248. Liao,UW Ckt Analysis Example Error?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: stoskopf@ink.org
Message-ID: <3ll942$6k@ink3.ink.org>
Source record: 113649

Was working on a 1 GHz osc and tried to run through the design example on p. 338 and following in Liao, Microwave Circuit Analysis and Amplifier Design, Prentice-Hall 1987. Entered the example in a MathCad file and found that things really fell apart when the embedding element values in step 4 were calculated and that the final results were not anywhere near those in the finished example in the text. Wrote Prof Liao thru P-H and Fresno State with no reply.

Did check the original references and the equations are correct. Anyone got the new edition or have the same problem?

Thanks,

N0UU

1249. Re: Where is pin 1 on the 4011 chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: ecssjm@luxor.latrobe.edu.au
Message-ID: <1995Apr2.234208.585@lugb.latrobe.edu.au>
Source record: 113650

In article <dlwright.30.0008F046@ucsd.edu> dlwright@ucsd.edu (Dan Wright) writes:
>I want to be sure I have the pin numbers correct for a small project I am
>playing with. How do I find pin 1 on the 4011 chip. I know it has something
>to do with the relationship with the notch at one end of the chip. If the
>chip is positioned with the notch to the left, where is pin 1? Upper left??

Nope - Lower left - see below - this format is the same for all ICs, not just
the 4011

```
14 13 12 11 10 9 8
> -----I------I-----I-----I-----I------I-----I------
> | |
> --| 4011 |
> --| |
> | |
> ------|------|-----|-----|-----|------|----|-----
1 2 3 4 5 6 7
>
```

Steve

1250. Where is pin 1 on the 4011 chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: hduff@humnet.westonia.com
Message-ID: <7810-292245201@humnet.westonia.com>
Source record: 113651

```
>
>
> I want to be sure I have the pin numbers correct for a small project I am
> playing with. How do I find pin 1 on the 4011 chip. I know it has something
> to do with the relationship with the notch at one end of the chip. If the
> chip is positioned with the notch to the left, where is pin 1? Upper left?
>
> -----I------I-----I-----I-----I------I-----I------
> | |
> --| 4011 |
> --| |
> | |
> ------|------|-----|-----|-----|------|----|-----
>
^
|
|
This is Pin 1

With the notch to the left, Pin 1 is always on the botton left of a DIP
IC package.

73 Hugh VA3TO

---
```
 NFX v1.3 [000]

```
--
------------------------------------------------------------------------
HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/
```

1251. Re: TNC schematics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-02 00:00:00 UTC
From: arthur@net-works.com
Message-ID: <04021995.212307@net-works.com>
Source record: 113652

```
>Path: mulligan!on-ramp.ior.com!olivea!charnel.ecst.csuchico.edu!csusac!csus.ed
>csulb.edu!paris.ics.uci.edu!news.claremont.edu!nntp-server.caltech.edu!ferrari
>st6.lanl.gov!newshost.lanl.gov!usenet
>From: jdevenport@lanl.gov (Jim Devenport)
>Newsgroups: rec.radio.amateur.homebrew,rec.radio.amateur.equipment
>Subject: Re: TNC schematics?
>Message-ID: <3ks4fe$oe8@newshost.lanl.gov>
>Date: 23 Mar 1995 15:35:10 GMT
>References: <3kpp1n$gn9@idefix.eunet.fi>
>Organization: LANL
>Lines: 16
>NNTP-Posting-Host: jdport.lanl.gov
>X-Newsreader: WinVN 0.91.3

>In article <3kpp1n$gn9@idefix.eunet.fi>, phineas@bbs.dream.fi (Sami Laine) say
>>
>>Are 9600 TNC schematics available via net?
>>
>>I've heard it's possible to get some "baycom-like" modem (ie. cheap
>>and simple) to support 9600? Is this true? Are schematics available?
>>

>I'm emailing you a schematic of a modem that can support almost any baud
>rate with appropriate component changes ( a couple of capacitors and/or
>resistors). The BAYCOM SOFTWARE will not support such baud rates but
>this modem will.

>73,

>0
>0Via: 1010*21 1815000*21
```

Hi there! Could i be a mooch and ask for the above scematic also? I was
going to build the Poor Mans Packet interface but i may just hold off
now. Thanks very much! Art WB9HNJ

SLMR 2.1a He who laughs last probably doesn't understand the joke.

1252. Re: MMIC (MAR8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: sefranek@iii1.iii.net
Message-ID: <3lpn79$gkt@iii1.iii.net>
Source record: 113568

In article <3la7qn$8n3@newshost.lanl.gov> jdevenport@lanl.gov (Jim Devenport) writes:
>In article <3l9ms5$jc1@vixen.cso.uiuc.edu>, w9sz@prairienet.org (Zack Widup) says:
><snip!>
>> Also, the MAR-8 is the only MAR MMIC which is not unconditionally
>>stable and goes into oscillation easily. <snip!>
>>
>> Zack W9SZ
>>
>Hee, I didn't realize ANY of the MAR's were "UNCONDITIONALLY stable"
>as advertised by the early full page ads. Haven't messed with them in
>several years now but when they first came out we bought several of the
>Mini-Circuits MAR experimenter's kits and found they ALL were quite
>touchy about PC layout. If the PC strips feeding input and output weren't
>pretty close to perfect they would oscillate like crazy; hardly
>"unconditionally stable". Of course I've noticed similar behavior with
>"unconditionally stable" op amps too. I think "Unconditionally stable"
>is sorta like cold fusion or anti-gravity... awfully difficult to find
>in real life.

Hi Jim,

Huh?
I've used Avantek, Mini-Circuits, Anaren, and Motorola amplifiers,
with leads in the air, wrapped all over, and NO oscillation. (10 Khz-1 Ghz)
Did you not pay attention to the power bypassing? (That is critical!)

I hold Ham night (Elmer Session) every Monday night at 7 PM, when your in
the area, stop by, say Hi.

I'll show you a few different projects with (Blush) terrible layouts.
And they work! Cold Fusion indeed! (Besides, you don't know that in say...
500 years those guys might have been on the right track after all!)

:)
Tom
--
Thomas C. J. Sefranek WA1RHP

1253. Re: 1296 Hi Power

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3lpk1d$qug@tierra.santafe.edu>
Source record: 113569

Eimac (Varian) makes a series of planar triodes that are ggod for high power to 1500 MHz and beyond: YU-141 and YU-176. One of thes in an appropriate cavity should give you 10 dB of gain at 1296. The gain of these tubes goes up at low, so you may be able to do even better than that. I've built a two stage amplifeier at 425 MHz with the YU-176's that puts out 3o kW pulsed with 100 W of drive.

--
==========

James M. Potter, President Internet: jpawi@roadrunner.com
JP Accelerator Works, Inc. AOL: jpawi@aol.com,jpotter@aol.com
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

1254. Re: Irradiated Wire ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: sefranek@iii1.iii.net
Message-ID: <3lpo68$hhr@iii1.iii.net>
Source record: 113570

Before this gets out of hand...

Irradiated Poly Vinyl Chloride is an insulation applied to wire.
Then you heat it... and it shrinks!

No glow, (Sorry!)

Check out "Heat shrink tubing"

Tom

--
Thomas C. J. Sefranek WA1RHP

1255. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: sefranek@iii1.iii.net
Message-ID: <3lpolv$i1i@iii1.iii.net>
Source record: 113571

In article <01HOV6IIBIXU9N4FGL@NKU.EDU> RAINS@NKU.EDU writes:
>
> Does anyone know how to make a circuit that will cause a beep to be
>sent after I let off on the mic button? I would like to give this a try, but I
>am not too sure on how to do it. Any help is greatly appreciated.
>
>73 de AA9KM
>Justin
>rains@nku.edu

Hey Justin,
I think you need to post this in the CB group.
They all have "Roger Beeps". Several kids come over Monday nights,
(They are now hams, so I can't say who...) they can design a "Roger Beep"
with just one chip (555).

But then they are just no-clue techs.

If your still interested in cluttering up the air-waves with "Beeps",
send me E-Mail (sefranek@iii.net), and I'll ask one of the kids to
reply to you.

:)
Tom

--
Thomas C. J. Sefranek WA1RHP

1256. Coax...need a good source for feedline....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: SCOTT DOUGLAS <sdoug@delphi.com>
Message-ID: <Bq3fISG.sdoug@delphi.com>
Source record: 113572

Any ideas out there? Curious about that. Thanks.

73 de wb5pbj

1257. Heathkit HW100 manual needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: arhine@ksu.ksu.edu
Message-ID: <3lpucq$4tm@fox.ksu.ksu.edu>
Source record: 113573

I recently bought a Heathkit Model HW100 on an action and it did not have a manual with it. I was wondering if someone could tell me where I could get oneor posibly copy and mail one to me (I will pay charges).

Thanks

arhine@ksu.ksu.edu

KB0RNJ

1258. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: markem@Primenet.Com
Message-ID: <3lp1uh$dt0@news.primenet.com>
Source record: 113574

In article <01HOV6IIBIXU9N4FGL@nku.edu>, <RAINS@NKU.EDU> wrote:
>
> Does anyone know how to make a circuit that will cause a beep to be
>sent after I let off on the mic button? I would like to give this a try, but I
>am not too sure on how to do it. Any help is greatly appreciated.
>
Try a CB shop. They have lots of neat stuff like that. You might also be
interested in a reverb unit.

Mark AA7TA

1259. Motorola Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: dme@ingersoll.COM
Message-ID: <9504032000.AA22057@ingersoll.com>
Source record: 113575

Can anyone cross reference a Motorola M9698 transistor?
I'm trying to find replacements for a couple of these rascals.
They are used as pass transistors in a Micor repeater power supply.

Thanks!
73 de Dave N9HKM

1260. Mini-Circuits VCOs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <796942784snz@lfheller.demon.co.uk>
Source record: 113576

I've just seen an advert for Mini-Circuits POS-xxx VCOs. They look
ideal for frequency synthesisers, especially as they have +7 dBm output,
and may therefore be connected directly to an MCL mixer. Has anyone got any
experience of them?

Leon
--
Leon Heller | "Do not adjust your mind, there is
G1HSM | a fault in reality": on a wall
Email: leon@lfheller.demon.co.uk | many years ago in Oxford.
Phone: +44 (01734) 266679 |

1261. Re: Helical Resonators - Round or square?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: ilkka.kontola@nmp.nokia.com
Message-ID: <ilkka.kontola.38.000AAF14@nmp.nokia.com>
Source record: 113653

In article <3ljt50$ace@abyss.West.Sun.COM> myers@West.Sun.COM (Dana Myers) writes:
>From: myers@West.Sun.COM (Dana Myers)
>Subject: Re: Helical Resonators - Round or square?
>Date: 1 Apr 1995 15:57:20 GMT

>>Also, the covers are said to be optional.

>I wouldn't omit the covers. The resonator is usually tuned with a
>very small amount of capacitance, without a cover it would be
>easy to detune your resonator.

If you make the square or round tubes long enough the cover will have
less effect to passband. Some years ago I built a three-resonator
helix for 144 MHz (or actually tunable from 144 to 174). The inside
diameter was in order of one or one and a half inch and the extra
length was one diameter in each end. The helices were tuned
with high-Q piston capacitors. I think there were no change in
the filter response with or without the covers.

It is possible that when there is no tuning capacitors involved the
helices could be more sensitive to covers - at least at the high-Z end.

I used well grounded covers to prevent any microwave pickup at
frequencies above the waveguide cutoff frq.

BTW... has anyone actually measured the change in Q due to
silver plating? ... according to old wife tales it should be only 3 per cent.

>--
> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
> * (310) 348-6043 | mine and do not necessarily *
> * Dana.Myers@West.Sun.Com | reflect those of my employer *
> * "Damn I'm smooth" (Anon.) *

****
Ilkka Kontola E-Mail: ilkka.kontola@nmp.nokia.com
Nokia Mobile Phones Amateur packet radio: oh3njc@oh3rbr
Tampere, Finland

1262. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: vhadley@ee.utah.edu
Message-ID: <3lntuc$cl4_001@cc.utah.edu>
Source record: 113654

In article <elmer.20.000FA968@pennet.microserve.com>,
elmer@pennet.microserve.com (Elmer O. Laudenslager, III) wrote:
|In article <01HOV6IIBIXU9N4FGL@NKU.EDU> RAINS@NKU.EDU writes:
|
|> Does anyone know how to make a circuit that will cause a beep to be
|>sent after I let off on the mic button? I would like to give this a try, but
I
|>am not too sure on how to do it. Any help is greatly appreciated.
|
|I don't know how to design the circuit but you could get your beep perhaps by
|taking one of those goofy gizmos that generate a beep or whatever they have
at
|novelity shops apart and working with it.
|
|73's, N3DQC

What you could probably do is to wire up a device to go between your
microphone and radio that would actually do the keying of the transmitter for
you. So, when you press the key on your mic to transmit it actually would
sense that and would perform that function through either a relay or a
transistor/solid-state-relay for you. Then when you
let off on the key, it would detect this and would hold the (relay) closed
for just a few moments longer- enough to generate a tone and mix that in with
your mic input to the radio. Without working this out in too much detail, (no
doubt there are probably more elegant ways to do this or improve upon it, etc.
-without a whole lot of thought), you could do most of this using a couple of
555 timer circuits. One used as an oscillator that would generate the tone
you would desire and another to generate the delay needed to continue keying
the transmitter momentarily when you let off of the key. A little bit of
logic circuitry might also be needed to switch in the tone onto your mic level
when you let off of the transmit button that could involve either a couple
digital gates or transistors, what ever you prefer.
This could indeed be a fun project to dabble in, and I would recommend
that if your are just starting out, that you invest in a "breadboard" from
radio shack (they're about $10-12) and a few of the "Engineers mini-notebooks"
that radio shack sells. In these you'll find cicuits to do what I just
mentioned (they are quite simple) and a little explanation on how they work
and what you might be able to do to manipulate them for your purposes. You'll
find in these little books lots of ideas and "small" circuits that you can
possibly peice together to do what you'd like to do and have fun learning in
the process. The breadboard isn't meant as a permanent solution for your
design (although it could be) but is a quick way to get your circuit up and
running in just a few minutes to try out your ideas. Good luck!

Vince Hadley _____ Amatuer Radio: KA7GVQ ____ vhadley@ee.utah.edu ____
_____

The Supreme Court, in the case of Stone vs. Gramm in 1980, ruled that a copy of the Ten Commandments could not passively hang in a Kentucky school because: "If the posted copies of the Ten Commandments are to have any effect at all it will be to induce the children to read (and) meditate upon them...perhaps to venerate and obey the Commandments; this is not a permissible objective."

1263. Resonance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1503.546@acenet.com>
Source record: 113655

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

RW> We're being shown that the radio and TV can communicate through time
RW>and they seem very nasty. The only cure for it, is for more people to
RW>do it. They rob thoughts of people who listen to the radio and TV and
RW>talk right back from old movies and radio shows.

RW> I see how well they do it. They seem insane because hearing
RW>thoughts is an insane thing to do, and they loose their sence of
RW>reality. But computer messages and software can also be sent through
RW>time because it can be broadcast.

RW> Can anyone give me some hints?

Yes. Stop watching Beavis & Butthead!

 SLMR 2.1a Denial: Not just a river in Egypt!

1264. Re: Resonance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <3lp170$cbu@abyss.West.Sun.COM>
Source record: 113656

In article 546@acenet.com, brian.carling@acenet.com (Brian Carling) writes:

>Yes. Stop watching Beavis & Butthead!

Ummm, uh-heh-heh-uh, um, Goofus is cool!

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Damn I'm smooth" (Anon.) *

1265. Stereo Tube type power amp kits wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: dougw@lexmark.com
Message-ID: <dougw.11.008B3963@lexmark.com>
Source record: 113657

Please E-mail the addresses and any information on STEREO TUBE TYPE POWER AMP KITS (like a HeathKit) to rclaybor@lexmark.com. TIA.
Standard High-Tech Disclaimer: NOTHING in the above article has the slightest relationship to reality. If any reality correspondences are found, please notify me IMMEDIATELY. Any threats, abuse or stupidity of any kind is purely UNintentional. These are MY Opinions NOT my employer's.

1266. Good home brew antennas for celular phones????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: l.gudiksen@uws.edu.au
Message-ID: <l.gudiksen.114.2F7F7E6D@uws.edu.au>
Source record: 113658

Just wandering if any one has any good homebreww antennas for celular phones???

I could be interested in both High Gianb whips or Yagi's

Regards..

Lars Gudiksen | Email l.gudiksen@uws.edu.au
Computing Centre, | Snail Mail P.O. Box 555
University of Western Sydney - Macarthur | Phone (61-46) 203 259
Campbelltown, New South Wales, Australia 2560 | Fax (61-46) 266 937

1267. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: donrm@sr.hp.com
Message-ID: <3lpand$ppv@canyon.sr.hp.com>
Source record: 113659

RAINS@NKU.EDU wrote:

> Does anyone know how to make a circuit that will cause a beep to be

Buy one...the CBers call this a "roger beep". _QST_ had an ad for one a couple of years ago. Try one of the CB magazines (if still published).

73
Don K6LTS
donrm@sr.hp.com

1268. TNC changing radio Freq. Help.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: gjallen@csupomona.edu
Message-ID: <1995Apr3.103831@clstac>
Source record: 113660

Hi the name is Glenn KE6HPZ I'm having problems with my FT-2400 changing frequency when I have my TNC KPC-3 run in the open sql mode. Just about each time the TNC causes my TNC to TX it will bump the VFO up 5 khz or the memory up one memory. The radio uses two wires going to the mike that change the VFO up or down. Those connections are not even connected to any wires on the pigtail. This sometimes happens when I have the sql set too low, also. Does anyone have any ideas how to cure the problem or what is causing the problem.
Thanks
73 de KE6HPZ Glenn

1269. Re: LDS Church Conference on April 1-2, 1995

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: hays@networx.com
Message-ID: <3lpckg$4f1@openwx.networx.com>
Source record: 113661
Cross-posted to: rec.radio.amateur.homebrew,alt.religion.mormon

N7WS (n7ws@aol.com) wrote in rec.radio.amateur.homebrew:
: Why is this stuff appearing in a forum for radio amateurs? Sure some of
: you are hams, even one of my best friends, but I think it's in poor taste.
: Wes Stewart, N7WS
: n7ws@aol.com

There was a reason for the post appearing here. There are a number of FM stations around the US which carry the Conference as well as other LDS programming on a SCA channel. There are several people on the 'net' who would like to build such a circuit. There is no rec.radio.homebrew, however, this group probably has the expertise. It was not explained in the original posting that appeared here, but there are a number of folks interested, if anyone has a circuit or would like to Elmer someone in building an SCA reciever --- please post (or crosspost) to alt.religion.mormon

The orignal article did mention SCA and building your own circuit (or very similar).

73 --

John

1270. Air Gap Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: jcarter@orl.mmc.com
Message-ID: <3lp71g$rqt@theopolis.orl.mmc.com>
Source record: 113662

Where is the best place to purchase Air gap caps of about 360 pf
like the ones used in old AM radios?

Thanks

\/\/ * \/ _._. __._ /\/\/ | James A. Carter (Jim) | jcarter@orl.mmc.com |
/|\ | Senior Software Engineer |_____________________|
/\|/\ K D 4 P O N | Lockheed Martin | These views are my own |
/\/|\/\ ORLANDO | Mail Point 138 | and not that of my |
/\/\|/\/\ FLORIDA USA | 5600 Sand Lake Road | employer. |
/\/\/|\/\/_____________| Orlando, FL 32819-8907 |__________73's_Jim ____|

1271. Re: MMIC (MAR8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995Apr3.132534.22410@arrl.org>
Source record: 113663

Jim Devenport (jdevenport@lanl.gov) wrote:
: >
: Hee, I didn't realize ANY of the MAR's were "UNCONDITIONALLY stable"
: as advertised by the early full page ads. Haven't messed with them in
: several years now but when they first came out we bought several of the
: Mini-Circuits MAR experimenter's kits and found they ALL were quite
: touchy about PC layout. If the PC strips feeding input and output weren't
: pretty close to perfect they would oscillate like crazy; hardly
: "unconditionally stable". Of course I've noticed similar behavior with
: "unconditionally stable" op amps too. I think "Unconditionally stable"
: is sorta like cold fusion or anti-gravity... awfully difficult to find
: in real life.

The MAR devices are the same. Unconditionally stable means they
won't oscillate no matter what the input and output termination
impedances.

This assumes the absence of external feedback paths.

It also assumes very good grounding, though I've not noticed
any problem running the 20 mil thick leads straight down to
the ground plane with 56 mil thick FR-4 circuit board. But,
the new MGA 86576 MMIC is quite touchy about grounding,
according to the application notes. I handle the GaAs MMIC's
supposed problem by using 15 mil thick Teflon circuit board.

BTW, you can run a cascade of a MAR-7 and MAR-8 to get an
unconditionally stable very high gain amplifier. I normally
use small capacitors to reduce the low frequency gain of
this pair (10 pF).
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1272. Divide by 12 with CMOS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: zhenifar@aol.com
Message-ID: <3lpell$dpq@newsbf02.news.aol.com>
Source record: 113664

I'm building a freq. counter to go with a VFO I've built. Using the MM5369 to output 60 hertz, I need to divide that CMOS level signal by 12 for the gates of the freq. counter. A 7492 would work if I were in TTL, but I'm using CMOS. Are there any single CMOS chips I can use? Any hints?

Jennifer Gilfillan

1273. Re: Help: 10 Ghz Gunplexer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: "F. Kevin Feeney" <fkf1@cornell.edu>
Message-ID: <3lpgak$jp@newsstand.cit.cornell.edu>
Source record: 113665

In article <3lmg4f$2pg@news.rain.org> , sjnoll@rain.org writes:
>Do you know if the two units are on frequency - that is - 30 MHz apart?
>Can you hear anything when you tune one of the Gunn's frequency with no
>modulation on? I think you should.
>

I've been thinking about doing a similar project - so this thread has
been helpful. I also think that he is turning the diode on and off and
hearing the rectified signal on the receive side.

My quesion is how *do* you tell what frequency you are on? I have a
couple of what I think are Solfan units, and about the only thing I can
think of (other than the not so handy 15 Ghz counter) is to do the
"wireless leacher wire" thing. Move a flat plate back and forth in front
of the diode's output and look for changes in current. Does that work on
these things? Is it accurate enough for 30 mhz resolution? Or is there an
obvious way to set them on frequency that I am missing?

73 de Kevin, WB2EMS

1274. Re: Air Gap Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <3lpg77$jtr@ixnews4.ix.netcom.com>
Source record: 113666

In <3lp71g$rqt@theopolis.orl.mmc.com> jcarter@orl.mmc.com (James Carter) writes:

>
>Where is the best place to purchase Air gap caps of about 360 pf
>like the ones used in old AM radios?
>
>Thanks
>
>
>\/\/ * \/ _._. __._ /\/\/ | James A. Carter (Jim) |
jcarter@orl.mmc.com |
> /|\ | Senior Software Engineer
|_________________________|
> /\|/\ K D 4 P O N | Lockheed Martin | These views are my
own |
> /\/|\/\ ORLANDO | Mail Point 138 | and not that of my
|
> /\/\|/\/\ FLORIDA USA | 5600 Sand Lake Road | employer.
|
>/\/\/|\/\/_____________| Orlando, FL 32819-8907 |___________73's_Jim
____|
>
>

Fair Radio Sales Co., Inc. in Ohio has a wide variety of them. Their number is 419-227-6573. No 800 number. Call them up and ask for their current catalog. I also fear the disappearance of the old tuning caps so I ordered a bundle last week.
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

1275. Want CI-5 or Icom Computer Cntl. Commands!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-03 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <3lpl3v$15rr@tetsuo.communique.net>
Source record: 113667

Does anyone have either the ICOM CI-5 computer interface manual or
command set data for the IC-735 ??
-
reply at: tony@gcr1.com

Tnx,
73,
N5GPI

1276. Re: NorCal 40

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: rsmith@internetmci.com
Message-ID: <3lri3o$k2k@news.mci.net>
Source record: 113577

In article <D5rI68.1uL@tc.fluke.COM>, chuckb@tc.fluke.COM says...
>Does anybody know if there is going to be another run of NorCal 40 qrp
>transceiver kits?

They just did a run - the NorCal 40A. Got one and they were great. I think they will do the Sierra (an all bander) next, propbably this summer.

Bob Smith, N3FTU

1277. Re: 40M kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: rsmith@internetmci.com
Message-ID: <3lrinp$k2k@news.mci.net>
Source record: 113578

In article <3lg3hvINNl9@hpsdlxs0.sdd.hp.com>, holt@sdd.hp.com says...
>
>Anybody have any recommendations for a 40M receiver (or transceiver) kit I
>could recommend to a friend? It seems like I always see ads for these, but now
>that I need one...
>
>Thanks.
>--
>Holt Mebane, N4HR
>Hewlett-Packard
>San Diego Technical Graphics Division
>619-592-4882

I whole heartedly reccomend any of the ARK series of kits from S and S engineering (301-416-0963) These things are bullet proof and build very easily - even the coils are wound and Dick really stands behind his products.

-=-
Bob Smith N3FTU
rsmith@internetMCI.COM Atlanta, GA

1278. Re: Ham-Homebrew Digest V95 #98

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: HUBMML@LURE.LATROBE.EDU.AU
Message-ID: <01HOXUIHHXV694EB42@LURE.LATROBE.EDU.AU>
Source record: 113579

HELLO HOLT
In reply to your message
Date: Sat, 1 Apr 1995 15:51:28 GMT
From: sipy@ripco.com (M. Sipin)
Subject: 40M kits?

HO>Anybody have any recommendations for a 40M receiver (or transceiver) kit I
HO>could

One of the best kits I know about, comes from
Kanga. Try Bill Kelsey at Kanga US.
I've built the kit for 80M, but the same
for 40M is slightly modified - all in the kit.
Kind regards, Murray VK3EZM

1279. Q: Regulated screen supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: jdc3538@ultb.isc.rit.edu
Message-ID: <1995Apr4.024714.25313@ultb.isc.rit.edu>
Source record: 113580

I'm finishing a 2-meter 4CX-350 amp that another fellow started; all it needs is the high voltage and screen supply, and TR switching. One goal is to keep cost down, so a microwave oven HV transformer will be used for the HV supply. It's output voltage is about right, and the duty cycle should be low enough to keep it nice and cool.

This leaves the issue of a 350-volt regulated screen supply. The ARRL handbook shows regulators using gaseous regulator tubes or several 56-volt 10-watt zener diodes in series. But 10-watt zeners are a bit pricey, and regulator tubes are probably up there, too.

Are there any cheaper ways to get a 350-volt regulated supply? How about using a string of 1/2 watt zeners to run a high-voltage pass transistor? Do HV integrated regulators exist? (Well, you never know...) Any ideas/suggestions are appreciated.

73...Jim N2VNO

1280. Collins 390A/URR

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: garret@strobe.ATC.Olivetti.Com
Message-ID: <3lrb4h$3hf@olivea.ATC.Olivetti.Com>
Source record: 113581

Do you know where I can find a mechanical filter (f = 455Kc , bw = 2Kc) for
Collins 390A/URR ??

thans in advance.

73 + 51

1281. Re: HELP v/uhf PA tank operation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <499751061wnr@ifwtech.demon.co.uk>
Source record: 113582

In article: <3lq2e4INNib2@newsman.murdoch.edu.au> jbraks@csu.murdoch.edu.au (Jean Brakspear)
writes:
:
: A HF output tank from a valve amplifier usually uses a wound inductor
: and capacitor in different combinations, to couple the RF energy into the
: antenna. One of the simplest is a parallel combination of an inductor and
: capacitor for the tank circuit coupled to the antenna by a coil having
: less turns so that the 50 ohm antenna is transformed into the appropriate
: high value resistance for maximum power transfer.
:
: My problem is that v/uhf circuits described in some articles use a
: resonant line as the tank circuit. For example, 2 tubes of a push/pull
: have their anodes connected by a rod shaped like a 'U', being connected
: at the start and end of the 'U'. The antenna is coupled by another 'U'
: loop (in series with a capacitor) which is placed in proximity to the
: PA 'U'. QUESTION how do you match the impedance of the antenna (50 ohms)
: the the high output impedance of the tubes (~1K). To me this seems like a
: 1:1 transformation since it looks like one turn couples to one turn.
:
: Can someone please explain how this coupling technique really works ? No
: books that I have read seem to explain this and yet have heaps of similar
: circuits. Thanks.

When is a "turn" not a turn? When it's a significant fraction of a wavelength long! The LF transformer analog then becomes completely invalid, and instead you have to analyse the circuit as two coupled transmission lines. You'll find that the coupling is quite loose, and that's how the impedance step-down is achieved.

Actually, hams don't analyse this kind of circuit (and I don't think professionals do either). They just throw it together and fiddle with the coupling loop length and layout until it works. Far from the coupling being excessive, the usual problem is in making it tight enough. There's also a lot of uncertainty about the effect of the loop "tuning" capacitor. When you turn the knob clockwise, are you increasing or decreasing the loading? Who the heck knows? As a result, many loop-coupled VHF/UHF PAs run seriously under-loaded and aren't anything like as linear as they could and should be.

Ever since reading about the K2RIW PA for 432MHz, I've always had good luck with capactive output coupling. Unlike loop coupling, you have a decent shot at understanding and designing what's required:

X_c = sqrt(R_l / Z_out), near enough

where R_l = V_dc^2 / (2 * P_out)
Z_out = 50 R, usually.

The tuning C is reduced to compensate for the parallel reactance
of the coupling C. (Again, who the heck knows what a loop is
doing to the effective tuning capacitance?)

You can still use capcitive coupling in push-pull 144MHz PA
circuits. Mount two identical coupling flappers on the same
shaft, each one coupling to the hot end of the line but 180deg out
of phase, and then combine the outputs in a half-wave coax balun.
The conventional tuning flapper is on the opposite side of the
line.

With capacitive coupling, increasing the loading capacitance(s)
will always give heavier loading - never any doubt about it -
and the whole thing tunes and loads like it's on 80m.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1282. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: dtiller@rmc.edu
Message-ID: <3lrfbb$2bu@gnd0.rmc.edu>
Source record: 113583

RAINS@NKU.EDU wrote:

: Does anyone know how to make a circuit that will cause a beep to be
: sent after I let off on the mic button? I would like to give this a try, but I
: am not too sure on how to do it. Any help is greatly appreciated.

Go to a shop that sells CB'er stuff. They have echo mics, mics that beep,
mics with 'star wars' sound effects, etc. They've been using those junk
devices for years.

--
David Tiller | Network Administrator | ICBM: 33d 42' 43.75" N |
dtiller@rmc.edu | n2kau/4 | Randolph-Macon College| 77d 31' 32.19" W |
Remember: someday, somewhere, when you least expect it a man with a microphone|
may step up to you and say, "What's the frequency, Kenneth???!!!" |

1283. ATV video IDer plans wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: atwelld@montageski.ksc.nasa.gov
Message-ID: <3lrknl$m9b@niven.ksc.nasa.gov>
Source record: 113584

Does anyone out there have a schematic or know where I can obtain a schematic on a video ID circuit (for transmitting my call sign automatically). Various companies sell these things for as much as $175 but since I'm on a limited budget, I'd like to attempt to build one. Also, size and weight is important as I'm using it on a ATV pod which is being lifted on a kite. I guess the circuit consists of either a ROM or EPROM which I have the necessary interfaces for programing. Any help is appreciated.
Thanks
ML
KE4DYF

1284. Re: Help: 10 Ghz Gunplexer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <3lrmur$jt3@canyon.sr.hp.com>
Source record: 113585

F. Kevin Feeney (fkf1@cornell.edu) wrote:

: My quesion is how *do* you tell what frequency you are on? I have a
: couple of what I think are Solfan units, and about the only thing I can
: think of (other than the not so handy 15 Ghz counter) is to do the
: "wireless leacher wire" thing. Move a flat plate back and forth in front
: of the diode's output and look for changes in current. Does that work on
: these things? Is it accurate enough for 30 mhz resolution? Or is there an
: obvious way to set them on frequency that I am missing?

Without a counter I think the best way may be to use another known source. If one has an SRD or something similar to make the spectrum of a lower frequency source rich enough to copy that can also work. If you have something that can switch fast and generate 10 GHz energy, perhaps even a Schottkey diode, the 23rd harmonic of a 446 MHx FM transmitter is about the middle of the 10 GHz hamband. You may be able to generate a few microwatts that you can detect using it as a harmonic generator. However, I've found another way which is also useful at getting one close, though not as good as a counter.

It appears that most motion detector sources (like Solfans) are initially set pretty close to their allotted 10525 MHz spot when they are initially deployed. It also seems that in general they don't move all that much. A survey with a Gunn diode xcvr, a small horn and a spectrum analyzer for an IF receiver, from my office here at work found 4-5 door opener signals associated with doors in buildings on this campus. They were pretty tightly clustered.

If you live near an area that has public buildings or business with automatic door openers and can conveniently get close enough to one to generate a big enough IF signal to detect, you may be able to set your local source to be offset by a known IF offset below 10525 MHz. Using a commercial FM receiver or other vhf 'detector' for an IF receiver can get you down in the 10425 MHz region.

Once you have that, you can bootstrap other sources at home and perhaps come up with a 'local standard'. With an approriate IF receiver and two transceivers, you should be able to 'leapfrog' down the band and land within a few MHz of any spot the transceiver will tune in the 10,000-10,500 MHz hamband.

This technique may be a bit crude but it appears to work. I described it, along with a phaselocked 1010 MHz source and a harmonic mixer that would make an even better frequency meter for sources on the 10 GHz band, in a three part series in 1988 Ham Radio Magazine. The series presented a method of building a phaselocked transverter "stack" for all the amateur

microwave bands.

I hope this helps.

73

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

```
|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| ftp://col.hp.com/hamradio/packet/n6gn/index.html |
| |
|-----------------------------------------------------------------------|
```

1285. Good home brew antennas for cellular ph

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: MUENZLERK@uthscsa.EDU
Message-ID: <01HOXQBMSDTE007AGK@uthscsa.edu>
Source record: 113586

l.gudiksen@uws.edu.au (Lars Gudiksen) Writes:

>Just wandering if any one has any good homebreww antennas for celular
>phones???
>
>I could be interested in both High Gianb whips or Yagi's
>
>Regards..
>

> Lars Gudiksen | Email
l.gudiksen@uws.edu.au
> Computing Centre, | Snail Mail P.O. Box
555
> University of Western Sydney - Macarthur | Phone (61-46) 203
259
> Campbelltown, New South Wales, Australia 2560 | Fax (61-46) 266
937
>

Lars,
Here in the States there are several companies that sell various
cellular phone antennas from yagis to magnetic mount mobile types.
You can build your own if you are good at making UHF/SHF antennas.
I don't know what frequencies are used in Australia, probably the same
as here. If so your antenna would have a center transmit frequency of
863.5 MHz +- 2MHz and a receive center frequency of 859.5 +- 2MHz.

Good Luck

Kevin

Legal stuff:
The above opinions are my own and not necessarily those of the staff,
faculty, administration, or lab animals (woof!) of The University of
Texas Health Science Center at San Antonio or anyone else who is not
me. The perceived length of this message may not be the same as its
actual length due to relativistic compression during transport.
Your mileage may vary. Batteries not included.
****
Kevin R. Muenzler, WB5RUE The University of Texas Health
muenzlerk@uthscsa.edu Science Center at San Antonio,
Department of Computing Resources

The difference between genius and |

stupidity is that genius has its |
limits. The only difference | I am Voltohm of Borg!
between stupidity and intelligence| Resistance is E/I!
is that intelligence may be | Power is EI!
artificial, stupidity is always | You will be attenuated!
genuine. |
****

1286. Re: Q: Regulated screen supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <518963402wnr@ifwtech.demon.co.uk>
Source record: 113587

In article: <1995Apr4.024714.25313@ultb.isc.rit.edu> jdc3538@ultb.isc.rit.edu (J.D. Cronin)
writes:
:
:
: I'm finishing a 2-meter 4CX-350 amp that another fellow started; all it
: needs is the high voltage and screen supply, and TR switching. One goal
: is to keep cost down, so a microwave oven HV transformer will be used
: for the HV supply. It's output voltage is about right, and the duty
: cycle should be low enough to keep it nice and cool.
:
: This leaves the issue of a 350-volt regulated screen supply. The ARRL
: handbook shows regulators using gaseous regulator tubes or several 56-volt
: 10-watt zener diodes in series. But 10-watt zeners are a bit pricey,
: and regulator tubes are probably up there, too.
:
: Are there any cheaper ways to get a 350-volt regulated supply? How about
: using a string of 1/2 watt zeners to run a high-voltage pass transistor?
: Do HV integrated regulators exist? (Well, you never know...) Any
: ideas/suggestions are appreciated.

It won't be cheap to get the kind of screen voltage regulation you
really need for good linearity, and also to protect the tube against
excessive positive or negative screen currents, flashovers etc.

4CX250s and 350s are very, very sensitive to variations in screen voltage.
If the screen voltage is allowed to swing around in response to the SSB
drive cycle, distortion products increase rapidly. You need to think in
terms of regulating the voltage to +/- a few hundred millivolts, for
current swings of +25mA to -25mA per tube. That isn't easy.

Zeners are barely adequate, though your idea of using lower-wattage
parts with a high-voltage shunt transistor is a good start. VR tubes
aren't adequate - 50 years ago they were the best you could get,
but their voltage regulation is lousy compared with what a 4CX250/350
needs.

I don't much like the screen supply circuits published in the ARRL
Handbook over the past several years. In particular I don't like
using a screen fuse or a string of blocking diodes. The logic seems
to be that in a flashover, it's more important to protect the zeners
than it is to protect the tube and the 600V bypass capacitor in
that expensive socket. When the fuse blows or the diodes block out,
the tube is left to the mercy of the flashover, with nothing but a
VDR and a 50k resistor to protect it. That may be some designers'

order of protection priorities, but it certainly isn't mine.

The tube and its socket should come first, and in the event of a flashover the zeners are there to help protect the tube, and need to stay connected at all times - so no fuse or diodes. My experience has been that 10W zeners survive just fine when the tube is also protected by VDRs. A large electrolytic (eg 50uF) across the zener chain helps the dynamic voltage regulation and also helps take the sting out of any flashovers.

If the zeners are permanently connected, any negative screen current can flow back through them and voltage reulation is maintained. (The circuit using diodes becomes totally UNregulated for negative screen currents - a major no-no!) At the expense of increased dissipation in the zeners, you can also remove the 50k shunt resistor, and arrange to bleed that extra current through the zeners. Thsi will also improve voltage regulation by keeping the zener current more constant. Contrary to what the tube datasheets say, you don't need a bleed resistor from screen to ground if you already have zeners or some other voltage regulating device doing the same job.

For some years now I've been using a fully electronic screen regulator with built-in overcurrent protection that trips the PA to standby. Almost anything that can go wrong for a 4CX will result in abnormal screen current, so monitoring screen current can protect against a wide range of potential problems.

Circuits are in the VHF/UHF DX Book (see sig). They'll cost you something to build, but they're still cheaper than 4CX250s!

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1287. Need:ALPHA-91B schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: skulyov@freenet.columbus.oh.us
Message-ID: <3lrv7d$qd8@acme.freenet.columbus.oh.us>
Source record: 113588

I'm looking for the ALPHA-91B linear HF amplifier
schematic.
Appreciate for any help.

73! Sergei AA8OT es UA3AP
Columbus, Ohio

1288. Source for large collapsible whip antennas?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfD6J04F.CCv@netcom.com>
Source record: 113589

[No readable article body recovered]

1289. Source for large collapsible whip antennas?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfD6J0K9.Dv0@netcom.com>
Source record: 113590

I'm looking for a source for same. Prefer one that can be extended
to 56" minimum. Radio Shack sells one that's 72" but it's collapsed
length is too long for my needs. Seen them in a catalog?

73 Dave WB0GAZ dgf@netcom.com

1290. Re: Where is pin 1 on the 4011 chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: harisk@delphi.com
Message-ID: <xCweggC.harisk@delphi.com>
Source record: 113591

Dan Wright <dlwright@ucsd.edu> writes:

```
>
> -----I------I-----I-----I-----I------I-----I------
> | |
> --| 4011 |
> --| |
> | |
> ------|------|-----|-----|-----|------|----|-----
>
>

^
|
--this is pin 1 always-----+
```

1291. Re: Anyone messing with 10gigs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: hbrown@nadir.resd
Message-ID: <1995Apr4.211738.412@knight.vf.ge.com>
Source record: 113592

Yes, there are a lot of guys on 10 GHz narrowband. Up your
way, there is the N.E.W.S. Group that have several guys on
10 GHz. Contact Ron, WZ1V at klimas@uhavax.hartford.edu and
he can get you connected. Give me a mailing address and
I'll send you the forst of a 2 part article on a HB 10 GHz
Transverter from out local club's newsletter.

73, Harry, W3IIT
hbrown@resd.vf.ge.com

1292. HELP v/uhf PA tank operation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: jbraks@csu.murdoch.edu.au
Message-ID: <3lq2e4INNib2@newsman.murdoch.edu.au>
Source record: 113593

A HF output tank from a valve amplifier usually uses a wound inductor and capacitor in different combinations, to couple the RF energy into the antenna. One of the simplest is a parallel combination of an inductor and capacitor for the tank circuit coupled to the antenna by a coil having less turns so that the 50 ohm antenna is transformed into the appropriate high value resistance for maximum power transfer.

My problem is that v/uhf circuits described in some articles use a resonant line as the tank circuit. For example, 2 tubes of a push/pull have their anodes connected by a rod shaped like a 'U', being connected at the start and end of the 'U'. The antenna is coupled by another 'U' loop (in series with a capacitor) which is placed in proximity to the PA 'U'. QUESTION how do you match the impedance of the antenna (50 ohms) the the high output impedance of the tubes (~1K). To me this seems like a 1:1 transformation since it looks like one turn couples to one turn.

Can someone please explain how this coupling technique really works ? No books that I have read seem to explain this and yet have heaps of similar circuits. Thanks.

1293. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: conrad@g0ruz.demon.co.uk
Message-ID: <685159081wnr@g0ruz.demon.co.uk>
Source record: 113594

In article: <3lpolv$i1i@iii1.iii.net> sefranek@iii1.iii.net (Thomas C Sefranek) writes:
> Xref: news.demon.co.uk rec.radio.amateur.homebrew:5542
> Path: g0ruz.demon.co.uk!news.demon.co.uk!peernews.demon.co.uk!news.sprintlink.net!howland.reston.ans.net!cs.utexas.edu!uunet!news.iii.net!iii1.iii.net!not-for-mail
> From: sefranek@iii1.iii.net (Thomas C Sefranek)
> Newsgroups: rec.radio.amateur.homebrew
> Subject: Re: Beep at end of xmission--how?
> Date: 3 Apr 1995 17:17:32 -0400
> Organization: iii.net
> Lines: 29
> Message-ID: <3lpolv$i1i@iii1.iii.net>
> References: <01HOV6IIBIXU9N4FGL@NKU.EDU>
> NNTP-Posting-Host: iii1.iii.net
>
> In article <01HOV6IIBIXU9N4FGL@NKU.EDU> RAINS@NKU.EDU writes:
> >
> > Does anyone know how to make a circuit that will cause a beep to be
> >sent after I let off on the mic button? I would like to give this a try, but I
> >am not too sure on how to do it. Any help is greatly appreciated.
> >
> >73 de AA9KM
> >Justin
> >rains@nku.edu
>
> Hey Justin,
> I think you need to post this in the CB group.
> They all have "Roger Beeps". Several kids come over Monday nights,
> (They are now hams, so I can't say who...) they can design a "Roger Beep"
> with just one chip (555).
>
> But then they are just no-clue techs.
>
> If your still interested in cluttering up the air-waves with "Beeps",
> send me E-Mail (sefranek@iii.net), and I'll ask one of the kids to
> reply to you.
>
> :)
> Tom
>
>

>
> --
> Thomas C. J. Sefranek WA1RHP
>
>
Actually Tom they can be quite useful for ssb ms and aurora although ssb aurora will always be a poor second to cw.On 144 in Europe at meteor shower peaks a "roger beep" can be a Godsend amongst the cacophony of a good burst,it clearly indentifies that a station has finished transmitting and you can call him,providing of course you don't have a mouthful of coffee at the time!
So if used at appropriate times,carefully setup and with the addition of a bypass switch they do have their uses

--
Conrad Farlow G0RUZ

1294. Re: 1296 Hi Power

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: hbrown@nadir.resd
Message-ID: <1995Apr4.213559.1063@knight.vf.ge.com>
Source record: 113595

Tom, KB2AH, sells 1296 MHz Amp kits. he has 2, 4, and 6 tube cavity amp kits with power outputs from 250 thru 750 watts. He's active on 1296 EME. He can be reached at 908-223-5067.

73, Harry, W3IIT
hbrown@resd.vf.ge.com

1295. Re: Collins 390A/URR

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: jwicklun@halcyon.com
Message-ID: <3lsg44$kat@news.halcyon.com>
Source record: 113596

>Do you know where I can find a mechanical filter (f = 455Kc , bw = 2Kc) for
>Collins 390A/URR ??

Fair Radio Sales Co.
P.O. Box 1105
1016 E. Eureka Street
Lima, Ohio 45802
(419)223-2196

they show some Collins R-390 receivers in their catalog and mechanical
filters for them also.

73 de KI7RH (Jay)

1296. Re: Divide by 12 with CMOS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: Joe Rocci <rocci@netaxs.com>
Message-ID: <3lsfct$i17@netaxs.com>
Source record: 113597

> I'm building a freq. counter to go with a VFO I've built. Using the MM5369
> to output 60 hertz, I need to divide that CMOS level signal by 12 for the
> gates of the freq. counter. A 7492 would work if I were in TTL, but I'm
> using CMOS. Are there any single CMOS chips I can use? Any hints?

Most anything that's available in TTL is available in a CMOS
equivalent... look for 74HCxx part numbers.

Joe
WA3CMQ

1297. Re: Divide by 12 with CMOS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-04 00:00:00 UTC
From: sefranek@iii1.iii.net
Message-ID: <3lsp46$71r@iii1.iii.net>
Source record: 113598

In article <3lpell$dpq@newsbf02.news.aol.com> zhenifar@aol.com (Zhenifar) writes:
>I'm building a freq. counter to go with a VFO I've built. Using the MM5369
>to output 60 hertz, I need to divide that CMOS level signal by 12 for the
>gates of the freq. counter. A 7492 would work if I were in TTL, but I'm
>using CMOS. Are there any single CMOS chips I can use? Any hints?

Hi Jenn,
You can brute force jam count a 40161 to divide by 12.
Or use any other pre-settable binary counter.
If you need symetrical output, divide by 6 then by 2.

Tom
>
>
>Jennifer Gilfillan

--
Thomas C. J. Sefranek WA1RHP

1298. Re: Divide by 12 with CMOS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: zhenifar@aol.com
Message-ID: <3lucdh$2f7@newsbf02.news.aol.com>
Source record: 113599

Thanks for the replies, gents. I have not had luck finding a 74C92, but will keep looking. Someone suggested using the carry out pin to preload a '4' into a preloadable 4 bit counter, but wouldn't I have to invert the carry signal to make this work (therefore adding another chip)? Ah, the search goes on! Thanks for all your answers.

JG

1299. Re: Repeater Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: tomswisher@aol.com
Message-ID: <3lue5l$2p9@newsbf02.news.aol.com>
Source record: 113600

>Anyone using a C64 as repeater controller?
>I can buy C64 working here in So Cal. for about $10-20.
>I'm just getting started to code. Any ideas or help?
>John KN6LH
>john_fay@lightside.com

Several years ago someone in central Ohio was advertising a controller
that used the VIC-20/C-64. It used a plug-in card with the program on it;
I know a couple of people who are using them as controllers, and I have
one myself as a backup. I'll try and dig out the address for you.
****
Tom Swisher, N8GQK
National Scanning Report
"In God We Trust, All Others We Monitor"

1300. Very low freq./WWVB reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: egrumling@aol.com
Message-ID: <3lv5dg$8lu@newsbf02.news.aol.com>
Source record: 113601

I'm wondering if anyone here knows anything about WWVB? This station sends time updates in a digital mode only (WWV uses a subcarrier of some sort to send digital), somewhere around 60KHz, I think. What I would like to do is build a reciever and just decode the signal into a display (to use as a UTC clock).

Any ideas...
E

1301. Heathkit HW100 manual nee

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1553.546@acenet.com>
Source record: 113602

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

ATR> I recently bought a Heathkit Model HW100 on an action and it did not h
ATR>a manual with it. I was wondering if someone could tell me where I could g
ATR>oneor posibly copy and mail one to me (I will pay charges).

ATR>Thanks
ATR>KB0RNJ

MANUALS: List by AF4K updated 09-MAR-95
##########

Eico Electronic Instruments Co., Inc.
363 Merrick Rd
Lynbrook NY 11563
Note: No current kits, EICO manuals and schematics only

Alton H. Bowman No phone number given
4172 East Avenue radio, TV, amateur, misc.
Canandaigua, NY 14424-9564 Schematics & info 1920 - 1970

Charles Larus, K4CAD
5421 Tuckahoe Lane
Richmond, VA 23226 Heathkit & other manuals, copies.

Brock Publications (619) 757-0372
P.O. Box 5004
Oceanside, CA 92052 Swan, Cubic, Siltronix, Atlas manuals

Manuals Plus (206) 531-8031
P.O. Box 937 (206) 536-1121 (fax)
Spanaway, WA 98387-0937 Test equipment manuals, no catalog
Office Hours: 8:30 a.m. - 4:00 p.m. Pacific Time, M-F

Pete Markavage (908) 238-8964
27 Walling Street Send two 29c stamps for a catalog.
Sayreville, NJ 08872 3,000 amateur & related manuals.
manuals

W7FG Vintage Manuals (800) 807-6146
3300 Wayside Drive
Bartlesville, OK 74006 SASE for catalog or call.

Hi-Manuals No phone number given
Box 802
Council Bluffs, IA 51502 Catalog $2.00

Jay Stanfield
3212 Rita Lane
Fort Worth, Tx 76117 Jay has a lot of Heathkits and manuals

Deane E. Kidd, W7TYR (503) 625 7363
27270 SW Ladd Hill Road,
Sherwood, OR 97140.

East Coast Transistor Parts, Inc. (800) 637-0388
2 Marlborough Road,
West Hempstead, N.Y. 11552

Miles Gillie (919) 847-2489
Address needed
c/o Internet address: miles.gillie@mms.raleigh.nc
Or via Newsgroups: rec.radio.amateur.homebrew
Manuals for Sw radios, commercial 2-way etc. $15.00 each

This list was prepared by AF4K, Brian Carling 7 January, 1995
Please send additional sources for inclusion in this list.

FIDO Netmail ----> 1:109/476
Internet --------> brian.carling@acenet.com
Relaynet (RIME)--> #5365 or ACEONLINE

• SLMR 2.1a • I've told you a million times not to exaggerate!

1302. Info on Varian uwave tube?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Apr5.195247.251@nad.com>
Source record: 113603

I picked up some kind of microwave source at a swap meet on Sun. By the size
of the waveguide, it looks like it's in the neighborhood of 10ghz. It has
a Varian tube(?) in it numbered VA-210C. It's mounted on a cavity that seems to
be tuned by a dc motor driven geartrain; looks like some kind of swept source.

Anybody have any info on this device?

Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com

1303. Re: Repeater Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: besancon@rain.org
Message-ID: <3ltved$e3c@news.rain.org>
Source record: 113604

In article <john_fay-0404952119090001@user44.lightside.com>,
john_fay@lightside.com (John Fay) writes:

>Anyone using a C64 as repeater controller?
>
>I can buy C64 working here in So Cal. for about $10-20.
>
>I'm just getting started to code. Any ideas or help?
>
>
>John KN6LH
>
>E-mail: john_fay@lightside.com

I use the Ultra Comshack 64 Repeater Controller for my repeater system. This system is based on the C64. I bought it from Engineering Consulting, telephone: 714-671-2009.

Fred

1304. Divide by 12 with CMOS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: MUENZLERK@uthscsa.EDU
Message-ID: <01HOZ0Z10R5E007PLE@uthscsa.edu>
Source record: 113605

zhenifar@aol.com (Zhenifar) writes:

>I'm building a freq. counter to go with a VFO I've built. Using the MM5369
>to output 60 hertz, I need to divide that CMOS level signal by 12 for the
>gates of the freq. counter. A 7492 would work if I were in TTL, but I'm
>using CMOS. Are there any single CMOS chips I can use? Any hints?
>
>
>Jennifer Gilfillan
You can use a 74C92 (how convenient...).
This is a CMOS equivalent of the TTL 7492. Most of the 74XXX series chips
have a CMOS equivalent. Check the pinouts, they should be exactly the same.

Kevin

Legal stuff:
The above opinions are my own and not necessarily those of the staff,
faculty, administration, or lab animals (woof!) of The University of
Texas Health Science Center at San Antonio or anyone else who is not
me. The perceived length of this message may not be the same as its
actual length due to relativistic compression during transport.
Your mileage may vary. Batteries not included.
****
Kevin R. Muenzler, WB5RUE The University of Texas Health
muenzlerk@uthscsa.edu Science Center at San Antonio,
Department of Computing Resources

The difference between genius and |
stupidity is that genius has its |
limits. The only difference | I am Voltohm of Borg!
between stupidity and intelligence| Resistance is E/I!
is that intelligence may be | Power is EI!
artificial, stupidity is always | You will be attenuated!
genuine. |
****

1305. Re: Q: Regulated screen supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: jdc3538@ultb.isc.rit.edu
Message-ID: <1995Apr5.141154.6534@ultb.isc.rit.edu>
Source record: 113606

In article <518963402wnr@ifwtech.demon.co.uk> G3SEK@ifwtech.demon.co.uk writes:
>In article: <1995Apr4.024714.25313@ultb.isc.rit.edu> jdc3538@ultb.isc.rit.edu (J.D. Cronin)
>writes:
>:
>:
>: I'm finishing a 2-meter 4CX-350 amp that another fellow started; all it
>: needs is the high voltage and screen supply, and TR switching. One goal
>: (etc.)
>
>It won't be cheap to get the kind of screen voltage regulation you
>really need for good linearity, and also to protect the tube against
>excessive positive or negative screen currents, flashovers etc.
>
>4CX250s and 350s are very, very sensitive to variations in screen voltage.
>If the screen voltage is allowed to swing around in response to the SSB
>drive cycle, distortion products increase rapidly. You need to think in
>terms of regulating the voltage to +/- a few hundred millivolts, for
>current swings of +25mA to -25mA per tube. That isn't easy.

It looks like the regulator needs to souce as well as sink current.
Sounds like that would eliminate zener diodes running a high-voltage
pass transistor. It would be OK as a current source, but wouldn't
the transistor's P-N junction prevent it from being a current sink?
How about one regulator to handle current to the screen, with a
second to handle current from the screen? The second regulator would
have to be set for a slightly higher voltage, but not too much more.

>...
>Circuits are in the VHF/UHF DX Book (see sig). They'll cost you
>something to build, but they're still cheaper than 4CX250s!
>
>
>
>
>73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
> 'In Practice' columnist for RadCom (RSGB)
>Professionally:
>IFW Technical Services Clear technical English - anywhere.

Thanks for the advice... You probably just saved a bunch of expensive
tubes from getting trashed. Who carries the VHF/UHF DX Book in the US?

73...Jim N2VNO

1306. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: chrise@n0jcf.com
Message-ID: <3lvjaa$1qk@n0jcf.com>
Source record: 113607

In article <3lrfbb$2bu@gnd0.rmc.edu>, David Tiller <dtiller@rmc.edu> wrote:
>RAINS@NKU.EDU wrote:
>
>: Does anyone know how to make a circuit that will cause a beep to be
>: sent after I let off on the mic button? I would like to give this a try, but I
>: am not too sure on how to do it. Any help is greatly appreciated.
>
>Go to a shop that sells CB'er stuff. They have echo mics, mics that beep,
>mics with 'star wars' sound effects, etc. They've been using those junk
>devices for years.
>
ya. NASA's been using these 'junky' beeping mics for years too.

--
Chris Elmquist, N0JCF
chrise@n0jcf.com
n0jcf@amsat.org

1307. DF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: terry@wg.icl.co.uk
Message-ID: <D6KDF6.BpI@oasis.icl.co.uk>
Source record: 113608

[Article crossposted from rec.radio.amateur.misc]
[Author was NOT Terry Bailey]
[Posted on Wed, 5 Apr 1995 11:08:33 GMT]

In the early eighties a well know US Ham Radio publication produced a design for a DF unit based around 4 1/4 wave antennas and an FM receiver. Does anyone know which publication this was and what the date was. I do have a serious use for this and would be grateful if someone could tell me.
Thanks Terry Bailey G0CRF

1308. Yaesu FT-11R Opinions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: dfleming@earth.execpc.com
Message-ID: <3lubib$qth@homer.alpha.net>
Source record: 113609

I recently purchased a used FT-11R (it's in the mail). I was wondering what the general consensus is on this particular HT? I know I should have asked this sooner. This is Yaesu's best selling 2 meter HT at this time.
All I know about the radio is that it is tiny and puts out 1.5 watts with the standard battery/ 5 watts with optional pack.
thanks
-dan

1309. Re:EOT Beep FLAME

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9503057971.AA797103822@mails.imed.com>
Source record: 113610

Tom Sefranek wrote:

Hey Justin,
I think you need to post this in the CB group.
They all have "Roger Beeps". Several kids come over Monday nights,
(They are now hams, so I can't say who...) they can design a "Roger Beep"
with just one chip (555).

But then they are just no-clue techs.

If your still interested in cluttering up the air-waves with "Beeps",
send me E-Mail (sefranek@iii.net), and I'll ask one of the kids to
reply to you.

:)
Tom

How about lightening up on people! I saw this as a perfectly reasonable request. Get a life, Tom. This type of equipment is good enough for the manned space people at NASA (at least it was during the Appolo missions).

Ray Mack
WD5IFS
mack@mails.imed.com

1310. Uniden 2510 Schematics Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: holdwick_marc@macmail1.cig.mot.com
Message-ID: <holdwick_marc-0504951100140001@mac-as-37.cig.mot.com>
Source record: 113611

I am working on modifying my Realistic HTX-100 for transverter use. There was an article in the January 1995 QST on modifying the Uniden HR-2510 for this. Other Uniden mods are available.

I am in need of a 2510 schematic for reference on my project. I would be grateful and willing to send a SASE to anyone who would copy their 2510 schematic for me.

Thanks,

de Marc, N8KWX/9

holdwick_marc@macmail1.cig.mot.com

1311. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: raiar@vulcan.inlink.com
Message-ID: <3lt6j7$ctt@thor.inlink.com>
Source record: 113612

Everybody laugh;

I'm so used to using repeaters, that wwhen I get on HF, I will constantly sit and wait for the beep that never comes.

I've often thought that a little beep would be a nice idea, provided it doesn't get carried into the class of the Roger Beep on CB and drive everyone crazy.

Years ago when we all had separate receivers and transmitters, a beep on keyup was a common occurance, due to the lag in the relays....

Gary - N0ZOI

1312. Arrl South Texas Frequenc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-05 00:00:00 UTC
From: Tom.Hammond@f67.n289.z1.fidonet.org
Message-ID: <53c_9504062248@woodybbs.com>
Source record: 113613

MK>Does anyone know who the South Texas Frequency Coordinator is? I
>would like

MK>coordinate a link frequency. I think I need the UHF Freq. coor.

Send your request to:

Paul Gilbert - KE5ZW
TVFS State Frequency Coordinator
2608 El Toro Dr - Apt 111B
Huntsville TX

Sorry, I don't have the ZIP.

I'm sure Paul will be happy to route your request to the appropriate
asst. coordinator.

73 - Tom Hammond N0SS
* LAKOTA v1.4
--
|Fidonet: Tom Hammond 1:289/67
|Internet: Tom.Hammond@f67.n289.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

1313. Re: Repeater Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: john_fay@lightside.com
Message-ID: <john_fay-0504952142210001@user51.lightside.com>
Source record: 113518

In article <3ltved$e3c@news.rain.org>, besancon@rain.org (Fred Besancon) wrote:

> I use the Ultra Comshack 64 Repeater Controller for my repeater system. This
> system is based on the C64. I bought it from Engineering Consulting,
telephone:
> 714-671-2009.
>
> Fred

Hi Fred,

Thanks for you input.

I've meet Bob of Engineering Consulting. I saw a great demo at his house
a couple of months ago. I love the system! I feel however, that his
pricing is a bit out dated. Bob designed the Comshack about 5 years ago.
At this time, his is not updated any of the products or developing any new
ideas.

This is why I thought I would try to do it own my own.

What feature are you using? ie...phone patch,HF remote,VHF remote,packet
control ect....

How do you like the product over all?

What would you change?

Thanks

John KN6LH

Email: john_fay@lightside.com

1314. Re: TNC schematics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <3lvqn2$rqd@newshost.lanl.gov>
Source record: 113519

arthur@net-works.com (Arthur Nelson) wrote:
>
> >Path: mulligan!on-ramp.ior.com!olivea!charnel.ecst.csuchico.edu!csusac!csus.ed
> >csulb.edu!paris.ics.uci.edu!news.claremont.edu!nntp-server.caltech.edu!ferrari
> >st6.lanl.gov!newshost.lanl.gov!usenet
> >From: jdevenport@lanl.gov (Jim Devenport)
> >Newsgroups: rec.radio.amateur.homebrew,rec.radio.amateur.equipment
> >Subject: Re: TNC schematics?
<snip>>
> Hi there! Could i be a mooch and ask for the above scematic also? I was
> going to build the Poor Mans Packet interface but i may just hold off
> now. Thanks very much! Art WB9HNJ
> ---
> • SLMR 2.1a • He who laughs last probably doesn't understand the joke.
>
..(RedFace Responding... The aforementioned schematic, upon closer
investigation, will NOT support 9600 baud or anything close to it...
2400 baud is the possible upper limit according to the tech reps I
contacted for specific data on increasing the modem's speed. This
modem is just the generic 1200-baud modem passed around the world a
few times years ago before the TCM3105 modem became so popular. I
still build and operate these modems but at 1200 baud. Email me if
you still want the schematic...

```
73, de Jim WB5AOX
```

1315. Re: Repeater Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <3lvrse$rqd@newshost.lanl.gov>
Source record: 113520

john_fay@lightside.com (John Fay) wrote:
>
> Anyone using a C64 as repeater controller?
>
> I can buy C64 working here in So Cal. for about $10-20.
>
> I'm just getting started to code. Any ideas or help?

I use C-64's for repeater controllers and have for several years,
starting out with VIC 20's and eventually moving to the C-64 since
it has easier programming tools available. Contrary to popular
opinion the C64 can be quite reliable and rugged running 24 hours
a day 365 days a year IF (and ONLY if) you chuck the "stock"
Commodore power supply and replace it with either a homebrew or non-
Commodore built unit. Mine has been running steadily with no glitches
for 2.5 years now with no down time nor replacements.
I use the user port and the cassette port to provide COR sensing,
repeater PTT switching, timing, etc, and courtesy beeps and CW
command feedback signals are all generated by the C64.
At least a couple of commercial vendors provide repeater hardware and
software using the customer-supplied C64 for the CPU.
Engineering Consulting in CA, ads in 73 and QST monthly, is one.
The software I wrote uses the C64 along with a few switching
transistors, 1n914 diodes, as well as a simple external SS1202
touchtone decoder. My repeater / remote base controls the 220
repeater, programs an external IC2AT remote base for frequency, on/off,
as well as controlling a Collins HF380 HF remote base. Touchtone
commands control the volume of the courtesy and ID tones, CW speed,
various bell/whistle functions, length of squelch tail, etc, and is
modifiable for additional functions if you know your BASIC and have
a BLITZ! compiler for the 64. You can review the functions available
on it by viewing my home page: http://sst.lanl.gov/~jdport/
.. Look under the "REPEATERS" section.
I can provide a disk with the software and associated schematics for
$5 per copy. I'll have to dig around, I think I still have the early
repeater-only non-remote base versions I can give you for nothing if
you send me a formatted C64 disk.

73, Jim WB5AOX

1316. Re:EOT Beep FLAME

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <3lvsb4$sij@newshost.lanl.gov>
Source record: 113521

mack@mails.imed.COM wrote:
>
> ___________________________________
> Tom Sefranek wrote:
>
>
> Hey Justin,
> I think you need to post this in the CB group.

> How about lightening up on people! I saw this as a perfectly reasonable
> request. Get a life, Tom. This type of equipment is good enough for the manned
> space people at NASA (at least it was during the Appolo missions).
>
> Ray Mack
> WD5IFS
> mack@mails.imed.com

I must confess I hate these "beeps" too though I think most other ham
noise (RTTY, CW, most static, etc) quite sweet to my ears.
Jim WB5AOX

1317. Re: MMIC (MAR8)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: djch@rivers.dra.hmg.gb
Message-ID: <DJCH.95Apr6120039@tamar.dra.hmg.gb>
Source record: 113522

I've had good results with the MAV-11 from MiniCircuits.
+17dBm out, +12 dB gain 1GHz b/w, +30dBm 3rd out int. (and 3.8dB noise)

There isn't an MAR-11 equivalent as far as I know.

I built on a copper ground plane, drill a hole for the mmic to sit in, and cut little pads for the input and output. Few turns on a ferrite bead and a .25W metal film resistor to feed power in, 1nF feedthrough to decouple. Stable so far :-) (This is in a tracking generator, MAV3->MAV3->MAV11, 0-300MHz, +10dBm out)

--David G8SQH

1318. Re: Q: Regulated screen supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <667535841wnr@ifwtech.demon.co.uk>
Source record: 113523

Jim, N2VNO wrote:

: >: I'm finishing a 2-meter 4CX-350 amp that another fellow started; all it
: >: needs is the high voltage and screen supply, and TR switching. One goal
: >: (etc.)
: >
I replied:
: >It won't be cheap to get the kind of screen voltage regulation you
: >really need for good linearity, and also to protect the tube against
: >excessive positive or negative screen currents, flashovers etc.
: >
: >4CX250s and 350s are very, very sensitive to variations in screen voltage.
: >If the screen voltage is allowed to swing around in response to the SSB
: >drive cycle, distortion products increase rapidly. You need to think in
: >terms of regulating the voltage to +/- a few hundred millivolts, for
: >current swings of +25mA to -25mA per tube. That isn't easy.
:
Jim again:
: It looks like the regulator needs to souce as well as sink current.
: Sounds like that would eliminate zener diodes running a high-voltage
: pass transistor.

Sorry, my fault for not explaining it more fully. Yes, the screens of 4CX250s and 350s source current as well as sinking it like most tetrodes do. In fact under optimum loading conditions it's normal for the screen to source 5-10mA per tube at the peak of the drive cycle.

Because of this bidirectional screen-current feature, you can't use a series regulator: it must be a SHUNT circuit. Let's talk in terms of zeners for simplicity - a 350V chain of zeners from screen-grid to ground, fed from a +400V supply via a current-limiting resistor.

When the tube draws positive screen current, less shunt current goes down the zener chain, so you need to set the current limiting resistor so that there's still some current flowing down through the zeners in order to maintain voltage regulation.

When the tube is sourcing negative screen current, it flows away down the zeners to ground, and the zeners still maintain voltage regulation. To do this, they need sufficient power rating and heat-sinking to handle the additional current. (You see the problem with the circuit that uses blocking diodes to prevent a flashover from blowing the zeners? That circuit has NO voltage regulation for negative screen current!)

What I'd thought you meant about a "pass" transistor was the shunt regulator that uses a high-voltage NPN transistor as the main shunt element, with the zener chain connected from collector to base (and a resistor from base to ground). With a little care in design, that will work better than a simple chain of high-wattage zeners, because the zeners in the transistor circuit experience much less current variation across the SSB drive cycle.

Regarding the VHF/UHF DX Book, this is almost an FAQ!

RSGB still have large stocks, and there will not be a new print run until those have been sold. ARRL ran out of stock some time ago, but will not order any more until there is a second printing...

Anybody, world-wide, can order from RSGB. They accept all major credit cards. Their phone number is +44 1707 659015, although fax is obviously cheaper and more accurate: +44 1707 645105.

The price is 18.00 pounds and I believe that airmail for a single copy is under 3.00 pounds. Currently 1 pound = about $1.60.

As far as I know, the exchange rates on credit card transactions are very fair and there is no transaction charge.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1319. Re: Irradiated Wire ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: john.adams@maf.nasa.gov
Message-ID: <3m1899$sn4@hammer.msfc.nasa.gov>
Source record: 113524

>
>But if it is, is this anything to worry about? Will my antennas glow
>in the dark?......
>
>As another response states, the wire is irradiated to cause cross-linking
of the long chain molecules in the insulation. This is commonly done to
Teflon to prevent cold flow. Teflon responds to a long term application
of pressure, such as a wire resting on a chassis edge, by flowing out of
the way as if it were taffy. Gamma radiation from a cobalt 60 source is
most often used for Teflon; it is similar to an X-ray and does not make
the wire radioactive.
>
>
>

1320. 10GHz counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: komljant@tor1a.ic.gc.CA
Message-ID: <2F83F910@mssmtp.istc.ca>
Source record: 113525

F. Kevin Feeney (fkf1@cornell.edu) wrote:

: My quesion is how *do* you tell what frequency you are on? I have a
: couple of what I think are Solfan units, and about the only thing I can
: think of (other than the not so handy 15 Ghz counter) is to do the
: "wireless leacher wire" thing. Move a flat plate back and forth in front
: of the diode's output and look for changes in current. Does that work on
: these things? Is it accurate enough for 30 mhz resolution? Or is there an
: obvious way to set them on frequency that I am missing?

A frequency counter is very expensive for microwave frequencies. A cheaper alternative is a WAVEMETER. These are commonly found at fleamarkets or electronic surplus dealers for $20 to $100. I have always seen them available at Dayton. They are simple to use and will get you within a MHz of your desired frequency. Any further accuracy is futile with these Solfan gunn sources.

A wavemeter consists of a suitable size waveguide, a bandreject "cavity", and a diode detector. You connect a sensitive voltmeter to the detector and position the wavemeter for a good deflection or meter reading. The cavity plunger is controlled by a micrometer. The plunger/micrometer is slowly tuned until a sharp "dip" is seen with the voltmeter. Once the voltmeter reading is accurately minimized, the micrometer indication is cross-referenced on a table for frequency. More sophisticated wavemeters do away with the micrometer and have a frequency scale instead. Yet other wavemeters use coaxial connectors instead of waveguide.

Coupling distance (hence isolation) from the wavemeter to source can be increased by adding a small horn to the wavemeter's waveguide. This is also perfect for measuring LO leakage at 11.5 GHz from a radar detector!

I have found the wavemeters to be ideal for spacing out IF's in a micro-wave tx/rx setup.

For others experimenting with the SOLFAN units... try refrigerating the Gunn source for five minutes. When you pull it out, hook it to a Spec'A and watch it goooooooooooo! I found 5 minutes in the cooler = 15 MHz of drift. It is like a train.... you wait for it at the crossing and watch it go by. Any suggestions for stabilizing the thing?

Enjoy!

Tony, VE3PEP

1321. Re: Where is pin 1 on the 4011 chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: raiar@vulcan.inlink.com
Message-ID: <3lvjm7$if7@thor.inlink.com>
Source record: 113526

I am going to assume that you are refering to the 4011B IC-CMOS
Quad 2-input NAND Gate, for my reply.

The pin numbering is counterclockwise, pin 1 is the first one that you come
to after the notch or dot.

This numbering system is typical for numeroous IC chips, but not all as
previously stated by another postee.

If the notch is at the top, pin 1 is top left and pin 14 is top right.

This particular chips Vdd is pin 14, topright, and can tolerate anywhere
from 3V to 15V.

Pin number 7 is your Vss or ground pin, bottom left pin.

Gary

1322. Re: Ham-Homebrew Digest V95 #97

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199504061919.PAA20069@service1.uky.edu>
Source record: 113527

I need a copy of a manual for a HW-7.I appreciate any help. Just a copy of
a schematic will help.
73
Bill ko4ww

William L. Fuqua III P.E.
Department of Physics and Astronomy
University of Kentucky
Lexington, Ky 40506-0055
E-mail WLFUQU00@POP.UKY.EDU

1323. Re: Mini-Circuits VCOs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: kellyp6643@aol.com
Message-ID: <3m0on2$ku6@newsbf02.news.aol.com>
Source record: 113614

>I've just seen an advert for Mini-Circuits POS-xxx VCOs. They look
>ideal for frequency synthesisers, especially as they have +7 dBm output,
>and may therefore be connected directly to an MCL mixer. Has anyone got
any
>experience of them?

I just received 5 POS-150's yesterday. They were rated from 75MHz to
150MHz. They certainly do that. The low end was 59MHz. I was unable to
measure greater than 150MHz with the analyzer I was using but it did meet
spec. The output power was only +4-5dBm over the band. Not quite +7 but
it was very flat. I would say they work quite well and at $12, they are a
steal.

Kelly

1324. Re: Q: Regulated screen supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3m0tir$lp3@newsbf02.news.aol.com>
Source record: 113615

>This leaves the issue of a 350-volt regulated screen supply. The ARRL
>handbook shows regulators using gaseous regulator tubes or several
56-volt
>10-watt zener diodes in series. But 10-watt zeners are a bit pricey,
>and regulator tubes are probably up there, too.

>Are there any cheaper ways to get a 350-volt regulated supply? How about
>using a string of 1/2 watt zeners to run a high-voltage pass transistor?
>Do HV integrated regulators exist? (Well, you never know...) Any
>ideas/suggestions are appreciated.

>73...Jim N2VNO

Jim, I would use a shunt regulator. I use HV PNP transistors (you can
ground
the metal case) referenced by a zener diode circuit. This keeps the
current
in the zener fairly constant, and the transistor has the varying load. I
disagree a bit with the need for millivolts of regulation, two tone tests
here have never proven that to be required. Your exciter will be the
dirtiest
part of the system.

The shunt regulator can be powered through a large dropping resistor from
the
anode supply. With tubes like the 4CX5000 and up I use a CT on the HV
xfmr,
but with only a few kV you could use the full hv.

Adjust the dropping resistor for only enough standing current to
adequately
supply the tube during signal peaks, plus a slight margin. As long as the
supply voltage is twice (or greater) of the screen voltage, you will be
effectively current and screen dissipation limited by the dropping
resistor.

This circuit has several advantages. It will not allow application of
screen
v before anode v, it is a shunt regulator and prevents soaring screen v
from
negative current or an arc, it current limits, it is stable, and it is
simple. It does have the disadvantage of heat in the resistor.

If you do use a series regulator, include a shunt regulator set at
slightly
more than operating voltage.

Never ever never depend on fuses to protect a tube. They were build to stop
fires, not save grids.They are notoriously unreliable and very slow. Use electronic methods, like the large series impedance from the resistor or a properly designed trip circuit.

I also use a small electrolytic from the screen to ground to absorb transients. I would NEVER bother using a VDR. The barely drop in resistance
as the current increases, unless my catalogs are wrong! VDR's are great for
protecting telephone lines so that lightning doesn't arc through the insulation, but they are very very poor if transients need to be limited to
less than a few hundred percent of the operating voltage. Just look at the slow slope of the resistance vs voltage on any VDR.

1325. ** FLEA at MIT ** Sunday 16 April Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: w1gsl@ATHENA.MIT.EDU
Message-ID: <3m0d36$6hg@senator-bedfellow.MIT.EDU>
Source record: 113616
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics,ne.forsale,ne.general,misc.forsale.computers.d,rec.radio.amateur.homebrew

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Spring as sprung so it is time for the seasons first

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9AM-2PM

Come to the city for a great flea - plenty of free parking.

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Sponsors: MIT Electronics Research Society
MIT UHF Repeater Association (W1XM)
MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

********** $1 buyers discount with hard copy of this notice ***********

****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754

****

1326. Need TX mod info for Alinco DR-M06 6 meter Will Pay $30.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-06 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <3lvs73$jvs@henri.mindspring.com>
Source record: 113617

I am working on an all band transverter and need a 45.75 MHz IF. I recently purchased an Alinco DR-M06 radio for this sole purpose and have not been able to locate the modification information for it. I was told from a very respectable source that the radio was capable of transmitting in this frequency with reduced output. I am willing to pay $30 for the modification information for this radio. The radio currently receives from 40 to 60 MHz after turning it on with the Call button pressed.

I recently received some e-mail from some guys in England explaining how to perform the mod. Unfortunately, the info was not specific enought on which pads needed to be jumpered. If you have any info I would really appreciate if you can get in touch with me via e-mail or this newsgroup.

Thanks

Pieter Ibelings

AC4OP, HK1ZAB, 5K0C, ...

e-mail: Wave@mindspring.com

1327. Need info on ATV mod/demod for FT-736 - 1.2 GHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-07 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <3m3i50$ha4@tetsuo.communique.net>
Source record: 113528

Looking for anyone who has info or ATV-736 mod/demod for the 1.2 GHz module
or the ATV-736 device itself ... I'll be building one and would like to see what Yaesu
is doing to accomidate this unit.
-
Reply to: tony@gcr1.com
Tnx, 73
N5GPI

1328. Re: 10GHz counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-07 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <3m3kuj$3rk@canyon.sr.hp.com>
Source record: 113529

Komljanec, Tony: OS_TDO (komljant@tor1a.ic.gc.CA) wrote:

: For others experimenting with the SOLFAN units... try refrigerating the
: Gunn source for five minutes. When you pull it out, hook it to a Spec'A
: and watch it gooooooooooooo! I found 5 minutes in the cooler = 15 MHz of
: drift. It is like a train.... you wait for it at the crossing and watch
: it go by. Any suggestions for stabilizing the thing?

Well, it might be of use to put the drift in context first. The numbers don't appear to be quite so awful that way. 15 MHz for 20-30 degrees C change is on the order of what many microwave oscillators do. YIG tuned oscillators are often in this vicinity. Also, 15 MHz drift at 10500 MHz is comparable to 6 KHz drift at 4 MHz. Would your non-temperature compensated VFO design for a 75 meter rig be all that much more stable if you put it into the cooler for the same length of time? Perhaps a bit but probably not a lot.

Still, for medium to narrowband use, 15 MHz is a lot. Why don't you consider phaselocking the Solfan if you want it not to drift? I show all the necessary circuits to make a 10 GHz SSB station in Feb/Jun/Oct 1988 Ham Radio Magazine. The microwave oscillator used is none other than a phaselocked Solfan source with bias push tuning. Also shown is the resultant phase noise. It's not as good as the best one can do but it's very acceptable even for very narrowband work; SSB and CW. This is the same hardware architecture I used when we originally pushed the long standing 200+ mile 10 GHz over-land record out to 400+ miles.

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| ftp://col.hp.com/hamradio/packet/n6gn/index.html |

1329. Schematic for Power Designs 1543A 10 kV power supply needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-07 00:00:00 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3m224b$ee1@tierra.santafe.edu>
Source record: 113530

I urgently need a copy of the schematic for a Pwer Designs model 1543A 10 kV, 5 mA power supply.
Thi s is a fairly old unit that uses a 4-65 as a series pass regulator. The control electronics
has a 702 op amp and a few transistors. Apparently the control section is no functioning. There
is voltage at the anode of the 4-65 but 0 at the output. I will pay for FAX or shipping costs.

--
==========

James M. Potter, President Internet: jpawi@roadrunner.com
JP Accelerator Works, Inc. AOL: jpawi@aol.com,jpotter@aol.com
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

1330. Re: 70cm xvtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-07 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Apr7.104757.252@nad.com>
Source record: 113531

In article <797090974.AA00903@fluxline.mi.org>, Daniel.Lopes%f10.n101.z88@fluxline.mi.org (Daniel Lopes) writes:

>
> Hello there:
> I think you can get a kit or a pc-board from a place called
> DOWN EAST MICROWAVE... the phone # is (207)948-3741.. i think it's in
> Mass. or New Hampshire.. hope this helps...
> Danny N1HRS...73"s from JAPAN
>

I think Down East is now in Frenchtown, NJ. Sorry, I don't have the number handy, but this might help.

Joe - AA3GN

--

Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com

1331. Re: 70cm xvtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-07 00:00:00 UTC
From: sbertsch@magnus.acs.ohio-state.edu
Message-ID: <3m479o$p53@charm.magnus.acs.ohio-state.edu>
Source record: 113532

In article <1995Apr7.104757.252@nad.com>,
Joe Landis - Systems & Network Mgr <landisj@nad.com> wrote:

>I think Down East is now in Frenchtown, NJ. Sorry, I don't have the number
>handy, but this might help.
>Joe - AA3GN

Here it is

Down East Microwave, Inc.
954, RT 519
Frenchtown, NJ 08825

ph. (908) 996-3584
fax (908) 996-3702

1332. Re: Linear Amplifier Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-07 00:00:00 UTC
From: dsa@netcom.com
Message-ID: <dsaD6oMF0.9Gn@netcom.com>
Source record: 113533

In article <9@bdam.win.net>,
Carleton C. Ingerson <cingersn@bdam.win.net> wrote:
>Does anyone know where I can obtain a schematic and preferably a
>construction article for an HF Linear amplifier that will take
>100W in and give me 300 to 500 out? I would like to build one but
>do not want to have to mortgage my home for the parts!!

If you don't require a solid-state solution, there are plenty of articles
and designs for just what you want in older handbooks.

Any of the following tube combinations will give you what you want:

(1) 813 (drive in grounded grid or grid-drive -- driving the grid
will give you something like 25W in, 400W out on SSB.)

(2) 811's same deal as above; best in grounded-grid

(1) 4x250

(1) 3-500 grounded grid

There are several other designs. 813's used to be cheap in used markets, I
don't know how they are now. 811's are certainly still around. 3-500's are
certainly around, but they get expensive.

for solid-state stuff, I expect you're going to have to cough up more cash
for parts.

dsa

1333. Re: Arrl South Texas Frequency Coordinator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-07 00:00:00 UTC
From: joejarre@netcom.com
Message-ID: <joejarreD6nB9r.G41@netcom.com>
Source record: 113534

Marwynne Kuhn (marwynn@phoenix.net) wrote:
: Does anyone know who the South Texas Frequency Coordinator is? I would like to
: coordinate a link frequency. I think I need the UHF Freq. coor. Thanks

: Marwynne Kuhn WB5PWG

Marwynne, all link frequencies are coordinated by Jim Reese, WD5IYT in
Houston. His Email address is jreese@neosoft.com. The head of The Texas
VHF-FM Societies' Frequency coordinating group is Paul Gilbert, KE5ZW.
His Email addres is vis_pfg@pip.shsu.edu.

--
****
* Joe Jarrett, K5FOG |Please dont call me a liberal _or_ a *
* joejarre@netcom.com |conservative. I don't subscribe to *
* Information Storage Devices FAE | the "PC" list of either side. *
""
* These are my ideas alone. Don't blame anyone else! *
****

1334. Re: Arrl South Texas Frequency Coordinator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-07 00:00:00 UTC
From: vis_pfg@pip.shsu.edu
Message-ID: <3m2hjq$544@pip.shsu.edu>
Source record: 113535

Marwynne Kuhn (marwynn@phoenix.net) wrote:
: Does anyone know who the South Texas Frequency Coordinator is? I would like to
: coordinate a link frequency. I think I need the UHF Freq. coor. Thanks

: Marwynne Kuhn WB5PWG

Send me your phone number and address. I will see that you get intouch with the
correct person. I am the state freq coordinator. send the info to

vis_pfg@pip.shsu.edu

Thanks...

Paul Gilbert, KE5ZW
--
{~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~|~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~}
{ | Do Not Be Afraid Of Any Man }
{ Paul Gilbert, KE5ZW | No Matter What His Size }
{ Huntsville, Texas 77340 | Just Call On Me In Time Of Need.. }

1335. 200MHz IF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-07 00:00:00 UTC
From: mikael.landing@teknikum.uu.se
Message-ID: <3m2oto$1852@columba.udac.uu.se>
Source record: 113536

Planning to build a receiver for 1.75GHz (DCS-1800).
Have found out that a suitable IF would be 201MHz. Since I only
want one IF there must be alot of amplification on 201MHz (90dB).
Still I cant accept any limiting (must be linear gain).

Does anyone know how this could be done in a simple way. If I choosed
a lower IF I could buy some IC making the job. But I havent
been able to find any IC doing the job at 201MHz.

Maybee you know of some suitable device or solution?

Thankful for help!

Micke

1336. URGENT! Moto P100 Cloning HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-08 00:00:00 UTC
From: vuckovic@interaccess
Message-ID: <3m6qgo$mm6@nntp.interaccess.com>
Source record: 113537
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.swap

Does anyone have any information of Motorola P100 Cloning? I would like
to transfer one P100's information into the second one. What kind of
cable would I need, does anyone know the pinning?

--

Owner, Weniger Lighting Systems | George Vuckovic |
Director, Emergency Response Medical Services | vuckovic@interaccess.com |
EMS, Security, Communications |__My_Opinions_Are_My_Own__|
Weniger Lighting Systems -- Emergency Lighting Sales, Service, Installation
----

1337. B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-08 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <D6pLM6.46J@eskimo.com>
Source record: 113538

What has happened to the fine old Barker and Williamson company? Are they trying to kill themselves?

I went into the local ham emporium to buy some miniductor coil stock and was surprised to hear they no longer stock it. The manager told me that B&W now has a $2000 minimum order policy and at that price, they're not interested. Who could blame them?

I then called around to several of the advertisers in QST. Nobody stocks miniductor coils anymore.

I then called the factory. A bored-sounding clerk droid said yeah, they still make the 3033 I wanted, but there was none in stock. If I wanted one, it would be $17-something plus a $50 setup fee!!!

Question: what kind of company charges a setup fee for a product which should be in stock and readily available?

Answer: a soon-to-be-nonexistent one!

I'm really sorry to see B&W do this to themselves. I've been using their products since back in the '50s, and they will be missed. Their current attitude will not.

Anyone know of a source for 3033 coil stock?

Thanks, Bill W7LZP

wrt@eskimo.com

P.S. to add insult to injury, the clerk droid told me that B&W had bought out AIRDUX - their only competition - several years ago. :-(

1338. Re: HV Diodes ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-08 00:00:00 UTC
From: mishmash@enet.net
Message-ID: <3m56np$e98@maple.enet.net>
Source record: 113539

In article <wsw.217.008F980E@cellware.de>, wsw@cellware.de (Stefan Wimmer) says:
>
>Hi out there!
>
>For a homebrew tube-PA I am looking for HV diodes which can bear 3KV and 1.5A.
>Do you know any manufcturer/type to use?
>
>Thanks for any help!
>
>73s, Stefan (DD6FM)
>
Per page 140 of April 1995 CQ Magazine advertisement:

K2AW's "SILICON ALLEY"
175 Friends Lane
Westbury, NY 11590
(516) 334-7024

HV14-1 14KV-1A 250Amp Surge $15.00
HV10-1 10KV-1A 250Amp Surge $12.00
HV8-1 8KV-1A 250Amp Surge $10.00
HV6-1 6KV-1A 250Amp Surge 5.00

Plus $3.00 shipping USA

I used the HV14-1's in a 2KW amp. Worked very nicely.

Charlie (AA7NQ)

1339. * * * Tubes, IC's, diodes, caps, etc For Sale * * *

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-08 00:00:00 UTC
From: questusa@ix.netcom.com
Message-ID: <3m6jhb$ov5@ixnews4.ix.netcom.com>
Source record: 113540

If you would like a FREE copy of our tube and electronic parts
catalog, send us an e-mail note with your "snail-mail" name and address
(that's your postal service address).

International catalog requests are welcome.

Thank you,
Quest Electronics
questusa@ix.netcom.com

1340. Warning From uucp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-08 00:00:00 UTC
From: uucp@nicnet.NIc.IN
Message-ID: <199504081818.LAA05226@UCSD.EDU>
Source record: 113541

We have been unable to contact machine 'ren' since you queued your job.

ren!mail nicguwah (Date 04/07)
The job will be deleted in several days if the problem is not corrected.
If you care to kill the job, execute the following command:

uustat -krenZ3b84

Sincerely,
nicnet!uucp

##
Data File:
From root Fri Apr 7 20:38 IST 1995 remote from nicnet
>From Ham-Homebrew Fri Apr 7 04:30:23 PDT 1995 remote from UCSD.EDU
Received: from UCSD.EDU by nicnet.nic.in; Fri, 7 Apr 1995 20:38 IST
Received: by mail.ucsd.edu; id EAA24019
sendmail 8.6.11/UCSD-2.2-sun
Fri, 7 Apr 1995 04:30:25 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id EAA24012
sendmail 8.6.11/UCSD-2.2-sun
Fri, 7 Apr 1995 04:30:23 -0700 for ham-homebrew-ddist
Errors-To: ham-homebrew-relay@UCSD.EDU
Sender: ham-homebrew-relay@UCSD.EDU
Precedence: List
Message-Id: <199504071130.EAA24012@mail.ucsd.edu>
Date: Fri, 7 Apr 95 04:30:23 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Errors-To: Ham-Homebrew-Errors@UCSD.EDU
Reply-To: Ham-Homebrew@UCSD.EDU
Precedence: List
Subject: Ham-Homebrew Digest V95 #102
To: Ham-Homebrew@UCSD.EDU
Content-Type: text
Content-Length: 11800

Ham-Homebrew Digest Fri, 7 Apr 95 Volume 95 : Issue 102

Today's Topics:
10GHz counter
200MHz IF
Collins 390A/URR
Divide by 12 with CMOS?
Ham-Homebrew Digest V95 #97
Irradiated Wire ?? (2 msgs)
LDS Church Conference on April 1-2, 1995

Need TX mod info for Alinco DR-M06 6 meter Will Pay $30.
Want CI-5 or Icom Computer Cntl. Commands!
Where is pin 1 on the 4011 chip?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 6 Apr 95 19:02:00 GMT
From: komljant@tor1a.ic.gc.CA (Komljanec, Tony: OS_TDO)
Subject: 10GHz counter

F. Kevin Feeney (fkf1@cornell.edu) wrote:

: My quesion is how *do* you tell what frequency you are on? I have a
: couple of what I think are Solfan units, and about the only thing I can
: think of (other than the not so handy 15 Ghz counter) is to do the
: "wireless leacher wire" thing. Move a flat plate back and forth in front
: of the diode's output and look for changes in current. Does that work on
: these things? Is it accurate enough for 30 mhz resolution? Or is there an
: obvious way to set them on frequency that I am missing?

A frequency counter is very expensive for microwave frequencies. A cheaper
alternative is a WAVEMETER. These are commonly found at fleamarkets or
electronic surplus dealers for $20 to $100. I have always seen them
available at Dayton. They are simple to use and will get you within a
MHz of your desired frequency. Any further accuracy is futile with these
Solfan gunn sources.

A wavemeter consists of a suitable size waveguide, a bandreject "cavity",
and a diode detector. You connect a sensitive voltmeter to the detector
and position the wavemeter for a good deflection or meter reading. The
cavity plunger is controlled by a micrometer. The plunger/micrometer is
slowly tuned until a sharp "dip" is seen with the voltmeter. Once the
voltmeter reading is accurately minimized, the micrometer indication is
cross-referenced on a table for frequency. More sophisticated wavemeters
do away with the micrometer and have a frequency scale instead. Yet other
wavemeters use coaxial connectors instead of waveguide.

Coupling distance (hence isolation) from the wavemeter to source can be
increased by adding a small horn to the wavemeter's waveguide. This is
also perfect for measuring LO leakage at 11.5 GHz from a radar detector!

I have found the wavemeters to be ideal for spacing out IF's in a micro-
wave tx/rx setup.

For others experimenting with the SOLFAN units... try refrigerating the Gunn source for five minutes. When you pull it out, hook it to a Spec'A and watch it gooooooooooooo! I found 5 minutes in the cooler = 15 MHz of drift. It is like a train.... you wait for it at the crossing and watch it go by. Any suggestions for stabilizing the thing?

Enjoy!

Tony, VE3PEP

Date: 7 Apr 1995 07:17:12 GMT
From: mikael.landing@teknikum.uu.se
Subject: 200MHz IF

Planning to build a receiver for 1.75GHz (DCS-1800).
Have found out that a suitable IF would be 201MHz. Since I only
want one IF there must be alot of amplification on 201MHz (90dB).
Still I cant accept any limiting (must be linear gain).

Does anyone know how this could be done in a simple way. If I choosed
a lower IF I could buy some IC making the job. But I havent
been able to find any IC doing the job at 201MHz.

Maybee you know of some suitable device or solution?

Thankful for help!

Micke

Date: 4 Apr 1995 22:10:12 GMT
From: jwicklun@halcyon.com (Jay Wicklund, KI7RH)
Subject: Collins 390A/URR

>Do you know where I can find a mechanical filter (f = 455Kc , bw = 2Kc) for
>Collins 390A/URR ??

Fair Radio Sales Co.
P.O. Box 1105
1016 E. Eureka Street
Lima, Ohio 45802
(419)223-2196

they show some Collins R-390 receivers in their catalog and mechanical
filters for them also.

73 de KI7RH (Jay)

Date: 4 Apr 1995 21:57:49 GMT
From: Joe Rocci <rocci@netaxs.com>
Subject: Divide by 12 with CMOS?

> I'm building a freq. counter to go with a VFO I've built. Using the MM5369
> to output 60 hertz, I need to divide that CMOS level signal by 12 for the
> gates of the freq. counter. A 7492 would work if I were in TTL, but I'm
> using CMOS. Are there any single CMOS chips I can use? Any hints?

Most anything that's available in TTL is available in a CMOS
equivalent... look for 74HCxx part numbers.

Joe
WA3CMQ

Date: 6 Apr 95 19:19:03 GMT
From: wlfuqu00@service1.UKy.EDU (Bill Fuqua)
Subject: Ham-Homebrew Digest V95 #97

I need a copy of a manual for a HW-7.I appreciate any help. Just a copy of
a schematic will help.
73
Bill ko4ww

William L. Fuqua III P.E.
Department of Physics and Astronomy
University of Kentucky
Lexington, Ky 40506-0055
E-mail WLFUQU00@POP.UKY.EDU

Date: 6 Apr 1995 17:27:05 GMT
From: john.adams@maf.nasa.gov (John Adams)
Subject: Irradiated Wire ??

>
>But if it is, is this anything to worry about? Will my antennas glow
>in the dark?......
>
>As another response states, the wire is irradiated to cause cross-linking
of the long chain molecules in the insulation. This is commonly done to
Teflon to prevent cold flow. Teflon responds to a long term application
of pressure, such as a wire resting on a chassis edge, by flowing out of
the way as if it were taffy. Gamma radiation from a cobalt 60 source is
most often used for Teflon; it is similar to an X-ray and does not make
the wire radioactive.
>
>
>

Date: 3 Apr 1995 17:09:09 -0400
From: sefranek@iii1.iii.net (Thomas C Sefranek)
Subject: Irradiated Wire ??

Before this gets out of hand...

Irradiated Poly Vinyl Chloride is an insulation applied to wire.
Then you heat it... and it shrinks!

No glow, (Sorry!)

Check out "Heat shrink tubing"

Tom

--
Thomas C. J. Sefranek WA1RHP

Date: 3 Apr 1995 17:52:16 GMT
From: hays@networx.com (John Hays)
Subject: LDS Church Conference on April 1-2, 1995

N7WS (n7ws@aol.com) wrote in rec.radio.amateur.homebrew:
: Why is this stuff appearing in a forum for radio amateurs? Sure some of
: you are hams, even one of my best friends, but I think it's in poor taste.
: Wes Stewart, N7WS
: n7ws@aol.com

There was a reason for the post appearing here. There are a number of
FM stations around the US which carry the Conference as well as other
LDS programming on a SCA channel. There are several people on the
'net' who would like to build such a circuit. There is no
rec.radio.homebrew, however, this group probably has the expertise. It
was not explained in the original posting that appeared here, but there
are a number of folks interested, if anyone has a circuit or would like
to Elmer someone in building an SCA reciever --- please post (or
crosspost) to alt.religion.mormon

The orignal article did mention SCA and building your own circuit
(or very similar).

73 --

John

Date: 6 Apr 1995 04:54:59 GMT
From: wave@mindspring.com (Pieter Ibelings)
Subject: Need TX mod info for Alinco DR-M06 6 meter Will Pay $30.

I am working on an all band transverter and need a 45.75 MHz IF. I
recently purchased an Alinco DR-M06 radio for this sole purpose and have
not been able to locate the modification information for it. I was told
from a very respectable source that the radio was capable of transmitting
in this frequency with reduced output. I am willing to pay $30 for the
modification information for this radio. The radio currently receives from
40 to 60 MHz after turning it on with the Call button pressed.

I recently received some e-mail from some guys in England explaining how to perform the mod. Unfortunately, the info was not specific enought on which pads needed to be jumpered. If you have any info I would really appreciate if you can get in touch with me via e-mail or this newsgroup.

Thanks

Pieter Ibelings

AC4OP, HK1ZAB, 5K0C, ...

e-mail: Wave@mindspring.com

Date: Mon, 03 Apr 95 19:22:14 GMT
From: tony@gcr1.com (Tony Salvador)
Subject: Want CI-5 or Icom Computer Cntl. Commands!

Does anyone have either the ICOM CI-5 computer interface manual or command set data for the IC-735 ??
-
reply at: tony@gcr1.com

Tnx,
73,
N5GPI

Date: 6 Apr 1995 02:29:27 GMT
From: raiar@vulcan.inlink.com (Gary V. Deutschmann Sr.)
Subject: Where is pin 1 on the 4011 chip?

I am going to assume that you are refering to the 4011B IC-CMOS Quad 2-input NAND Gate, for my reply.

The pin numbering is counterclockwise, pin 1 is the first one that you come to after the notch or dot.

This numbering system is typical for numeroous IC chips, but not all as previously stated by another postee.

If the notch is at the top, pin 1 is top left and pin 14 is top right.

This particular chips Vdd is pin 14, topright, and can tolerate anywhere from 3V to 15V.

Pin number 7 is your Vss or ground pin, bottom left pin.

Gary

Date: 3 Apr 1995 16:52:38 -0400
From: sefranek@iii1.iii.net (Thomas C Sefranek)

References<D652AL.12tr@baan.nl> <3l9ms5$jc1@vixen.cso.uiuc.edu>,
<3la7qn$8n3@newshost.lanl.gov>
Subject: Re: MMIC (MAR8)

In article <3la7qn$8n3@newshost.lanl.gov> jdevenport@lanl.gov (Jim Devenport) writes:
>In article <3l9ms5$jc1@vixen.cso.uiuc.edu>, w9sz@prairienet.org (Zack Widup) says:
><snip!>
>> Also, the MAR-8 is the only MAR MMIC which is not unconditionally
>>stable and goes into oscillation easily. <snip!>
>>
>> Zack W9SZ
>>
>Hee, I didn't realize ANY of the MAR's were "UNCONDITIONALLY stable"
>as advertised by the early full page ads. Haven't messed with them in
>several years now but when they first came out we bought several of the
>Mini-Circuits MAR experimenter's kits and found they ALL were quite
>touchy about PC layout. If the PC strips feeding input and output weren't
>pretty close to perfect they would oscillate like crazy; hardly
>"unconditionally stable". Of course I've noticed similar behavior with
>"unconditionally stable" op amps too. I think "Unconditionally stable"
>is sorta like cold fusion or anti-gravity... awfully difficult to find
>in real life.

Hi Jim,

Huh?
I've used Avantek, Mini-Circuits, Anaren, and Motorola amplifiers,
with leads in the air, wrapped all over, and NO oscillation. (10 Khz-1 Ghz)
Did you not pay attention to the power bypassing? (That is critical!)

I hold Ham night (Elmer Session) every Monday night at 7 PM, when your in
the area, stop by, say Hi.

I'll show you a few different projects with (Blush) terrible layouts.
And they work! Cold Fusion indeed! (Besides, you don't know that in say...
500 years those guys might have been on the right track after all!)

:)
Tom
--
Thomas C. J. Sefranek WA1RHP

End of Ham-Homebrew Digest V95 #102
****

1341. Need:ALPHA-87A schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-08 00:00:00 UTC
From: skulyov@freenet.columbus.oh.us
Message-ID: <3m6l0l$eh1@acme.freenet.columbus.oh.us>
Source record: 113542

I'm looking for full set of manuals and schematics of ALPHA-87A
HF linear amplifier.
Thanks.

73! Sergei
AA8OT es UA3AP

e-mail: skulyov@freenet.columbus.oh.us
packet: aa8ot@w8cqk.#cmh.oh.us.na

1342. Re: 40M kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-08 00:00:00 UTC
From: brucerob@blues.epas.utoronto.ca
Message-ID: <3m6noi$dg4@alpha.epas.utoronto.ca>
Source record: 113543

I can recommend the Small Wonder 40 (or 30, or 80) as a small,
relatively easy, tranceiver kit. It was featured in the Nov. 94 QST.
--
Bruce G. Robertson Dept. of Classics, U. of T.

1343. Re: Very low freq./WWVB reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-08 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-0804952018390001@nb-dyna87.interaccess.com>
Source record: 113544

In article <3lv5dg$8lu@newsbf02.news.aol.com>, egrumling@aol.com (EGrumling) wrote:

What I would like to do is
> build a reciever and just decode the signal into a display (to use as a
> UTC clock).
>
> Any ideas...
> E

There is a company called FAR Circuits which makes circuit boards for a variety of projects. One is called the The Most Accurate Frequency Standard which is from January, February, and March, 1994, 73 magazine. It uses WWVB transmissions to make a very accurate standard.

The address is:

FAR Circuits
18N640 Field Court
Dundee,
Illinois 60118

Also, Ham Radio mag described a similar project back in the 1980's.

(The usual disclaimers)

Dave Moorman, K9SW
Downers Grove, Illinois

1344. * * * Tubes, IC's, diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-08 00:00:00 UTC
From: wirenet!kd4a@vulcan.com
Message-ID: <8A70428.001700065E.uuout@vulcan.com>
Source record: 113545

I would appreciate a copy of your current catalog.

Thanks
Joe Myers - KD4A
1746 Tecumseh Trail
Pelham, AL 35124

---
* CmpQwk #UNREG* UNREGISTERED EVALUATION COPY

1345. Re: Q: Regulated screen supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-09 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <D6qxr7.JB@eskimo.com>
Source record: 113546

Here's the text of the screen-grid operation section in the 4CX1000A data sheet. It applies to most if not all of the various tubes mentioned in this thread:

"Screen-Grid Operation - Tetrode tubes may exhibit reversed screen current to a greater or lesser degree depending on individual tube design. This characteristic is prominent in the 4CX1000A and, under some operating conditions, indicated negative screen currents in the order of 25 milliamperes may be encountered.
The maximum rated power dissipation for the screen grid in the 4CX1000A is 12 watts and the screen power should be kept below this level. The product of the peak screen voltage and the indicated dc screen current approximates the screen input power except when the screen current indication is near zero or negative. In the usual tetrode amplifier, where no signal voltage appears between cathode and screen, the peak screen voltage is equal to the dc screen voltage. Experience has shown that the screen will operate within the limits established for this tube if the inidcated screen current, plate voltage and drive voltage approximate the 'Typical Operation' values.
The screen supply voltage must be maintained constant for any values of negative and positive screen currents that may be encountered. Dangerously high plate currents may flow if the screen power supply exhibits a rising voltage characteristic with negative screen current. Stabilization may be accomplished in several different ways. A bleeder resistor may be connected from screen to cathode; a combination of VR tubes may be connected from screen to cathode; or an electron-tube regulator circuit may be used in the screen supply. It is absolutely essential to use a bleeder if a series electron-tube regulator regulator is employed. The screen bleeder current should approximate 70 milliamperes to adequately stabilize the screen voltage. It should be observed that this bleeder power may be usefully employed to energize low-power stages of the transmitter."

Of course, where it says "electron-tube" or "VR", you may substitute an appropriate solid state equivalent.

I'm in the process of building an amp using the 4CX1000A and have chosen to go with the bleeder resistor by itself for reasons of simplicity and reliability. How well it works.... we'll see.

73, Bill W7LZP

1346. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-09 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D6r8JC.A1q@news.hawaii.edu>
Source record: 113547

wrt@eskimo.com (Bill Turner) writes:

>What has happened to the fine old Barker and Williamson company? Are
>they trying to kill themselves?
>
>P.S. to add insult to injury, the clerk droid told me that B&W had bought
>out AIRDUX - their only competition - several years ago. :-(

B&W? Airdux? I didn't even realize they were still in existance!

Why not handwind your inductors, Bill? I've been using cardboard cores
from toilet paper and paper towel rolls for years. Also, plastic pill
bottles come in various diameters and are excellent forms.

Jeff NH6IL

1347. Nutec VHF mobile programming?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-09 00:00:00 UTC
From: n3glv@PROBLEM_WITH_INEWS_DOMAIN_FILE
Message-ID: <3m82lh$980@godot.cc.duq.edu>
Source record: 113548

Hi De N3GLV in Pittsburgh,
I have come across a Nutec 16 channel VHF mobile at a nice price.
It is all on 151mhz now and appears to be programmed by a 2716 Eprom.
I have dumped the contents of the ROM to no avail.
I need programming info to set it up for 144-147mhz packet simplex.
I also want to add another 'bank' of 16 memories via a switch on one of
the un-used address pins. The service manual I saw indicated that tihs was possible.
ble.
Does anyone know where I can get the software nesecarry to set-up ROM mask?
Or if not the actuall software, can I get you to send me a mask to burn?
Thanks in advance for any info.
Jeff Kephart
n3glv@codger.physics.duq.edu

ninci

1348. Re: Pls help me find TIL306 & TIL308 LEDs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-09 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995Apr9.173947.723@arrl.org>
Source record: 113549

WB0GAZ David Feldman (dgf@netcom.com) wrote:
: I'm trying to find a source for a couple of TIL308 and TIL306 7-segment
: LEDs. Both have integral 7-segment drivers; one has a counter/latch too.
: I've searched my catalogs to no luck. I think these are/were TI part
: numbers. Could anyone take a look at your catalogs & offer a source?

I know people have gotten them in the past from Newark Electronics,
a TI distributor.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1349. Re: Very low freq./WWVB reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-09 00:00:00 UTC
From: tomrice@netcom.com
Message-ID: <tomriceD6s3ws.7LL@netcom.com>
Source record: 113550

dmoorman@interaccess.com (Dave Moorman) writes:

>There is a company called FAR Circuits which makes circuit boards for a
>variety of projects. One is called the The Most Accurate Frequency
>Standard which is from January, February, and March, 1994, 73 magazine. It
>uses WWVB transmissions to make a very accurate standard.

Yes! This was an excellent article; I bought the FAR boards
and built this receiver. It's very good (but note that there's
one board error noted in a later-published note) at receiving
WWVB out here in California.

Highly recommended.......

73 de WB6BYH

--
"Start off every day with a smile and get it over with." --W.C.Fields
Tom R. Rice
tomrice@netcom.com
CIS: 71160,1122

1350. Warning From uucp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-09 00:00:00 UTC
From: uucp@nicnet.NIc.IN
Message-ID: <199504091837.LAA18619@UCSD.EDU>
Source record: 113551

```
We have been unable to contact machine 'ren' since you queued your job.

ren!mail nicguwah (Date 04/07)
The job will be deleted in several days if the problem is not corrected.
If you care to kill the job, execute the following command:

uustat -krenZ3b84

Sincerely,
nicnet!uucp

##############################################################
##### Data File: ############################
From root Fri Apr 7 20:38 IST 1995 remote from nicnet
>From Ham-Homebrew Fri Apr 7 04:30:23 PDT 1995 remote from UCSD.EDU
Received: from UCSD.EDU by nicnet.nic.in; Fri, 7 Apr 1995 20:38 IST
Received: by mail.ucsd.edu; id EAA24019
sendmail 8.6.11/UCSD-2.2-sun
Fri, 7 Apr 1995 04:30:25 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id EAA24012
sendmail 8.6.11/UCSD-2.2-sun
Fri, 7 Apr 1995 04:30:23 -0700 for ham-homebrew-ddist
Errors-To: ham-homebrew-relay@UCSD.EDU
Sender: ham-homebrew-relay@UCSD.EDU
Precedence: List
Message-Id: <199504071130.EAA24012@mail.ucsd.edu>
Date: Fri, 7 Apr 95 04:30:23 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Errors-To: Ham-Homebrew-Errors@UCSD.EDU
Reply-To: Ham-Homebrew@UCSD.EDU
Precedence: List
Subject: Ham-Homebrew Digest V95 #102
To: Ham-Homebrew@UCSD.EDU
Content-Type: text
Content-Length: 11800

Ham-Homebrew Digest Fri, 7 Apr 95 Volume 95 : Issue 102

Today's Topics:
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Collins 390A/URR
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Need TX mod info for Alinco DR-M06 6 meter Will Pay $30.
Want CI-5 or Icom Computer Cntl. Commands!
Where is pin 1 on the 4011 chip?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 6 Apr 95 19:02:00 GMT
From: komljant@tor1a.ic.gc.CA (Komljanec, Tony: OS_TDO)
Subject: 10GHz counter

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: "wireless leacher wire" thing. Move a flat plate back and forth in front
: of the diode's output and look for changes in current. Does that work on
: these things? Is it accurate enough for 30 mhz resolution? Or is there an
: obvious way to set them on frequency that I am missing?

A frequency counter is very expensive for microwave frequencies. A cheaper
alternative is a WAVEMETER. These are commonly found at fleamarkets or
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Enjoy!

Tony, VE3PEP

Date: 7 Apr 1995 07:17:12 GMT
From: mikael.landing@teknikum.uu.se
Subject: 200MHz IF

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Have found out that a suitable IF would be 201MHz. Since I only
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Still I cant accept any limiting (must be linear gain).

Does anyone know how this could be done in a simple way. If I choosed
a lower IF I could buy some IC making the job. But I havent
been able to find any IC doing the job at 201MHz.

Maybee you know of some suitable device or solution?

Thankful for help!

Micke

Date: 4 Apr 1995 22:10:12 GMT
From: jwicklun@halcyon.com (Jay Wicklund, KI7RH)
Subject: Collins 390A/URR

>Do you know where I can find a mechanical filter (f = 455Kc , bw = 2Kc) for
>Collins 390A/URR ??

Fair Radio Sales Co.
P.O. Box 1105
1016 E. Eureka Street
Lima, Ohio 45802
(419)223-2196

they show some Collins R-390 receivers in their catalog and mechanical
filters for them also.

73 de KI7RH (Jay)

Date: 4 Apr 1995 21:57:49 GMT
From: Joe Rocci <rocci@netaxs.com>
Subject: Divide by 12 with CMOS?

> I'm building a freq. counter to go with a VFO I've built. Using the MM5369
> to output 60 hertz, I need to divide that CMOS level signal by 12 for the
> gates of the freq. counter. A 7492 would work if I were in TTL, but I'm
> using CMOS. Are there any single CMOS chips I can use? Any hints?

Most anything that's available in TTL is available in a CMOS
equivalent... look for 74HCxx part numbers.

Joe
WA3CMQ

Date: 6 Apr 95 19:19:03 GMT
From: wlfuqu00@service1.UKy.EDU (Bill Fuqua)
Subject: Ham-Homebrew Digest V95 #97

I need a copy of a manual for a HW-7.I appreciate any help. Just a copy of
a schematic will help.
73
Bill ko4ww

William L. Fuqua III P.E.
Department of Physics and Astronomy
University of Kentucky
Lexington, Ky 40506-0055
E-mail WLFUQU00@POP.UKY.EDU

Date: 6 Apr 1995 17:27:05 GMT
From: john.adams@maf.nasa.gov (John Adams)
Subject: Irradiated Wire ??

>
>But if it is, is this anything to worry about? Will my antennas glow
>in the dark?......
>
>As another response states, the wire is irradiated to cause cross-linking
of the long chain molecules in the insulation. This is commonly done to
Teflon to prevent cold flow. Teflon responds to a long term application
of pressure, such as a wire resting on a chassis edge, by flowing out of
the way as if it were taffy. Gamma radiation from a cobalt 60 source is
most often used for Teflon; it is similar to an X-ray and does not make
the wire radioactive.
>
>
>

Date: 3 Apr 1995 17:09:09 -0400
From: sefranek@iii1.iii.net (Thomas C Sefranek)
Subject: Irradiated Wire ??

Before this gets out of hand...

Irradiated Poly Vinyl Chloride is an insulation applied to wire.
Then you heat it... and it shrinks!

No glow, (Sorry!)

Check out "Heat shrink tubing"

Tom

--
Thomas C. J. Sefranek WA1RHP

Date: 3 Apr 1995 17:52:16 GMT
From: hays@networx.com (John Hays)
Subject: LDS Church Conference on April 1-2, 1995

N7WS (n7ws@aol.com) wrote in rec.radio.amateur.homebrew:
: Why is this stuff appearing in a forum for radio amateurs? Sure some of
: you are hams, even one of my best friends, but I think it's in poor taste.
: Wes Stewart, N7WS
: n7ws@aol.com

There was a reason for the post appearing here. There are a number of
FM stations around the US which carry the Conference as well as other
LDS programming on a SCA channel. There are several people on the
'net' who would like to build such a circuit. There is no
rec.radio.homebrew, however, this group probably has the expertise. It
was not explained in the original posting that appeared here, but there
are a number of folks interested, if anyone has a circuit or would like
to Elmer someone in building an SCA reciever --- please post (or
crosspost) to alt.religion.mormon

The orignal article did mention SCA and building your own circuit
(or very similar).

73 --

John

Date: 6 Apr 1995 04:54:59 GMT
From: wave@mindspring.com (Pieter Ibelings)
Subject: Need TX mod info for Alinco DR-M06 6 meter Will Pay $30.

I am working on an all band transverter and need a 45.75 MHz IF. I
recently purchased an Alinco DR-M06 radio for this sole purpose and have
not been able to locate the modification information for it. I was told
from a very respectable source that the radio was capable of transmitting
in this frequency with reduced output. I am willing to pay $30 for the
modification information for this radio. The radio currently receives from
40 to 60 MHz after turning it on with the Call button pressed.

I recently received some e-mail from some guys in England explaining how to perform the mod. Unfortunately, the info was not specific enought on which pads needed to be jumpered. If you have any info I would really appreciate if you can get in touch with me via e-mail or this newsgroup.

Thanks

Pieter Ibelings

AC4OP, HK1ZAB, 5K0C, ...

e-mail: Wave@mindspring.com

Date: Mon, 03 Apr 95 19:22:14 GMT
From: tony@gcr1.com (Tony Salvador)
Subject: Want CI-5 or Icom Computer Cntl. Commands!

Does anyone have either the ICOM CI-5 computer interface manual or command set data for the IC-735 ??
-
reply at: tony@gcr1.com

Tnx,
73,
N5GPI

Date: 6 Apr 1995 02:29:27 GMT
From: raiar@vulcan.inlink.com (Gary V. Deutschmann Sr.)
Subject: Where is pin 1 on the 4011 chip?

I am going to assume that you are refering to the 4011B IC-CMOS Quad 2-input NAND Gate, for my reply.

The pin numbering is counterclockwise, pin 1 is the first one that you come to after the notch or dot.

This numbering system is typical for numeroous IC chips, but not all as previously stated by another postee.

If the notch is at the top, pin 1 is top left and pin 14 is top right.

This particular chips Vdd is pin 14, topright, and can tolerate anywhere from 3V to 15V.

Pin number 7 is your Vss or ground pin, bottom left pin.

Gary

Date: 3 Apr 1995 16:52:38 -0400
From: sefranek@iii1.iii.net (Thomas C Sefranek)

References<D652AL.12tr@baan.nl> <3l9ms5$jc1@vixen.cso.uiuc.edu>,
<3la7qn$8n3@newshost.lanl.gov>
Subject: Re: MMIC (MAR8)

In article <3la7qn$8n3@newshost.lanl.gov> jdevenport@lanl.gov (Jim Devenport) writes:
>In article <3l9ms5$jc1@vixen.cso.uiuc.edu>, w9sz@prairienet.org (Zack Widup) says:
><snip!>
>> Also, the MAR-8 is the only MAR MMIC which is not unconditionally
>>stable and goes into oscillation easily. <snip!>
>>
>> Zack W9SZ
>>
>Hee, I didn't realize ANY of the MAR's were "UNCONDITIONALLY stable"
>as advertised by the early full page ads. Haven't messed with them in
>several years now but when they first came out we bought several of the
>Mini-Circuits MAR experimenter's kits and found they ALL were quite
>touchy about PC layout. If the PC strips feeding input and output weren't
>pretty close to perfect they would oscillate like crazy; hardly
>"unconditionally stable". Of course I've noticed similar behavior with
>"unconditionally stable" op amps too. I think "Unconditionally stable"
>is sorta like cold fusion or anti-gravity... awfully difficult to find
>in real life.

Hi Jim,

Huh?
I've used Avantek, Mini-Circuits, Anaren, and Motorola amplifiers,
with leads in the air, wrapped all over, and NO oscillation. (10 Khz-1 Ghz)
Did you not pay attention to the power bypassing? (That is critical!)

I hold Ham night (Elmer Session) every Monday night at 7 PM, when your in
the area, stop by, say Hi.

I'll show you a few different projects with (Blush) terrible layouts.
And they work! Cold Fusion indeed! (Besides, you don't know that in say...
500 years those guys might have been on the right track after all!)

:)
Tom
--
Thomas C. J. Sefranek WA1RHP

End of Ham-Homebrew Digest V95 #102
****

1351. Warning From uucp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-09 00:00:00 UTC
From: uucp@nicnet.NIc.IN
Message-ID: <199504091841.LAA18684@UCSD.EDU>
Source record: 113552

We have been unable to contact machine 'ren' since you queued your job.

ren!mail nicguwah (Date 04/08)
The job will be deleted in several days if the problem is not corrected.
If you care to kill the job, execute the following command:

uustat -krenZ3ba7

Sincerely,
nicnet!uucp

##
Data File:
From uucp Sat Apr 8 19:05 IST 1995 remote from nicnet
>From Ham-Homebrew Sat Apr 8 04:30:32 PDT 1995 remote from UCSD.EDU
Received: from UCSD.EDU by nicnet.nic.in; Sat, 8 Apr 1995 19:05 IST
Received: by mail.ucsd.edu; id EAA01160
sendmail 8.6.11/UCSD-2.2-sun
Sat, 8 Apr 1995 04:30:35 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id EAA01152
sendmail 8.6.11/UCSD-2.2-sun
Sat, 8 Apr 1995 04:30:32 -0700 for ham-homebrew-ddist
Errors-To: ham-homebrew-relay@UCSD.EDU
Sender: ham-homebrew-relay@UCSD.EDU
Precedence: List
Message-Id: <199504081130.EAA01152@mail.ucsd.edu>
Date: Sat, 8 Apr 95 04:30:32 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Errors-To: Ham-Homebrew-Errors@UCSD.EDU
Reply-To: Ham-Homebrew@UCSD.EDU
Precedence: List
Subject: Ham-Homebrew Digest V95 #103
To: Ham-Homebrew@UCSD.EDU
Content-Type: text
Content-Length: 6646

Ham-Homebrew Digest Sat, 8 Apr 95 Volume 95 : Issue 103

Today's Topics:
70cm xvtr
Arrl South Texas Frequency Coordinator
DF Design
Linear Amplifier Schematic
Need info on ATV mod/demod for FT-736 - 1.2 GHz
Schematic for Power Designs 1543A 10 kV power supply needed
Yaesu FT-11R Opinions

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 01 Apr 1995 20:15:00 -0500
From: Daniel.Lopes%f10.n101.z88@fluxline.mi.org (Daniel Lopes)
Subject: 70cm xvtr

Hello there:
I think you can get a kit or a pc-board from a place called
DOWN EAST MICROWAVE... the phone # is (207)948-3741.. i think it's in
Mass. or New Hampshire.. hope this helps...
Danny N1HRS...73"s from JAPAN

Date: 7 Apr 1995 05:12:26 GMT
From: vis_pfg@pip.shsu.edu (Paul Gilbert)
Subject: Arrl South Texas Frequency Coordinator

Marwynne Kuhn (marwynn@phoenix.net) wrote:
: Does anyone know who the South Texas Frequency Coordinator is? I would like to
: coordinate a link frequency. I think I need the UHF Freq. coor. Thanks

: Marwynne Kuhn WB5PWG

Send me your phone number and address. I will see that you get intouch with the
correct person. I am the state freq coordinator. send the info to

vis_pfg@pip.shsu.edu

Thanks...

Paul Gilbert, KE5ZW
--
{~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~|~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~}
{ | Do Not Be Afraid Of Any Man }
{ Paul Gilbert, KE5ZW | No Matter What His Size }
{ Huntsville, Texas 77340 | Just Call On Me In Time Of Need.. }

Date: Wed, 5 Apr 1995 13:28:17 GMT
From: terry@wg.icl.co.uk (NOT Terry Bailey)
Subject: DF Design

[Article crossposted from rec.radio.amateur.misc]
[Author was NOT Terry Bailey]

[Posted on Wed, 5 Apr 1995 11:08:33 GMT]

In the early eighties a well know US Ham Radio publication produced a design
for a DF unit based around 4 1/4 wave antennas and an FM receiver. Does any-
one know which publication this was and what the date was. I do have a
serious use for this and would be grateful if someone could tell me.
Thanks Terry Bailey G0CRF

Date: Fri, 7 Apr 1995 20:33:00 GMT
From: dsa@netcom.com (David S.A. Stine)
Subject: Linear Amplifier Schematic

In article <9@bdam.win.net>,
Carleton C. Ingerson <cingersn@bdam.win.net> wrote:
>Does anyone know where I can obtain a schematic and preferably a
>construction article for an HF Linear amplifier that will take
>100W in and give me 300 to 500 out? I would like to build one but
>do not want to have to mortgage my home for the parts!!

If you don't require a solid-state solution, there are plenty of articles
and designs for just what you want in older handbooks.

Any of the following tube combinations will give you what you want:

(1) 813 (drive in grounded grid or grid-drive -- driving the grid
will give you something like 25W in, 400W out on SSB.)

(2) 811's same deal as above; best in grounded-grid

(1) 4x250

(1) 3-500 grounded grid

There are several other designs. 813's used to be cheap in used markets, I
don't know how they are now. 811's are certainly still around. 3-500's are
certainly around, but they get expensive.

for solid-state stuff, I expect you're going to have to cough up more cash
for parts.

dsa

Date: Fri, 07 Apr 95 14:34:22 GMT
From: tony@gcr1.com (Tony Salvador)
Subject: Need info on ATV mod/demod for FT-736 - 1.2 GHz

Looking for anyone who has info or ATV-736 mod/demod for the 1.2 GHz module
or the ATV-736 device itself ... I'll be building one and would like to see what Yaesu
is doing to accomidate this unit.
-
Reply to: tony@gcr1.com

Tnx, 73
N5GPI

Date: 7 Apr 1995 00:48:11 GMT
From: Jim Potter <jpawi@roadrunner.com>
Subject: Schematic for Power Designs 1543A 10 kV power supply needed

I urgently need a copy of the schematic for a Pwer Designs model 1543A 10 kV, 5 mA power supply.
Thi s is a fairly old unit that uses a 4-65 as a series pass regulator. The control electronics
has a 702 op amp and a few transistors. Apparently the control section is no functioning. There
is voltage at the anode of the 4-65 but 0 at the output. I will pay for FAX or shipping costs.

--
==========

James M. Potter, President Internet: jpawi@roadrunner.com
JP Accelerator Works, Inc. AOL: jpawi@aol.com,jpotter@aol.com
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

Date: 5 Apr 1995 15:04:43 GMT
From: dfleming@earth.execpc.com (Dan Fleming)
Subject: Yaesu FT-11R Opinions

I recently purchased a used FT-11R (it's in the mail). I was wondering
what the general consensus is on this particular HT? I know I should
have asked this sooner. This is Yaesu's best selling 2 meter HT at this
time.
All I know about the radio is that it is tiny and puts out 1.5 watts
with the standard battery/ 5 watts with optional pack.
thanks
-dan

Date: 5 Apr 1995 04:33:43 GMT
From: raiar@vulcan.inlink.com (Gary V. Deutschmann Sr.)

References<01HOV6IIBIXU9N4FGL@NKU.EDU> <3lpolv$i1i@iii1.iii.net>,
<685159081wnr@g0ruz.demon.co.uk>
Subject: Re: Beep at end of xmission--how?

Everybody laugh;

I'm so used to using repeaters, that wwhen I get on HF, I will constantly sit
and wait for the beep that never comes.

I've often thought that a little beep would be a nice idea, provided it doesn't get carried into the class of the Roger Beep on CB and drive everyone crazy.

Years ago when we all had separate receivers and transmitters, a beep on keyup was a common occurance, due to the lag in the relays....

Gary - N0ZOI

End of Ham-Homebrew Digest V95 #103
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1352. Re: HV Diodes ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3madv8$1mt@newsbf02.news.aol.com>
Source record: 113468

Or you can build your own out of discreet components for a third the price!!!

1353. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3maedb$1qt@newsbf02.news.aol.com>
Source record: 113469

I have huge stock of limited sizes and types of B+W coils, you may have to compromise a bit but I probably can help you. What happened at B+W is Elmer Bush quit, now the owner runs it.

1354. B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1623.546@acenet.com>
Source record: 113553

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

Bill, you gotta realize that almost NO ONE is buying AIRDUX
and MINIDUCTORS these days! With the advent of chips etc.,
you are asking someone to re-tool and BUILD you parts for
40-50 year old technology! Of course they have to charge!

Imagine if you wanted to got out and buy ONE brand new 1957 Chevvy
and asked GM to re-tool and make you one, just one from scratch!

BT>What has happened to the fine old Barker and Williamson company? Are
BT>they trying to kill themselves?

BT>I went into the local ham emporium to buy some miniductor coil stock and
BT>was surprised to hear they no longer stock it. The manager told me that
BT>B&W now has a $2000 minimum order policy and at that price, they're not
BT>interested. Who could blame them?

BT>I then called around to several of the advertisers in QST. Nobody stocks
BT>miniductor coils anymore.

BT>I then called the factory. A bored-sounding clerk droid said yeah, they
BT>still make the 3033 I wanted, but there was none in stock. If I wanted
BT>one, it would be $17-something plus a $50 setup fee!!!

BT>Question: what kind of company charges a setup fee for a product which
BT>should be in stock and readily available?

BT>Answer: a soon-to-be-nonexistent one!

BT>I'm really sorry to see B&W do this to themselves. I've been using their
BT>products since back in the '50s, and they will be missed. Their current
BT>attitude will not.

BT>Anyone know of a source for 3033 coil stock?

BT>Thanks, Bill W7LZP

BT>wrt@eskimo.com

BT>P.S. to add insult to injury, the clerk droid told me that B&W had bought
BT>out AIRDUX - their only competition - several years ago. :-(

 SLMR 2.1a I've told you a million times not to exaggerate!

1355. Re: Air Gap Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1624.546@acenet.com>
Source record: 113554

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

WT>Check several sources like Fair Radio in Lima Ohio, manufacturers like
WT>Oren Elliot Products in Edgerton, Oh, and Mouser Electronics. Surplus
WT>Sales sells a lot of stuff for more than it costs to buy NEW!!!!! Be
WT>careful$$$$$$$.

Oren Elliot?
Ya got a phone number or address for that place?????
Thanks!
brian.carling@acenet.com
AF4K

&#65533; SLMR 2.1a &#65533; I've told you a million times not to exaggerate!

1356. * * * Tubes, IC's, diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1625.546@acenet.com>
Source record: 113555

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

BE> If you would like a FREE copy of our tube and electronic parts
BE>catalog, send us an e-mail note with your "snail-mail" name and address
BE>(that's your postal service address).

BE> International catalog requests are welcome.

BE>Thank you,
BE>Quest Electronics
BE>questusa@ix.netcom.com

YES YES! Please send a catalog to me:

Brian Carling
18016 Fertile Meadow Ct.
Gaithersburg, MD 20877

Thanks - Brian, AF4K

 SLMR 2.1a I've told you a million times not to exaggerate!

1357. Re: B&W corporate suicide

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1626.546@acenet.com>
Source record: 113556

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

JE>wrt@eskimo.com (Bill Turner) writes:

JE>>What has happened to the fine old Barker and Williamson company? Are
JE>>they trying to kill themselves?

JE>B&W? Airdux? I didn't even realize they were still in existance!

JE>Jeff NH6IL

He he... They probably come out of retirement and go into business
as soon as that $2,000 minimum order comes in (ROTFLL!)
Brian, AF4K

• SLMR 2.1a • I've told you a million times not to exaggerate!

1358. Info on TRW power transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: ignacy@misz.animal.uiuc.edu
Message-ID: <3mbfhu$sp7@vixen.cso.uiuc.edu>
Source record: 113557

I am looking for infor on HF power transitor labeled as:

TRW PT 9780
7823

Four of them are used in a short-lot 500W HF power amplifier from RF Labs. By the way, the amplifier needs increasingly more power on higher bands. For full output it needs 5W on 160m to 100W on 13m, and it produces only 200W on 10m. This could be related to the design, not the transistors.

Ignacy Misztal Ham radio: NO9E, SP8FWB
E-mail: ignacy@uiuc.edu
University Of Illinois 1207 W. Gregory Dr., Urbana, IL 61801, USA
tel. (217) 244-3164 Fax: (217) 333-8286

1359. Re: 70cm xvtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: hbrown@nadir.resd
Message-ID: <1995Apr10.171328.9113@knight.vf.ge.com>
Source record: 113558

Downeast Microwave is now located at:

954 Rte 519
Frenchtown, NJ 08825
908-996-3584
908-996-3702 (FAX)

Steve Kostro, N2CEI now handles everything except antennas.

73, Harry, W3IIT
hbrown@resd.vf.ge.com

1360. Re: B&W corporate suicide

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD6txMB.G68@netcom.com>
Source record: 113559

>JE>wrt@eskimo.com (Bill Turner) writes:
>
>JE>>What has happened to the fine old Barker and Williamson company? Are
>JE>>they trying to kill themselves?

No, it's the unfortunate facts of the modern marketplace. It costs money
to keep old components in stock (and you can thank Reagan's tax reform for
that), and so it's just no longer profitable for manufacturers to keep
around parts that don't sell in large quantities.

I don't like it either. But I have found a solution. I wind my own coils.
This is rec.radio.amateur.homebrew after all. It's not half as bad
as making up your own capacitors or resistors (both of which are a lot of
fun too).
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

1361. RF Chokes by National: For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: john.dilks@academia.com
Message-ID: <2706.1041.uupcb@academia.com>
Source record: 113560

I have the following New Old Stock RF Chokes for sale. These are by
National "NC" Brand. All are new in plastic Baggie, marked National.

R-100 ST - 2.5 mh, 125 ma. $3.00 20 available

R-100 S - 2.5 mh, 115 ma. $3.00 10 available

R-100 ST - 5.0 mh, 125 ma. $3.00 30 available

R-100 ST - 10.0 mh, 125 ma. $3.00 10 available

R-33 - 50 uh, 225 ma. $2.00 8 available

R-154 - ?? mh, 600+- ma. $4.00 6 available (Paper Wrapped)

Plus postage or UPS (Approx $3.00 per shipment.)

Contact John Dilks, K2TQN at 125 Warf Road, EHT, Mays Landing, NJ 08330
-or- Email at john.dilks@academia.com

1362. Air Gap Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: john.dilks@academia.com
Message-ID: <2707.1041.uupcb@academia.com>
Source record: 113561

Antique Electronic Supply, Tempe AZ

1-602-820-5411 call for great catalog

73' John Dilks, K2TQN

1363. Re: Info on TRW power transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: dunnt@starbase1.caltech.edu
Message-ID: <dunnt-1004951234090001@tom-dunn.caltech.edu>
Source record: 113562

The MRF464 is listed as a direct replacement for the PT9780 in the
Motorola Semiconductor Cross reference. I assume you have access to a
Motorola data book if not let me know.
The PT9780 is a 28 volt 1.5 to 30 MHz device rated for 100W with 14db
power of gain.
Hope this helps.

73 Tom WB6IQD dunnt@satrbase1.caltech.edu

> I am looking for infor on HF power transitor labeled as:
>
> TRW PT 9780
> 7823
>
> Four of them are used in a short-lot 500W HF power amplifier from RF
> Labs. By the way, the amplifier needs increasingly more power on
> higher bands. For full output it needs 5W on 160m to 100W on 13m, and
> it produces only 200W on 10m. This could be related to the design,
> not the transistors.
>
> Ignacy Misztal Ham radio: NO9E, SP8FWB
> E-mail: ignacy@uiuc.edu
> University Of Illinois 1207 W. Gregory Dr., Urbana, IL 61801, USA
> tel. (217) 244-3164 Fax: (217) 333-8286

1364. Professional Radio Communication mailing list?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: kitagawa@ee.ES.Osaka-U.AC.JP
Message-ID: <KITAGAWA.95Apr10221213@qed.laser.ee.es.osaka-u.ac.jp>
Source record: 113563

I remember that there had been announcement of the mailing list for professional radio communication discussions last year. Would someone please tell me how to subscribe it? Thanks in advance.

Masahiro Kitagawa // Electrical Eng., Engineering Science, Osaka Univ.

1365. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: hawley@aries.scs.uiuc.edu
Message-ID: <hawley.797552203@aries>
Source record: 113564

brian.carling@acenet.com (Brian Carling) writes:
>BT>products since back in the '50s, and they will be missed. Their current
>BT>attitude will not.

>BT>Anyone know of a source for 3033 coil stock?

Last time I looked, Nebraska Sales had some. 402-346-4750. About $25.
(They know you can't get 'em.)

>BT>Thanks, Bill W7LZP

>BT>wrt@eskimo.com

Chuck Hawley
Amateur Radio KE9UW
BMW K100RS rider, BMWMOA #224
hawley@aries.scs.uiuc.edu
Sr. Research Engineer Emeritus
School of Chemical Sciences
Univ of Ill, Urbana-Champaign

1366. Power Transformer from alpha 78

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: hmn@i-2000.com
Message-ID: <3ma05a$d3m@i-2000.com>
Source record: 113565

I have for sale POWER TRANSFORMER for any of you interested in building a heavy duty power supply for an amplifier.
It is in like new condition - a hypersil expoxy coated transformer from ETO,
the people who bring you Alpha linear Amplifiers. $150.00 + shippimg.
If interested please e-mail.

H. Mark Nadel
Internet Address: hmn@i-2000.com
Amateur Radio Station - NK2T
USAF Mars - AFA1FX

1367. Digital voice decoding

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: bv895@freenet.carleton.ca
Message-ID: <bv895-0904952156280001@ppp-b7.ulaval.ca>
Source record: 113566

I'm a VE2 and a member of a volunteer firemen squad.Till now, we used to monitor the Quebec prov. police (SQ) during our operations. But now they've digitaly encode their voice messages. Does anyone can help us with that matter ?

A plan of some homebrew decoder would be fine.

Thank's

Jack

GFK's

--
Je parle fran&#65533;ais!

```
//////////////////////
/ /
/ Macintosh User! /
/ /
/ Nordiques fan /
/ /
//////////////////////
```

1368. Re: Ham-Homebrew Digest V95 #104

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-10 00:00:00 UTC
From: all@nonel.CHem.lgu.spb.SU
Message-ID: <AB4uCYlCn4@nonel.chem.lgu.spb.su>
Source record: 113567

unsubscribe

1369. 425 DX NEWS is looking for a WEB site !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: I121171@relay.telecom.it
Message-ID: <3me29n$6p5@sgi.iunet.it>
Source record: 113470
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna,bit.listserv.lstsrv-l

425 Weekly DX News from Italy is lookin' for a WEB site !
Is there any provider that can give us a page ?????

Thanks in advance

Best 73 de I121171@amsat.org I121171@relay.telecom.it

1370. Need mods FOR R4-C T$XC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: garret@strobe.ATC.Olivetti.Com
Message-ID: <3mdl9h$qh0@olivea.ATC.Olivetti.Com>
Source record: 113471
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Does anybody know the mods for Drake R4C and T4XC.

thans in advance.

73 + 51

1371. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D6uzyD.n1H@news.hawaii.edu>
Source record: 113472

brian.carling@acenet.com (Brian Carling) writes:
>
>Bill, you gotta realize that almost NO ONE is buying AIRDUX
>and MINIDUCTORS these days! With the advent of chips etc.,
>you are asking someone to re-tool and BUILD you parts for
>40-50 year old technology! Of course they have to charge!

Inductors on chips? Never heard nor seen that. Inductors
will always be needed by the homebuilder. One can either
wind on an air-core form or on a toroid.

L = (ND)^2 / (18D + 40S) for air-core coils, where

L = inductance (in uH), N = number of turns, D = diameter,
and S = length (all in inches).

Jeff NH6IL

1372. Re: Nutec VHF mobile programming?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: snooozn@aol.com
Message-ID: <3md33k$kn3@newsbf02.news.aol.com>
Source record: 113473

Hello N3GLV

N6SLD here. If you have a service manual for the Neutec the info you are after is in the manual. I'm assuming that it is a SM-1645H model. The manual contains a method for you to calculate the data to put the reciever and transmitter on the frequency of your choice. Once you calculate the data you can enter it in hex with almost any eprom programer. You will most likely have to adjust the transmit and receive VCO's to get it to work. Also some minor retuining of the transmitter finals and the receiver front end may be required. In any case it's all in the manual. I have three of these radios in service for use on two meters. If you need more help you can reach me the fastest at lothringer#d#roy@ssdgwy.mdc.com as I only look over here once in a while.
73

1373. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <3mdfj9$ptb@abyss.West.Sun.COM>
Source record: 113474

In article n1H@news.hawaii.edu, jeffrey@math.hawaii.edu writes:
>brian.carling@acenet.com (Brian Carling) writes:
>>
>>Bill, you gotta realize that almost NO ONE is buying AIRDUX
>>and MINIDUCTORS these days! With the advent of chips etc.,
>>you are asking someone to re-tool and BUILD you parts for
>>40-50 year old technology! Of course they have to charge!
>
>Inductors on chips? Never heard nor seen that. Inductors
>will always be needed by the homebuilder. One can either
>wind on an air-core form or on a toroid.

You can always get the shielded Toko inductors, too.

Jeff, you've never heard of chip inductors? They tend to
have fairly low Qs, but they're very small. Like chip caps.

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Damn I'm smooth" (Anon.) *

1374. RE: Professional Radio Communication ma

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: MUENZLERK@uthscsa.EDU
Message-ID: <01HP7FPAVL9200940Z@uthscsa.edu>
Source record: 113475

kitagawa@ee.ES.Osaka-U.AC.JP (Masahiro Kitagawa) Writes:

>I remember that there had been announcement of the mailing list for
>professional radio communication discussions last year. Would someone
>please tell me how to subscribe it? Thanks in advance.
>
>Masahiro Kitagawa // Electrical Eng., Engineering Science, Osaka Univ.

There is a USENET newsgroup called rec.radio.broadcasting but I don't
know of a mailing list.

Kevin Muenzler, (WB5RUE)
muenzlerk@uthscsa.edu

1375. NorCal QRP Club Address?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: billg@sc.hp.com
Message-ID: <3me6ef$i3u@hpscit.sc.hp.com>
Source record: 113476

Sorry I'm posting this here,but I lost the subscription address to the qrp-l listserver.

Can anyone send me the address of the person who is responsible for mailing out the NorCal QRP Journal? I'm a new member and have yet to receive my copy of the journal. I'm aware of one person who received his about 1.5 months ago, so I think something's wrong.

E-mail will be fine.

Thanks,

- Bill G

1376. Heathkit IP-17 Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: jwicklun@halcyon.com
Message-ID: <3mecnh$ikl@news.halcyon.com>
Source record: 113477

I'm looking for a copy of a Heathkit IP-17 Manual. The IP-17 is a vacuum tube HV power supply. I don't need the detailed assembly instructions, but would like the schematic, specs, and trouble-shooting sections. (I could draw my own schematic -- but what can I say, I'm lazy)

thanks.....73 de KI7RH (Jay)

1377. Re: NorCal 40

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: jfw@proteon.com
Message-ID: <D6vzHw.L2v@proteon.com>
Source record: 113478

rsmith@internetmci.com (Bob Smith) writes:
>In article <D5rI68.1uL@tc.fluke.COM>, chuckb@tc.fluke.COM says...
>>Does anybody know if there is going to be another run of NorCal 40 qrp
>>transceiver kits?
>They just did a run - the NorCal 40A. Got one and they were great.

The design was also published in QRPp, so you can roll your own kit.

>I think they will do the Sierra (an all bander) next, propbably this summer.

The Sierra was done some months ago; the next project (apparently quite soon)
is a QRP SSB rig with pluggable band modules like the Sierra.

1378. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: hawley@aries.scs.uiuc.edu
Message-ID: <hawley.797637255@aries>
Source record: 113479

myers@Cypress.West.Sun.Com (Dana Myers) writes:

>In article n1H@news.hawaii.edu, jeffrey@math.hawaii.edu writes:
>>brian.carling@acenet.com (Brian Carling) writes:
>>>
>>>Bill, you gotta realize that almost NO ONE is buying AIRDUX
>>>and MINIDUCTORS these days! With the advent of chips etc.,
>>>you are asking someone to re-tool and BUILD you parts for
>>>40-50 year old technology! Of course they have to charge!
>>
>>Inductors on chips? Never heard nor seen that. Inductors
>>will always be needed by the homebuilder. One can either
>>wind on an air-core form or on a toroid.

>You can always get the shielded Toko inductors, too.

>Jeff, you've never heard of chip inductors? They tend to
>have fairly low Qs, but they're very small. Like chip caps.

>---
> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
> * (310) 348-6043 | mine and do not necessarily *
> * Dana.Myers@West.Sun.Com | reflect those of my employer *
> * "Damn I'm smooth" (Anon.) *

Well, I gotta try one of those chip inductors between the mast and
whip on my mobile antenna.

Chuck Hawley
Amateur Radio KE9UW
BMW K100RS rider, BMWMOA #224
hawley@aries.scs.uiuc.edu
Sr. Research Engineer Emeritus
School of Chemical Sciences
Univ of Ill, Urbana-Champaign

1379. Where can I find an FCC digital device frequency allocation table?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: asmith@sparc.isl.net
Message-ID: <3meuu8$nq3@news.isl.net>
Source record: 113480

I've been thinking about adding RF Communications between some of my electronic gadgets. I was wondering if anyone out there can guide me to where I can find what frequencies the FCC allows for certain powers, residential areas vs. industrial areas, applications, etc.

Please e-mail your replies, if possible (I get them much faster).

Any feedback would be appreciated.

Thanks.
Andrew.

1380. 60pf air variable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-11 00:00:00 UTC
From: gilbe54131@aol.com
Message-ID: <3mffr4$896@newsbf02.news.aol.com>
Source record: 113481

Does anyone know where I can acquire a 60 pf air variable capacitor (pc board mount) for a 40 meter QRP rig that I am building. It is for the VFO section. I can't seem to find this capacitor anywhere.

Gil Stauffer WB3ESR

1381. Re: FREE HAM NEWSLETTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: k4rdd@mail.chattanooga.net
Message-ID: <3mfer2$7b@news.chattanooga.net>
Source record: 113482
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <NEWTNews.18260.790755434.amsoft@amsoft.epix.net>,
AMSOFT@EPIX.NET says...
>
>
>The Jan 95 "The World of Ham Radio" CD-ROM newsletter is now
>available. This CD-ROM offers more ham programs than any of the
>others out there! Over 20,000 IBM files for amateur radio are
>stored on this CD-ROM. Included are the FCC CALLSIGN call book
>with US & Foreign listings current to 12/94, and AMCALL the new
>logbook from AmSoft that will auto log from the CD for you. Over
>1,350 Radio Modifications. The latest HST, NASA & Space images.
>Over 700 Megabytes of Amateur Radio Software packed into 1 CD. This
>CD-ROM is published every 4 months without delay in JAN, MAY, & SEP.
>
>
>If you would like to get a FREE newsletter about the JAN 1995 AmSoft
>CD-ROM please send your Internet E-mail address to: amsoft@epix.net
>
>
>

1382. Re: B&W corporate suicide

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <D6wLx5.HwK@zeno.fit.edu>
Source record: 113483

In <kludgeD6txMB.G68@netcom.com>, kludge@netcom.com (Scott Dorsey) writes:
>No, it's the unfortunate facts of the modern marketplace. It costs money
>to keep old components in stock (and you can thank Reagan's tax reform for

this sort of thing was going on long before Reagan was president.

>that), and so it's just no longer profitable for manufacturers to keep
>around parts that don't sell in large quantities.

or any other item, like back catalogs for books, CD, cassettes, instruction manuals (at work, we're looking at spending the money for book on demand type of operations since we'd only stock "blank" media that's worth less on the work in process books.

something called the "Thor Power Tools" decision had a lot to do with this, i'm told.

1383. Re: B&W corporate suicide

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <D6woBr.H7u@eskimo.com>
Source record: 113484

>
>JE>B&W? Airdux? I didn't even realize they were still in existance!
>
>JE>Jeff NH6IL
>
>He he... They probably come out of retirement and go into business
>as soon as that $2,000 minimum order comes in (ROTFLL!)
>Brian, AF4K
>---

Any entrepenurs listening out there???

1384. Re: 60pf air variable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <D6woop.HMC@eskimo.com>
Source record: 113485

In article <3mffr4$896@newsbf02.news.aol.com>, gilbe54131@aol.com says...
>
>Does anyone know where I can acquire a 60 pf air variable capacitor (pc
>board mount) for a 40 meter QRP rig that I am building. It is for the VFO
>section. I can't seem to find this capacitor anywhere.
>
>Gil Stauffer WB3ESR

Some of the best air variable capacitors ever made were in the old WWII command radio transmitters. They had ball bearings at both ends of the shaft, a beautiful gear reduction drive and they were built like a tank. Best of all, there are still lots of them around if you can find them. Flea markets are a good place to look.

Good luck!

W7LZP

1385. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: drayegon@america.com
Message-ID: <NEWTNews.9965.797662884.drayegon@drayegon.america.com>
Source record: 113486

> wrt@eskimo.com (Bill Turner) writes:
>
> >What has happened to the fine old Barker and Williamson company?

> Why not handwind your inductors, Bill? I've been using cardboard cores
> from toilet paper and paper towel rolls for years.>
> Jeff NH6IL

Hey guys try this one. Take a threaded bolt or a threaded piece of PVC.
You can find it at local plumbing supply.
wind your wire in the threads and then use hot melt glue draw a line of it down
four side lt it cool down and then unscrew it from the form.
You can get threaded pvc from 1/2"-8" really easy. it goes bigger but *what
would you wind it for* =Kaliforna kilo'watt HIHI

dray AD4RR

73

1386. XR 083 Dual Bifet Opamp data?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: raateland@vyh.fi
Message-ID: <1995Apr12.092028@vyh.fi>
Source record: 113487

I picked up some Dual Bifet OpAmps XR083, but I can't find any data on them. 081, 082 and 084, yes, but 083, no.

My guess is they are not compensated and that's why they're not among the more popular items that you can find in e.g. the ARRL Handbook. Does somebody on this list know more about these? I would use the critters as a substitute for the above-mentioned types if possible.

thanks,
73 de OH2ZAZ
--
Arjen Raateland, SAS Support
Water and Environment Research Institute,
National Board of Waters & the Environment
Helsinki, Finland

1387. For Sale - Microwave Synthesized Signal Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: yee@isi.com
Message-ID: <3mi1ij$l8u@corina.isi.com>
Source record: 113488
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

For all you microwave experimenters out there, I have for sale a Systron Donner model 1618 synthesizer, 2 - 18 Ghz in 1 Khz steps. The unit has an internal oven oscillator with stability of about in 10e-8/day, and all functions can be controlled from the front panel or via IEEE-488. Output level is from -110 dbm to +10 dbm. Frequency and amplitude are shown on LED readouts. This unit is also capable of AM and FM modulation via external inputs.

The unit is in good working condition, with the exception of normal wear and tear on the exterior. Manual included.

Asking $1500

73,

Brian Yee, KD6LI
byee@isi.com
(408) 980-1500 ext 315

1388. Re: Professional Radio Communication ma

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: kitagawa@ee.ES.osaka-u.ac.JP
Message-ID: <199504121421.XAA21474@qed.laser.ee.es.osaka-u.ac.jp>
Source record: 113489

Thanks. I am already subscribing r.r.b and it's not what I am looking for.

73 de masa / JH3PRR I am also amateur:-)

1389. Corp. Atittude

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <797677395.AA01186@hamlink.mn.org>
Source record: 113490

The ongoing chat about B&W brings to mind an experience I had. I was looking for tech info on 10 18GHz TWTAs my company was looking to buy and I called a vendor in Calif. known for years to cater to the defense industry, but was now hungry for commercial biz. When the person at the "front desk" answered the phone I asked for "customer service please", and she said "what's that??".....
Wonder which word she didn't understand, customer or service. Needles to say they didn't get the contract....
Makes me thankful for places like Danny's small parts!
Bob WB0POQ

1390. Switching Diodes wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: Donald_N3heh@f418.n109.z1.fidonet.org
Message-ID: <MSGID_1=3A109=2F418_8c269245@fidonet.org>
Source record: 113491

QST june 94 article on receivers listed mod to use PIN switching
diodes:
HP5082-3081 and another article suggested using MPN3700 PIN diodes.
Can
not find either. Does anyone have a source for these? Don (301)
898-1358

1391. COLLINS-KWM-2A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: collins@access.kw.US.COM
Message-ID: <m0rz8Fr-0002vyC@access.kw.us.com>
Source record: 113492

I am looking for speech processing system for
COLLINS-KWM-2A.
Thank u for help

e-mail:collins@access.kw.us.com

Faisal, 9K2CA

1392. antenna switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: sbertsch@magnus.acs.ohio-state.edu
Message-ID: <3mhj12$8cj@charm.magnus.acs.ohio-state.edu>
Source record: 113493

I'm thinking of building a coax switch to connect my 2M allmode to either a vertical or horizontal antenna. I was thinking of using a 2 pole, 2 pos. wafer to switch both the inner conductor *and* braid, so as to completely disconnect the unselected feedline. My question is: will the wafer switch and short coax pigtails soldered to it introduce an unacceptable impedance bump at 144 MHz, or will the effect be negligible?

Steve

1393. Can anyone tell me how to build a CB antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: bc1d_045@uwpg02.uwinnipeg.ca
Message-ID: <12APR95.17301923@uwpg02.uwinnipeg.ca>
Source record: 113494

I need a book or a diagram so that I can build a CB antenna... anything would bea great help.
Thanx!

1394. Need Help solving TS850S RF Feedback problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <3mhnus$122@henri.mindspring.com>
Source record: 113495

I have a Kenwood TS-850S radio that seems to have an RF Feedback problem. Whenever I have the processor ON, I cannot increase the mic gain higher that 4. I have tried connecting the radio to a dummy load and a 13.8V battery and the problem is still present. The problem is still present without a microphone and with the monitor turned off.

The problem seems to be internal and not related to rf feedback caused by rf on the shield of the coax since it is doing it with a dummyload. Could this be a problem with RF bypassing inside the radio probably in one of the mig gain stages?

IF you have any suggestions or have seen the problem before, I would appreciate any help. This is a recent problem. I've had the radio for one year and never noticed it.

thanks...

Pieter Ibelings
e-mail to:
pieter.ibelings@sciatl.com

or

Wave@mindspring.com

73's de AC4OP

1395. B&W Air Coils and the Tax Man!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: john.dilks@academia.com
Message-ID: <2722.1041.uupcb@academia.com>
Source record: 113496

To Bill, W7LZP and all,

You can thank the US Tax laws which penalize companies who produce enough materials to place some in inventory for future sales. Write your congressman/woman/senitor and tell them to lighten-up on business. While you're at it; tell them do dump NAFTA and bring the jobs back to America.

In the meantime, get a good list of hamfests and get there early. There is always someone with coil stock (new and used) for sale. Also, you could try to wind your own, it's not that hard. First determine the diameter and wire size and spacing. Find a non conductive / non inductive coil form (plastic tubing works good, as does dry wooden dowels, coated with varnish.) Also find some string the size of the spacing between the turns. Then carefully drill a small hole in the coilform, near one end. Determine the length desired and drill the other end at the same time. Taking one end of the wire, push several inches through the hole from the outside towards the inside and then bend the wire 90 degrees (to hold it in place.) Take the string and wind the coil with the wire spaced with the string, until you get to the other end. ie: wire-string-wire-string-wire-string etc. When you reach the other end, pass the wire through that hole and bend that end 90 degrees. Make sure the wire is wound tight on the form. You're done. You can also coat the coil with more varnish if desired. Don't coat the wire where you intend soldering.

Regards & 73', John Dilks, K2TQN
"Before atomic energy, only Radios glowed in the dark" - K2TQN

1396. Teletype Help...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-12 00:00:00 UTC
From: jwinter@pacificrim.net
Message-ID: <jwinter-1204951953320001@ppp16.pacificrim.net>
Source record: 113497

Help...
I have just acquired a Teletype Perforator/Transmitter, Model TT56/MGC.
The Unit Was made by Baker and Williamson, for the Signal Corps.

I Operate a Antique Radio Museum in Bellingham Washington, and wish to
use the unit for a working display... now the problem:

The units' motor works, and all appears to be in good working condition
except for the fact that the unit seems to be locked into repeating a
single keystroke over and over with each cycle. There is a small relay top
towards the rear which when closed causes this repeating to stop. Also
when I type on the keyboard, none of the keys engage, or type.
Does anyone have any information on this unit? I would like to get a
service manual or copy of one.
Anyone interested in the Museum site can check out what I am doing at:
http://olympic.pacificrim.net/~radio
Any help with this project will be greatly appreciated.
And Thank you!
Jonathan Winter

1397. Review of world's first superhet. in Wireless World

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-13 00:00:00 UTC
From: misc200@csc.canterbury.ac.nz
Message-ID: <1995Apr13.122805@cantva>
Source record: 113498

Hello everyone,

I'm after the precise edition of Wireless World which reviews the
first ever Superhetrodyne receiver. I'll probably be able to get a copy of it
here in NZ via interloan, but I need to know the date of the magazine. I'm
pretty sure it's sometime in 1918.

Cheers,

Stephen Simpson

1398. Re: B&W corporate suicide

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-13 00:00:00 UTC
From: blombard@iu.net
Message-ID: <D6yAJI.DKx@zeno.fit.edu>
Source record: 113499

In article <D6wLx5.HwK@zeno.fit.edu>, wnewkirk@iu.net says...
>
>In <kludgeD6txMB.G68@netcom.com>, kludge@netcom.com (Scott Dorsey)
writes:
>>No, it's the unfortunate facts of the modern marketplace. It costs
money
>>to keep old components in stock (and you can thank Reagan's tax reform
for
>
>this sort of thing was going on long before Reagan was president.
>
>>that), and so it's just no longer profitable for manufacturers to keep
>>around parts that don't sell in large quantities.
>
>or any other item, like back catalogs for books, CD, cassettes,
instruction
>manuals (at work, we're looking at spending the money for book on demand
>type of operations since we'd only stock "blank" media that's worth less
>on the work in process books.
>
>something called the "Thor Power Tools" decision had a lot to do with
this,
>i'm told.
>
>

I learned about this from a publisher, Krieger books here in Melbourne, and they implied that the decision was a mid-80's thing. The tool company had a lot of old hammers on hand, and declared them at some depreciated value while they took up floor space. The IRS ruling was that they had to carry full list price for anything in inventory.

Although the IRS probably didn't think of such things, or doesn't care, it hit the publishers very hard. Tech publishers, especially, will load up a pallet with a "standard text" knowing that someday they'll sell them. Now that they have to declare full price on them, and pay taxes on that price, the number of titles available has dropped like a rock. It has also given rise to the book surplus market, which clears out last year's best sellers for pretty big discounts. Overall, though, the effect has been bad.

FWIW,
Bob

--
Bob Lombardi WB4EHS in Melbourne, FL (>)))|||| blombard@iu.net
Microsoft just notified me that they are sueing me for using the name
"Bob", which is their registered trademark. You'll have to call me
by my new name, "Windows"

1399. Making Air-Dux/B&W style coils at home

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-13 00:00:00 UTC
From: d.diamond@trl.oz.au
Message-ID: <d.diamond.193.000C6F2F@trl.oz.au>
Source record: 113500

MAKING AIR-WOUND COILS FOR HF
from Drew, VK3XU (text only, no photo's). For possible interest:

We have all admired those photographs of antenna couplers and power amplifiers with Air-Dux (TM) or B&W (TM) air-wound coils. By using the minimum amount of former for support material, they look, and are, efficient. Not many years ago, we could order Australian made equivalents from the William Willis Co., but sadly, no longer trading. At time of writing, there is no known local supplier. They may be ordered from overseas, although the landed cost can be rather high.

For larger coils of perhaps 10 turns of 12 gauge wire, a perspex rectangle may be drilled with the number of holes necessary to accommodate the helix. The coil is wound onto a slightly undersized mandrel, then removed, and threaded or 'screwed' onto the former when a larger inductance involving tens of turns of smaller gauge wire is required, this technique is rather awkward and time consuming, and the results are not always as good as one would wish.

Here is a method that allows the home brewer to fabricate high-Q coils to requirements. The coil is supported upon a rectangle of perspex, or other low-loss material, such as fibre-glass circuit board- copper removed. Rather than have the turns running through holes, they are fixed upon a rack or comb cut along each edge of the former. In the example shown, we make a near equivalent to the B&W type 3022, which is a 20 uH coil of 40 turns of number 16 B&S, 8 turns per inch, 1.75 inches diameter. A template is recommended if you plan to make more than one coil of a specific diameter. Use brass sheet if you can get it, otherwise steel, about 18 gauge. Carefully, and as accurately as you can, mark out the cutting points for the two racks. A black felt-tip pen makes a good background medium for marking out. Remember to offset one rack by exactly one half of the pitch. In this example the pitch is 8 t.p.i., so the offset must be 1/16".

A hack-saw frame fitted with one or two blades, according to wire size, or better still, an Abrafile rod-saw (available from engineer's tool suppliers, comes with three blades and clips to suit an ordinary hacksaw) may be used to cut the rack. Take your time, and cut each slot to exactly the same depth, as evenly space d as possible. Clean up burrs with a smooth file. Cut a rectangle of perspex to size, then sandwich perspex and template together. Fix in place with two small G-clamps (cramps?). Mount the work in a vice, and

carefully cut each rack into the perspex.

Cut a length of suitably sized quad timber (90 degrees worth of round stuff) into four equal pieces, slightly longer than the plan ned coil length. Plane a small bevel along each edge. From thin plywood, make a pair of spacers to fit between the quads. The spacers should be about an inch longer to provide a 'handle' and so allow you to remove them when the coil is wound. Rub a little linseed oil into these parts to make them more slippery.

When you are ready to wind the coil, position the four quads and their spacers onto the perspex former, then temporarily wrap a length of tape around the assembly to hold the job intact, in order to receive the coil. Roughly calculate the length of wire required. In the example above it will be pi times the coil diameter times the number of turns; 3.14 X 1.75 X 40 = 220 inches. Unwind say, 240 inches (20') of wire and clamp the spool in in your vice. With a suitable tool, grip the far end of the wire and give it a firm stretch to remove any small wrinkles. The ends of the winding must be anchored by passing the wire through a hole or simply by bending the wire into a U, and seating it firmly down into a spare tooth for the purpose. Whilst maintaining tension on the wire, wind the coil onto the former by walking towards the vice. Remember to observe the winding sense. Make sure the wire seats nicely down into each tooth of the rack. When a few turns have been wound on, you can remove the tape; and complete the winding. Apply a narrow fillet of epoxy glue along the two racks to cement the winding in position. Take care that no glue finds its way onto the quad (the bevel on each of the quads should dodge this problem). Immediately hang the assembly in the vertical position. Finally, when the glue has set, grip the spacers in a vice and carefully pull one out, then the other.

If taps are required, form a spade on the tapping wire by flattening the end with a hammer. With pointed long-nose pliers, bend a loop in the spade to match the coil wire diameter. The wire may now be hooked and soldered onto the coil at the requisite spot without risk of shorting adjacent turns (Ref. 2).

The enamelled wire coil shown in the example has a measured Q of 350 at the 2.5 MHz test frequency. Unless it is done properly, silver plating the coil wire has little benefit, and may actually increase coil losses (Ref 3). Plain, enamelled or tinned copper is entirely satisfactory for amateur applications. Wire of 12, 16 or 18 B&S may be obtained from wire & insulation merchants, auto electricians and some electronics suppliers. Ordinary single-strand electrician's wire, stripped of insulation, or 'junked-but-good' power transformers are also a good source.

References

1. Radio Communication Handbook; RSGB, 4th edition, P13.36.
2. Tapping Air-wound Coils; Technical Topics, Rad Comm, May '93.
3. RF Performance of Electroplated Conductors; Fowler, A.M.,
Electronics Australia July 1970.
4. Constructing Air-wound Coils; Johnson, W7KBE, Ham Radio (USA),
Aug. '84.

1400. Need Network analyser program.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-13 00:00:00 UTC
From: parnell_j@kosmos.wcc.govt.nz
Message-ID: <1995Apr13.140321.1@kosmos.wcc.govt.nz>
Source record: 113501

Help please.

Can anyone please point me to a network analysis program in the
freeware/shareware area for use in developing filters and diplexers.
Passive components only.

If you can help, please give me the program name and site location so that I
can FTP it.

Thanks.

73

Jim Parnell. ZL2APE
parnell_j@kosmos.wcc.govt.nz
ZL2APE@ZL2WA.#NZL.OC

1401. Re: 60pf air variable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-13 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D6yKv8.70p@news.hawaii.edu>
Source record: 113502

wrt@eskimo.com (Bill Turner) writes:

>gilbe54131@aol.com says...

>>Does anyone know where I can acquire a 60 pf air variable capacitor (pc
>>board mount) for a 40 meter QRP rig that I am building. It is for the VFO
>>section. I can't seem to find this capacitor anywhere.

>Some of the best air variable capacitors ever made were in the old WWII
>command radio transmitters. They had ball bearings at both ends of the
>shaft, a beautiful gear reduction drive and they were built like a tank.
>Best of all, there are still lots of them around if you can find them. Flea
>markets are a good place to look.

Another source of variables: Old TV sets. The UHF tuning cap is
just as Bill described. I use 'em for all my VFOs.

Jeff NH6IL

1402. FT-726R Hang AGC Mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-13 00:00:00 UTC
From: reichert@rtsg.mot.com
Message-ID: <3mjeqs$ik6@newdelph.cig.mot.com>
Source record: 113503

I've just worked up a circuit which I've installed on a
recently acquired FT-726R to provide Hang AGC. For those
not familiar with Hang AGC a little explanation.

When using the Slow (long RC) AGC the receiver takes forever
to
recover on strong signals. The Hang circuit still allows
for the long time constant but will always provide a rapid
discharge a fixed delay after the signal disappears, thus
the
apparent "hang" time.

If anyone is interested I'll supply the circuit if you send
me an SASE. Sorry no PC layout, I'll leave that to you.

Also made some 6, 2 Meter Module front end changes using
the
3SK205 Dual Gate GaAsFET. Will let you know how well it
works out when I get the beams up. So far they are
performing
great just listening off the 6 Meter dipole.

Currently working on an RF Delay circuit for the TX module
for
use with Ampliers/Preamps such that the preamps won't get
blown.
Will let the group know how that works out after it's
installed.
(Thanks to Pete, K9PW for the clue on this 726 bug.)
--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

1403. ICOM 737A-Expanded RF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-13 00:00:00 UTC
From: haworth@Direct.CA
Message-ID: <3mk1h2$9ch@stud.Direct.CA>
Source record: 113504

Anyone familiar with the mods necessary to expand rf range in ICOM 737A ?

thx 73

VE0SAO

1404. Need info on Neuractor - $600 CNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-13 00:00:00 UTC
From: jgorsky@xerox.com
Message-ID: <1995Apr13.121359.12667@news.wrc.xerox.com>
Source record: 113505

I am intrigued by an ad by US Cyberlabs for a 3 axis CNC kit for prototyping PC boards or 3D machining using a PC and a Dremel tool. Has anyone seen or used one of these? Any info or opinions on the unit or US Cyberlabs will be appreciated.

Thanks and 73,

John AA2OZ

1405. Re: Building SHARP reject filter for 13.845 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-13 00:00:00 UTC
From: n7ws@aol.com
Message-ID: <3mi8sq$t0e@newsbf02.news.aol.com>
Source record: 113506

In article <dgfD69IwC.4qz@netcom.com> Dave WB0GAZ writes:

>>I play with direct conversion transceivers such as the old Ten-Tec
Power Mite series. In my location (Denver), I get interference from
a shortwave radio station (WWCR in Nashville, TN.) that runs on 13.845
MHz and is very strong much of the time (causing AM detection in the
receivers). I suspect they are in the megawatt range.

>>To add insult to injury, WWCR is christian broadcasting (I think
the callsign is meant to say "Christian Radio" for CR).

>>Anyway, it occured to me that I might be able to build a sharp
notch filter out of a single series resonant 13.845 MHz crystal.
I don't need tunability - just 20-30dB deep notch within 10 kHz of
13.845.

>>I have no other sources of interference like this, so if I notch
out 13.845, I'll be happy. I'll just consider it my contribution
to the church.

>>If I transform the 50 ohm receiver path up to 500 ohms or so, wire
the crystal to shunt to ground, then transform back down to 50 ohms
(using broadband toroid transformers), will I achieve my desired
effect?
This might be an approach, Dave. However,one problem will be the fact that
the parallel resonant frequency of the crystal will be quite close by on
the high frequency side. It these guys are DSB AM, you might find that you
will notch the carrier and still have the upper sideband. So... you
probably won't meet your 10KHz BW rqmt.

I thought direct conversion was the PURPOSE of religious broadcasting, and
your trying to fight it :)

73,
Wes Stewart, N7WS
n7ws@aol.com

1406. Ringo Ranger 2??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-13 00:00:00 UTC
From: chris.smart@canrem.com
Message-ID: <60.5449.3290.0N1DB96A@canrem.com>
Source record: 113507

Hi. Without going to something rotatable, a beam of some kind, can I do
better then a Ringo Ranger 2 meter antenna for less money?
How good is a Ranger over those easy-to-make and inexpensive j-poles?
Thanks,
Chris. (chris.smart@canrem.com)

... ARRRRRGGGHHH!!!! ... Tension breaker, had to be done.
___ Blue Wave/QWK v2.12

Love is the law, love under will.

1407. Conner CP-3100 SCSI Help!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-13 00:00:00 UTC
From: nzutz@theborg.mlb.fl.us
Message-ID: <nzutz.1lci@theborg.mlb.fl.us>
Source record: 113508

Forgive if this is off-topic, and will never do it again if it is, but thought
you Hams may have the expertise I'm looking for for my problem..
Help! All drove up and no where to go!!...

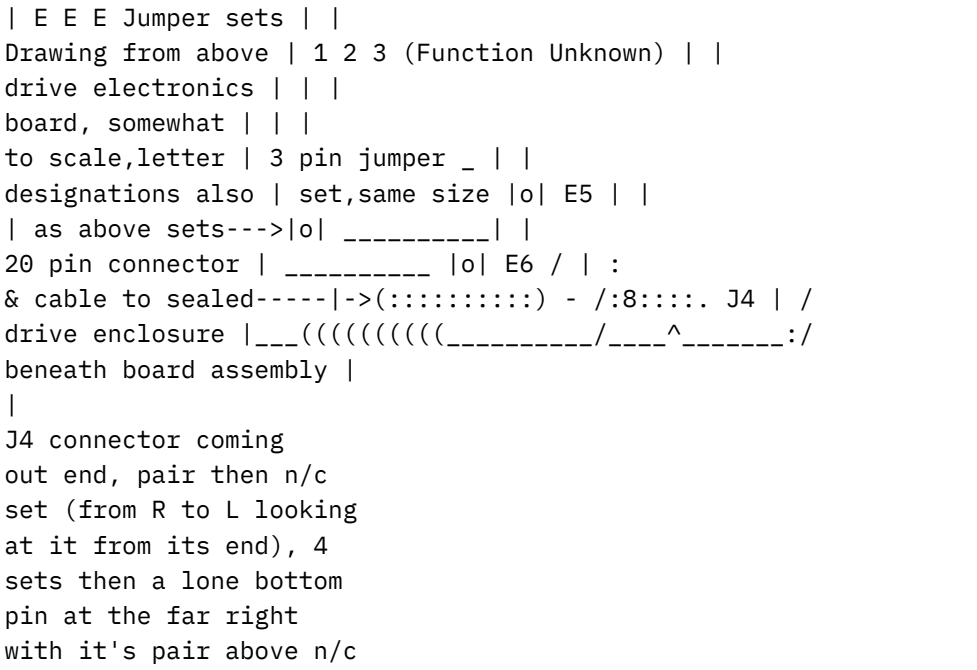
Have a Conner CP-3100 SCSI-1, 3.5" 104 Mb drive with no setup sheet and no
idea
as to what jumpers do what, what jumpers or plugs are for the terminator
resistor pack (or if it even needs one, a jumper may activate a built-in
terminator for all I know!). Have all the connectors and screws for
mounting it in my Amiga 2000 on the GVP A4008 SCSI/RAM board, but...

I NEED to find out what jumpers and plugs do what, especially the ones
setting the SCSI ID and if the drive needs a resistor pack (& what size,
75 ohm?) & where would it go? If someone has a drive made around the
same time and could let me know so I could give a FAX number to send the
copy of the setup sheet/manual to (or transcribe it to text & send it to
me here) or my address or if local, where to arrange to pick up the copy
of the sheet/manual or get the info. If Conner Peripherals could provide
me with this sheet, what's their address, phone, AND FAX number(s)?

Here's what I have observed off the drive itself:

On the ID plate on the drive : On lower left of Drive enclosure:
(flipside from the electronics : P082198
board) :
Conner : Just below it on the case where
C1Q1QB : it joins to the drive enclosure,
CP3100 : & right below the above number:
STD06 : C1Q1QP
9134 :
CE 228112 AST 2.05.0AL SG3 Q : On the end opposite the 50 pin
: SCSI connector and power plug:
And further down: : CE28112
PO Number: 772458 :
P/N: 348-0021584 :On the side:
WARRANTY EXPIRED: 7/05/94 : Conner Peripherals +12VDC 400mA
: CP-3100 +5 VDC 750mA
---:---

Drive electronics board: / |50 Pin SCSI Connector||PowerPlug| /:
Conner Peripherals / |_____| \@_@_@_@_|/ |
02250-001 Rev. J :---------: |
(Drive electronics circuit board)	
_ _ _	
[:][:][:] <---Three 2-pin	


| E E E Jumper sets | |
Drawing from above | 1 2 3 (Function Unknown) | |
drive electronics | | |
board, somewhat | | |
to scale,letter | 3 pin jumper _ | |
designations also | set,same size |o| E5 | |
| as above sets--->|o| _____| |
20 pin connector | _____ |o| E6 / | :
& cable to sealed-----|->(:::::::::) - /:8::::. J4 | /
drive enclosure |___((((((((((_____/____^_____:/
beneath board assembly |
|

J4 connector coming
out end, pair then n/c
set (from R to L looking
at it from its end), 4
sets then a lone bottom
pin at the far right
with it's pair above n/c

Thanks bunches! As without this information I've a drive, but no
way to use it <grumble, mumble, mutter> Good deal though..<grin>
I'm local to Cocoa Beach, Florida, Brevard County, 407 area code..
Please reply via e-mail, thanks.
Neil
nzutz@theborg.mlb.fl.us

1408. Re: 40M kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: bruce3900@delphi.com
Message-ID: <hiy9gzw.bruce3900@delphi.com>
Source record: 113418

Presuming you mean QRP type radio kits, you (and your friend) might try MXM Industries, Route 1, Box 156c, Smithville, TX 78957. (512) 237-3906. Bruce Williams is the proprietor and offers a line of superb receiver and transceiver kits. His basic receiver is a single convresion superhet and the transceiver uses a double conversion crystal filtered receiver. I have no personal interest in MXM -- Bruce was my boss in the serospace industry for many years. His rigs have been reviewed in 73 and Radio fun.
73,
Bruce -- W6TOY/3

PS I'd also recommend your friend look into joining the QRP-ARCI.

1409. Re: B&W Air Coils and the Tax Man!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: bruce3900@delphi.com
Message-ID: <hA08QHy.bruce3900@delphi.com>
Source record: 113419

John,
I saw a posting on the QRP list a few days ago regarding using threaded PVC pipe(?) as a coil form. Apparently it is available in sized up to 8 inch diameter and with some various thread pitches. Anyway, you wing your coil in the threads and then take a glue gun and run four stripes of glue over the coil at 90 degree spacing, and when dry -- just unscrew the form from the coil.

I do agree about the tax-man and NAFTA.

73,
Bruce -- W6TOY/3

1410. Re: Building SHARP reject

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1678.546@acenet.com>
Source record: 113420

N7> 13.845 MHz
N7>Message-ID: <3mi8sq$t0e@newsbf02.news.aol.com>
N7>Newsgroups: rec.radio.amateur.homebrew
N7>Organization: America Online, Inc. (1-800-827-6364)

N7>In article <dgfD69IwC.4qz@netcom.com> Dave WB0GAZ writes:

N7>>>I play with direct conversion transceivers such as the old Ten-Tec
N7>Power Mite series. In my location (Denver), I get interference from
N7>a shortwave radio station (WWCR in Nashville, TN.) that runs on 13.845
N7>MHz and is very strong much of the time (causing AM detection in the
N7>receivers). I suspect they are in the megawatt range.

N7>>>To add insult to injury, WWCR is christian broadcasting (I think
N7>the callsign is meant to say "Christian Radio" for CR).

N7>>>Anyway, it occured to me that I might be able to build a sharp
N7>notch filter out of a single series resonant 13.845 MHz crystal.
N7>I don't need tunability - just 20-30dB deep notch within 10 kHz of
N7>13.845.

N7>>>I have no other sources of interference like this, so if I notch
N7>out 13.845, I'll be happy. I'll just consider it my contribution
N7>to the church.

N7>>>If I transform the 50 ohm receiver path up to 500 ohms or so, wire
N7>the crystal to shunt to ground, then transform back down to 50 ohms
N7>(using broadband toroid transformers), will I achieve my desired
N7>effect?
N7>This might be an approach, Dave. However,one problem will be the fact that
N7>the parallel resonant frequency of the crystal will be quite close by on
N7>the high frequency side. It these guys are DSB AM, you might find that you
N7>will notch the carrier and still have the upper sideband. So... you
N7>probably won't meet your 10KHz BW rqmt.

N7>I thought direct conversion was the PURPOSE of religious broadcasting, and
N7>your trying to fight it :)

N7>73,
N7>Wes Stewart, N7WS
N7>n7ws@aol.com

Hehe, cute Wes.... as a former professional crystal grinder
(at Cathodeon CRystals, Linton in England 1970-71, irrelevant really
but included it as recreational info :-)
I can tell you that one should stagger the 13.845 crystals to achieve
broader null. This is quite easy. He can just make a filter network

wit several xtals from say 13.840 - 13.850 and that will null out the monster signal from WWCR. It still won't help if he is after some weak DX station within 5 - 10 kHz of WWCR though.
Just my .02 cents worth!

 SLMR 2.1a Denial: Not just a river in Egypt!

1411. Re: antenna switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <D707p1.4o9@eskimo.com>
Source record: 113509

In article <3mhj12$8cj@charm.magnus.acs.ohio-state.edu>,
sbertsch@magnus.acs.ohio-state.edu says...
>
>I'm thinking of building a coax switch to connect my 2M allmode to either
>a vertical or horizontal antenna. I was thinking of using a 2 pole, 2 pos.
>wafer to switch both the inner conductor *and* braid, so as to completely
>disconnect the unselected feedline. My question is: will the wafer switch
>and short coax pigtails soldered to it introduce an unacceptable impedance
>bump at 144 MHz, or will the effect be negligible?
>
>Steve

It will introduce an impedance bump at that high a frequency, but whether it will be a problem depends mostly on how fussy your transmitter output circuit is regarding SWR. For instance I have a 50 mHz amplifier which uses a modular output block with built-in SWR protection. At first I tried several plain old relays for antenna switching, even going so far as to modify them to bring out leads as short as possible. No luck. The output block sensed the impedance bump and reduced power way down. I finally gave up and bought a REAL vhf coax relay ($$) and the problem was solved.

Your mileage will definitely vary.

73, Bill W7LZP

1412. Re: Need Network analyser program.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3mkv6o$p1k@news.primenet.com>
Source record: 113510

parnell_j@kosmos.wcc.govt.nz wrote:

: Can anyone please point me to a network analysis program in the
: freeware/shareware area for use in developing filters and diplexers.
: Passive components only.

: Jim Parnell. ZL2APE
: parnell_j@kosmos.wcc.govt.nz
: ZL2APE@ZL2WA.#NZL.OC

Jim,
You might want to look into a programme called ALMOND, an updated version of which is called SCALC, both of which are available as shareware. I wrote ALMOND back in 1981-1982. It performs circuit analysis and optimization in terms of S-parameters.
You might also consider the shareware version of PSPICE, which is also available on a number of bulletin boards.

SCALC is avaiable from Ian White, G3SEK, at:

g3sek@ifwtech.demon.co.uk

52 Abingdon Road
Drayton
Abingdon
Oxon OX14 4HP
England

Good luck!

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------ooO~(_)~Ooo----------

1413. Ceramic filters wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: stevekit@eznet.net
Message-ID: <3ml4t6$dd1@roch0.eznet.net>
Source record: 113511

I'm looking for 5.5 MHz ceramic band-pass and band reject filters for a
VCR tuner demod. Usually, most parts suppliers carry the 4.5 MHz versions,
but not the 5.5 MHz.

Thank you.

****
* __/__/\ Steve Kittelsen _____________ *
* / /\ \ Rochester, New York \ / *
* I I I I " stevekit@eznet.net " \ / *
* \ __\/__ / * OPEN YOUR MIND * \/ *
****

1414. Re: Need info on Neuractor - $600 CNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istD7133K.H6H@netcom.com>
Source record: 113512

In article <1995Apr13.121359.12667@news.wrc.xerox.com> jgorsky@xerox.com writes:
-I am intrigued by an ad by US Cyberlabs for a 3 axis CNC kit for
-prototyping PC boards or 3D machining using a PC and a Dremel tool.
-Has anyone seen or used one of these? Any info or opinions on the
-unit or US Cyberlabs will be appreciated.

Don't get it. Look over in comp.robotics for the problems that
people have had with it (apparantly it is a very poor mechanical
design with lots of slop and backlash). I have never seen any
US Cyberlabs/Nick Goss products, so I can't say for sure. All I know
is after *repeated* phone calls and letters, I could never get him
to send me a catalog, even after I promised some large orders on
behalf of my radio club. If he can't send out a catalog, I certainly
wont send him money. After speaking with the editors of Radio Electronics
(now Electronics Now) and Nuts and Volts, apparantly others were also
having problems contacting him to purchase the 'custom' parts he used
in his designs. I haven't seen one of his articles in a while. It's too
bad, since he had some interesting projects.

/mike

BTW, he still insists that there is a 'communicator' class of Ham license,
and you don't need a license to transmit on the ham bands with less than
100 mW...

--
\|/ Michael L. Ardai N1IST Teradyne ATB, Boston MA
-*- ---
/|\ ardai@maven.dnet.teradyne.com n1ist@netcom.com

1415. 222 MHz Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: pbutlalj@ia.net
Message-ID: <3ml1m9$5jr@allanon.ia.net>
Source record: 113513

Hello All,

I am interested in building the 222 MHz ransverter that is in the latest ARRL handbook. The artwork for the boards has been obtained and printed out. The list of parts is not too difficult to find but the one problem that I can see with the unit is the transmit power level. The unit is designed with an output of +6dBm. Now this is fine for across the yard or the basement type of work but I would like something that can be useful for weak signal work and also to operate with the 56Kb packet modems sold by GRAPE.

What it seems is required is an amplifier of some type that would take the 4 mW from the transverter to about 25 watts into the antenna. Does anyone have any ideas as to the best way to accomplish this at 222 MHz? The output of the transverter is a 50 ohm impedance. Also the article in the handbool says that there will be additional filtering required to meet the FCC rules.

I look forward to hearing back from people on how to do this,
Thanks for your help.
--
Al Butler KA0IES
ajbutler@ia.net

1416. Re: Q: Regulated screen supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995Apr14.152322.25607@arrl.org>
Source record: 113514

Ian G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:

: 4CX250s and 350s are very, very sensitive to variations in screen voltage.
: If the screen voltage is allowed to swing around in response to the SSB
: drive cycle, distortion products increase rapidly. You need to think in
: terms of regulating the voltage to +/- a few hundred millivolts, for
: current swings of +25mA to -25mA per tube. That isn't easy.

What would you recommend in place of a two tone test for better
measuring the distortion products? Perhaps something along the
lines of an effective bandwidth measurement with a "standard"
voice waveform?
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1417. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: jdc@cci.com
Message-ID: <D71Hxt.5y1@sunsrvr6.cci.com>
Source record: 113515

In article <D6uzyD.n1H@news.hawaii.edu>, <jeffrey@math.hawaii.edu> wrote:
>brian.carling@acenet.com (Brian Carling) writes:
>...will always be needed by the homebuilder. One can either
>wind on an air-core form or on a toroid.
>
>L = (ND)^2 / (18D + 40S) for air-core coils, where
>
>L = inductance (in uH), N = number of turns, D = diameter,
>and S = length (all in inches).
>
>Jeff NH6IL

There was an article in "RF Design" magazine that said this formula is
incorrect for smaller inductance values. Unfortunately the rest of it
looked like a plug for software to calculate the "right" value.

Anybody see other formulas for inductance?

73...Jim N2VNO

1418. 75 Mhz filters??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: paulbreed@aol.com
Message-ID: <3mn6vt$47i@newsbf02.news.aol.com>
Source record: 113516

Many of the modern general coverage HR recieviers are
up conversion RX's with their first IF at 45 or 75Mhz.

What kind of filter do they use for the first IF?

Crystal? Ceramic?

Can one easily design a crystal filter to operate
on the crystal overtone frequency???

There are many references to building crystal filters, but I have
seen littel reference to using the OverTone.

Thanks in advance for any responses.

Paul Breed
KL7JG

1419. Re: Very low freq./WWVB reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-14 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-1404952127460001@nb-dyna78.interaccess.com>
Source record: 113517

In article <tomriceD6s3ws.7LL@netcom.com>, tomrice@netcom.com (Tom R. Rice) wrote:
> Yes! This was an excellent article; I bought the FAR boards
> and built this receiver. It's very good (but note that there's
> one board error noted in a later-published note) at receiving
> WWVB out here in California.
>
> Highly recommended.......
>
> 73 de WB6BYH

Tom - I'm glad to hear that the kit worked out well. I have the boards but that project is about third in line, now. :-) I sure would like to know about the correction you mentioned!

Dave Moorman, K9SW
Downers Grove, Illinois

1420. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-15 00:00:00 UTC
From: jones@San-Jose.ate.slb.com
Message-ID: <3mni39$ent@k2.San-Jose.ate.slb.com>
Source record: 113421

jeffrey@math.hawaii.edu wrote:
: brian.carling@acenet.com (Brian Carling) writes:
: >
: >Bill, you gotta realize that almost NO ONE is buying AIRDUX
: >and MINIDUCTORS these days! With the advent of chips etc.,
: >you are asking someone to re-tool and BUILD you parts for
: >40-50 year old technology! Of course they have to charge!

: Inductors on chips? Never heard nor seen that. Inductors
: will always be needed by the homebuilder. One can either
: wind on an air-core form or on a toroid.

Sorry, Jeff, there _are_ chip inductors, though they tend to have very small inductance _and_ current carrying ratings. There are lots of folks making surface-mount inductors (both chokes and transformers). Suggest you run over to the library and thumb through something like Electronic Products magazine once in a while to keep up to date on what's available in terms of parts! ;-)

As for the gent who's looking for the airdux and miniductor stuff, you might also check with Antique Electronic Supply here in Tempe. They've got a _huge_ warehouse of parts that most folks like Brian think are "obsolete"... I've seen parts in there that I've used as recently as 15 years ago, and they probably have some that are even newer than that.

73,
Clark

P.S. The chip inductors are made in a similar fashion to chip capacitors, except that instead of having alternating plates that are insulated, they have an area that runs "around the outside" of each "plate", with adjacent "plates" being connected, so that there's a "squared off" coil structure formed. Not used a lot, but they've been commercially available for at least 5 years.
--
Disclaimer: The opinions expressed above are mine and not those of Schlumberger because they are NOT covered by the patent agreement!

Phone: (602) 345-3638 Internet: jones@San-Jose.ate.slb.com
Packet: KI7TU@K7BUC.AZ.USA.NA RF: KI7TU
Snail: Clark Jones, Schlumberger Technologies, 7855 S. River Pkwy #116, Tempe, AZ 85284-1825

1421. Ceramic Insulators

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-15 00:00:00 UTC
From: Tony Stalls <ras@us.net>
Message-ID: <Pine.BSI.3.91.950415233011.4966B-100000@laurel.us.net>
Source record: 113422

As I've always been pretty good at construcing things with Gilbert Erector Sets (sez the young guys, "With a WHAT??"), I've always wanted to homebrew air variables, rotary inductors, etc. However, I have yet to find anything on the composition of ceramic insulators, or how I might fo about making them. I do know that the stuff that normally comes from crafts shops is not what I want, but that's the limit of my expertise on the subject.

If I could come up with a way, I'd actually consider buying a small kiln and maybe pay it off by making and selling the good old fashined ceramic dog-bone type antenna insulators. I haven't seen THEM in a while.

Delusions of becoming the Henry Ford of dog-bone insulators aside, are there any ceramics experts out there, or does anybody know of a reference where I can find out how to make ceramic insulators?

73,

Tony

+---------------------------------+---------------+------------+
| Richard A. (Tony) Stalls, K4KYO | Arlington, VA | ras@us.net |
+---------------------------------+---------------+------------+

1422. IC-707 mods ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-15 00:00:00 UTC
From: stomper@stomper.seanet.com
Message-ID: <3mn68b$g8t@kaleka.seanet.com>
Source record: 113423

Does anyone know of any mods for a ICOM 707 ? A friend of mine that is not on the net wants to know.

1423. Re: B&W Air Coils and the Tax Man!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-15 00:00:00 UTC
From: Tony Stalls <ras@us.net>
Message-ID: <Pine.BSI.3.91.950415234533.4966C-100000@laurel.us.net>
Source record: 113424

On Sun, 16 Apr 1995, Bill Turner wrote:

> >I saw a posting on the QRP list a few days ago regarding using threaded PVC
> >pipe(?) as a coil form. Apparently it is available in sized up to 8 inch
> >diameter and with some various thread pitches. Anyway, you wing your coil
> >in the threads and then take a glue gun and run four stripes of glue over
> >the coil at 90 degree spacing, and when dry -- just unscrew the form from
> >the coil.
>
> Does any enterprising fellow out there have a machine to thread plastic
> pipe? I would be interested in buying 10 or 12 inch long sections of
> different diameters - say, 1 inch, 1.5 inch, 2 inch, 3 inch, etc. The
> standard pipe thread pitch would be fine.
>
> I do see one possible problem with the glue gun - sticking to the form as
> well as the wire. Possibly the form could be coated with mold release
> before winding?? Worth a try.

Two solutions (no pun intended) come to mind. One is WD-40 sprayed on the form first and the other is to use the release coating used to glass bed rifle stocks. The latter would probably have a better chance of working.

If you were to wind the coil on threaded <steel> pipe, then you could heat it up to a temp that will melt a plastic rod, press it onto the coil and let it cool. We're talking about getting fancy now, but if you could make a steel form with cutouts at 0, 90, 180, and 270 degrees, you could push the plastic rods in from behind. I'll bet that's very similar to what B&W did.

Or, you could epoxy plastic (Lexan?) strips to the outside of the coil.

73,

Tony

+---------------------------------+---------------+------------+
| Richard A. (Tony) Stalls, K4KYO | Arlington, VA | ras@us.net |
+---------------------------------+---------------+------------+

>
>
>
>

1424. Re: Q: Regulated screen supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-15 00:00:00 UTC
From: conrad@g0ruz.demon.co.uk
Message-ID: <810705345wnr@g0ruz.demon.co.uk>
Source record: 113425

In article: <1995Apr14.152322.25607@arrl.org> zlau@arrl.org (Zack Lau (KH6CP)) writes:
> Xref: news.demon.co.uk rec.radio.amateur.homebrew:5691
> Newsgroups: rec.radio.amateur.homebrew
> Path: g0ruz.demon.co.uk!news.demon.co.uk!peernews.demon.co.uk!news.sprintlink.net!uunet!in1.uu.net!psinntp!arrl.org!zlau
> From: zlau@arrl.org (Zack Lau (KH6CP))
> Subject: Re: Q: Regulated screen supply
> References: <1995Apr4.024714.25313@ultb.isc.rit.edu> <518963402wnr@ifwtech.demon.co.uk>
> Organization: American Radio Relay League
> Date: Fri, 14 Apr 1995 15:23:22 GMT
> X-Newsreader: TIN [version 1.2 PL2]
> Message-ID: <1995Apr14.152322.25607@arrl.org>
> Lines: 16
>
> Ian G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:
>
> : 4CX250s and 350s are very, very sensitive to variations in screen voltage.
> : If the screen voltage is allowed to swing around in response to the SSB
> : drive cycle, distortion products increase rapidly. You need to think in
> : terms of regulating the voltage to +/- a few hundred millivolts, for
> : current swings of +25mA to -25mA per tube. That isn't easy.
>
> What would you recommend in place of a two tone test for better
> measuring the distortion products? Perhaps something along the
> lines of an effective bandwidth measurement with a "standard"
> voice waveform?
> --
> Zack Lau KH6CP/1 2 way QRP WAS
> 8 States on 10 GHz
> Internet: zlau@arrl.org 10 grids on 2304 MHz
>
>
Zack are you trying to say that Ian is wrong in stating what IS!! necessary for screen regulation for 4cx series tetrodes.The imd does deteriorate rapidly if this sort of regulation is not adhered to.In the 80's John Nelson G4FRX now GW4FRX did exhaustive work on this very subject.My own personal experience of this is a local amateur who had a 'commercial' 4cx250b amp which had inadequate screen regulation,he wreaked havoc!He fitted a 'retro'kit which was available from Melvyn Noakes G4JZQ(I think that was his call)and the band became habitable again.

Of course you can 'get away' with a string of zeners but to get the performance which is available from these tubes Ians recommendations are good ones.Ask EIMAC I'm sure they will agree.
--
Conrad Farlow G0RUZ

1425. Mont. Ward 719A(40ch/SSB) to 10M?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-15 00:00:00 UTC
From: chuck62@freenet3.scri.fsu.edu
Message-ID: <3mnsph$nj2@freenet3.scri.fsu.edu>
Source record: 113426

Anybody know where I can get plans for converting my Montgomery Ward
40 ch./SSB CB to 10 meters?
Thanks...

--
Accept no substitutes.....chuck.....KE4QPU.....

1426. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3mpp96$964@vixen.cso.uiuc.edu>
Source record: 113427

In a previous article, jones@San-Jose.ate.slb.com (Clark Jones) says:

>jeffrey@math.hawaii.edu wrote:
>: brian.carling@acenet.com (Brian Carling) writes:
>: >
>: >Bill, you gotta realize that almost NO ONE is buying AIRDUX
>: >and MINIDUCTORS these days! With the advent of chips etc.,
>: >you are asking someone to re-tool and BUILD you parts for
>: >40-50 year old technology! Of course they have to charge!
>
>: Inductors on chips? Never heard nor seen that. Inductors
>: will always be needed by the homebuilder. One can either
>: wind on an air-core form or on a toroid.
>
>Sorry, Jeff, there _are_ chip inductors, though they tend to have very
>small inductance _and_ current carrying ratings. There are lots of folks
>making surface-mount inductors (both chokes and transformers). Suggest
>you run over to the library and thumb through something like Electronic
>Products magazine once in a while to keep up to date on what's available
>in terms of parts! ;-)
>
>

Yes, but I don't think you'd be using chip inductors in a 100-watt or KW transmatch!

(I'll admit I roll my own.)

I did get some B&W Miniductor about 7 years ago from a local place that was going out of business...last I've seen of it except at hamfests.

Guess we just need to do what we're known best for as radio amateurs...be creative!

73,
Zack W9SZ

1427. Re: Heathkit IP-17 Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3mpuk9$ehv@news.primenet.com>
Source record: 113428

Jay Wicklund (jwicklun@halcyon.com) wrote:
: I'm looking for a copy of a Heathkit IP-17 Manual. The IP-17 is a
: vacuum tube HV power supply. I don't need the detailed assembly
: instructions, but would like the schematic, specs, and trouble-
: shooting sections. (I could draw my own schematic -- but what can
: I say, I'm lazy)

: thanks.....73 de KI7RH (Jay)

Jay,
Try contacting:

The Manual Man
Pete Markavage
27 Walling Street
Sayreville, NJ 08872

(908) 238-8964

He doesn't have this particular Heathkit listed in his last
catalogue, but he indicates that you should inquire about manuals that
are not listed. I would like to get a hold of one of these manuals as
well. I picked up an IP-17 at a hamfest here two months ago for a mere
$25. It worked, but I had to repaint the case shells. The original
paint had gone soft a pliable for some reason, and it couldn't be saved.

Chris
N7ZWY

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo---

1428. 4Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: drayegon@america.com
Message-ID: <NEWTNews.10904.798025818.drayegon@drayegon.america.com>
Source record: 113429

> References: <D6pLM6.46J@eskimo.com> <2a6.1623.546@acenet.com>
<D6uzyD.n1H@news.hawaii.edu>
> Date: Fri, 14 Apr 1995 19:25:04 GMT
> In article <D6uzyD.n1H@news.hawaii.edu>, <jeffrey@math.hawaii.edu> wrote:
> >brian.carling@acenet.com (Brian Carling) writes:

> >L = (ND)^2 / (18D + 40S)
>
> There was an article in "RF Design" magazine that said this formula is
> incorrect for smaller inductance values. Unfortunately the rest of it
> looked like a plug for software to calculate the "right" value.
> 73...Jim N2VNO

Cut and measure all you like then comes the guy with a hammer to make it fit!
Please remember you can't out figure real life,or was that you can't figure out
real life.

73 dray AD4RR

1429. Re: 75 Mhz filters??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3mpur6$ehv@news.primenet.com>
Source record: 113430

PaulBreed (paulbreed@aol.com) wrote:
: Many of the modern general coverage HR recieviers are
: up conversion RX's with their first IF at 45 or 75Mhz.

: What kind of filter do they use for the first IF?

: Crystal? Ceramic?

: Can one easily design a crystal filter to operate
: on the crystal overtone frequency???

: There are many references to building crystal filters, but I have
: seen littel reference to using the OverTone.

: Thanks in advance for any responses.

: Paul Breed
: KL7JG

Paul,
It's very likely that they used a SAW (Surface Accoustic Wave)
filter for the first IF. These have been in common usage for the last
10-20 years or so, and are quite inexpensive now. Sawtek is the largest
domestic manufacturer, and they have a very wide variety, particularly in
the region of 70 MHz.

Chris
N7ZWY

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo---

1430. Re: B&W Air Coils and the Tax Man!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <D73vn5.GLo@eskimo.com>
Source record: 113431

In article <hA08QHy.bruce3900@delphi.com>, bruce3900@delphi.com says...
>
>John,
>I saw a posting on the QRP list a few days ago regarding using threaded PVC
>pipe(?) as a coil form. Apparently it is available in sized up to 8 inch
>diameter and with some various thread pitches. Anyway, you wing your coil
>in the threads and then take a glue gun and run four stripes of glue over
>the coil at 90 degree spacing, and when dry -- just unscrew the form from
>the coil.
>
>I do agree about the tax-man and NAFTA.
>
>73,
>Bruce -- W6TOY/3
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Does any enterprising fellow out there have a machine to thread plastic pipe? I would be interested in buying 10 or 12 inch long sections of different diameters - say, 1 inch, 1.5 inch, 2 inch, 3 inch, etc. The standard pipe thread pitch would be fine.

I do see one possible problem with the glue gun - sticking to the form as well as the wire. Possibly the form could be coated with mold release before winding?? Worth a try.

73, Bill W7LZP

1431. HF Amplifier using 811's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: rvmathis@rvm.iii.net
Message-ID: <3mq2e1$1pk@news.iii.net>
Source record: 113432

I have been pricing tubes to replace the ones in my Dentron Amp and fell that maybe I should consider building an amp that uses more readily available tubes. All of the tube dealers recommend the 811's as being a tube that will be around for a long time. Any comments on this choice in tube, good plans, and anything else that applies is more than welcome. I have one article from QST on a four tube KW amp that looks interesting.

Thanks in advance
Ron Mathis
rvmathis@rvm.iii.net

1432. Homebrewing your own transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: billhar@spaceworks.com
Message-ID: <D741H1.3sE@spaceworks.com>
Source record: 113433

Subject: Build a Transistor, or how to homebrew at only twice the cost
of factory built.

"Rig here is homebrew, all solid state. I even hand made the
the transistors."

Taking a few ready made parts and assembling them into a working
unit is pretty easy. If you really want to refine the art of
homebrewing, try building your own transistors.
The May 1949 issue of Radio-Electronics features an article on how to
construct a transistor using the parts of two 1N34 crystal diodes. The
sensational announcement of the crystal triode or transistor had been made
only a few months before and experimenters had been waiting patently for
the manufactured version of the device. In the meantime a few impatient
experimenters were rolling their own.

CONSTRUCTION

The 1N34 consists of two threaded brass end plugs which are screwed
into opposite ends of a small ceramic tube with a tungsten wire
whisker soldered to one of the plugs and the other end rests upon the
germanium wafer. The wafer is soldered to the end of a brass pin which
passes through a hole in the other end plug and held by a set screw.
The article describes how to dissemble the two diodes, and using the
brass plugs and ceramic tube from one, with a jeweler's saw, cut one
of the brass plugs in half. Next, using the tungsten wires taken from
the diodes, solder one to each half of the brass plug. Using Duco
cement, fasten the two halves together with an insulating separator
made of Lexan or Plexiglas 1/64 inch thick. Next, using a pair of
tweezers, bend the tips of the whiskers together until they have the
smallest separation without touching. Screw the two-whiskered plug
back into the ceramic tube and the other germanium-holding plug into
the other end. There is a hole in the side of the ceramic tube which
was used for electrical adjustment when the 1N34 was manufactured. It
was then filled with wax. Having removed the wax during disassembly of
the diode, view the whiskers though the hole using a magnifying glass
and make sure the whiskers are not twisted or touching each other. If
so, use a needle to separate them, if they are too far apart, push them
together and make sure they are in contact with the germanium disc.
The final step is to solder a wire pig-tale lead to each half of the
split whisker plug and also to the plug on the opposite end which holds
the germanium disc.

ADJUSTMENT

The article goes on to describe how to hook up batteries and two milliamp meters in the emitter and collector circuits to determine the operating characteristics of the device. The author reports that he has constructed devices with transconductances of 1,000 to 5,000 which is comparable to such tubes as 6K5, 6SQ7, 6T7, ect.
After all adjustments are completed, the side hole in the ceramic tube should be closed with a bit of Scotch tape.

Article by Rufus P. Turner, K6AI

So there you have it. If you really want to get into homebrew, try constructing your own transistors. Next month we will learn how to construct a 4-1000 amplifier tube using a mayonnaise jar, parts from an old VCR and a 1963 Volkswagen.

Bill - K5MIL

1433. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: linley@netcom.com
Message-ID: <linleyD7460L.140@netcom.com>
Source record: 113434

In ye olden post jones@San-Jose.ate.slb.com (Clark Jones) spake...
>jeffrey@math.hawaii.edu wrote:
>: brian.carling@acenet.com (Brian Carling) writes:
>: >
>: Inductors on chips? Never heard nor seen that. Inductors
>: will always be needed by the homebuilder. One can either
>: wind on an air-core form or on a toroid.
>
>Sorry, Jeff, there _are_ chip inductors, though they tend to have very
>small inductance _and_ current carrying ratings. There are lots of folks
>[...]
>P.S. The chip inductors are made in a similar fashion to chip capacitors,
>except that instead of having alternating plates that are insulated, they
>have an area that runs "around the outside" of each "plate", with adjacent
>"plates" being connected, so that there's a "squared off" coil structure
>formed. Not used a lot, but they've been commercially available for at
>least 5 years.

I vaguely recall some circuits in some EE texts that use op amps,
resistors, and capacitors to realize a pure inductance. Doing away
with the actual coil would make it easy to create chip inductors.
Not sure about the range on feasible inductances or current limits
on stuff like this, though.

--
Bruce James Robert Linley | ------- | __, | ,-----, | Disclaimer:
linley@netcom.com/linley1@aol.com | B A R | / \ | `---, / | My opinions
Programmer/Analyst, FortuNet Inc. | B A R | () () | / / | not my
Las Vegas, Nevada ARS: KE6EQZ | ------- | () | /_/ | employers!

1434. Need info on Sat rotor controllers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: n9rze@firefly.prairienet.org
Message-ID: <n9rze-1604950252460001@ruger-4.slip.uiuc.edu>
Source record: 113435

I've been looking into building my own dish for S-band operation. The current rotors could not hold up a 6' dish. So I need to build a custom platform. In doing so I use a standard heavy duty rotor for the azimuth, but for the elevation I would use a screw-jack. Thing is, the screw-jack uses a reed switch to tell the controller how many rotations it has moved. But, as far as I can tell, amateur equipment uses pots to tell the controllers where they are. This is no problem, I would put a pot onto the elevation assembly. But what I don't know is, what info do the controllers get. How do they know where the rotors are pointing? Such as the AEA ST1, does it have preset memories for the various commercial rotors? Can I tell it a custom setting for my setup? As in, it ask's for me to point to 0 degrees elevation then save that resistance value, then point to 90 degrees elevation and save that too. Then the controller knows from what values to work with. Thus I've solved my delema for a custom controller. I'm interestd in any and all controllers out there, not just the AEA ST1. Thanks in advance.

-Marcus Damberger / N9RZE

1435. Re: Homebrewing your own transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: bakebaker@aol.com
Message-ID: <3mqhpv$pnm@newsbf02.news.aol.com>
Source record: 113436

I don't have time to do the hombrew on this one, but I wonder how hard it would be to extend the idea and construct a pentium! Larry KA7AGV

1436. internal modem>TNCvia phone cable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: drayegon@america.com
Message-ID: <NEWTNews.10340.798051531.drayegon@drayegon.america.com>
Source record: 113437
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

With all the internal and external 14.4 modems laying around had any one tried to hook up through the phone connector to a tnc? I just thought They normally have 16550 chips and it would be a great way to run at 19200. Guess if there are no pioneers out there I will have to use my old intel 14.4 and find out.

ps mine doesn't have a floating math problem LOL

73 dray AD4RR

1437. Re: Heathkit IP-17 (and soft paint)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <3mr5ol$oul@ixnews3.ix.netcom.com>
Source record: 113438

In <3mpuk9$ehv@news.primenet.com> ctrask@primenet.com (Christopher Trask) writes:

> I picked up an IP-17 at a hamfest here two months ago for a mere >$25. It worked, but I had to repaint the case shells. The original >paint had gone soft a pliable for some reason, and it couldn't be saved.
>

Hmmm. I picked up an IP-17 several years ago that also had soft (tacky) paint - very easy to scrap off with a fingernail. I ended up removing all the paint and leaving the case shells just bare metal.

However, this is not the first piece of gear that I've seen with soft pliable paint. I picked up a piece of homebrew gear that was inside a commercial box (ZERO box?), and the paint on this box had also become tacky. Again, removed all the paint.

I guess the paint originally used on these chassis has become unstable and gone soft over time. I hope they still aren't using it!

- Jeff

By the way, Heath still sells replacement transformers for the IP-17. I needed to replacement mine this last December and was very happy to find they still had them. Not cheap (about $55), but if you need it, you need it! Don't know how many they have left, though.

1438. Re: Q: Regulated screen supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3mseta$6p3@newsbf02.news.aol.com>
Source record: 113439

>Zack are you trying to say that Ian is wrong in stating what IS!!
necessary
>for screen regulation for 4cx series tetrodes.The imd does deteriorate
>rapidly if this sort of regulation is not adhered to.In the 80's John
Nelson
>G4FRX now GW4FRX did exhaustive work on this very subject.My own p

Where can I get copy of this work? While I agree that zeners aren't usually enough, I disagree that it has to be millivolts to be effective. I asked a couple Engineers at Eimac and they are puzzeled about the millivolts too as long as there is some dynamic regulation from a cap.

What I found here was that if the screen was held within a percent or so, the IMD from typical radios (only -30 to -35 dB on the ones I tested) was much worse than the tube. I wonder why this difference? I also found a cathode resistor for negative feedback helped substantially.

1439. Transmitter tube info wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: magnee@telepost.no
Message-ID: <3mrgf0$dq0@nms.telepost.no>
Source record: 113440

Hello!

I need info om a transmitter tube. It is old and has the
markings "BROWN BOVERI" and "P 300-1".
It looks like a pentode.

Please help me.

Regards Magne

1440. Re: 200MHz IF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: Ian@newbrain.demon.co.uk
Message-ID: <798042204snz@newbrain.demon.co.uk>
Source record: 113441

In article <3m2oto$1852@columba.udac.uu.se>
mikael.landing@teknikum.uu.se writes:

> Planning to build a receiver for 1.75GHz (DCS-1800).
> Have found out that a suitable IF would be 201MHz. Since I only
> want one IF there must be alot of amplification on 201MHz (90dB).
> Still I cant accept any limiting (must be linear gain).

Why one IF.

> Does anyone know how this could be done in a simple way. If I choosed
> a lower IF I could buy some IC making the job. But I havent
> been able to find any IC doing the job at 201MHz.
>
> Maybee you know of some suitable device or solution?

If you use two IF's you can make the first one 201MHz to get a good image
rejection and the second one much lower where gain and narrow bandwidth are
easier to achive. If you are looking at wide signals then the first IF
should be around 40-60MHz, if narrow (3-10kHz) then a 10.7MHz if woukd seem
suitable. Crystal filters are obtainable for 10.7 & in the 40-70MHz range.

--
Ian G8ILZ

1441. Re: DF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: Ian@newbrain.demon.co.uk
Message-ID: <798040791snz@newbrain.demon.co.uk>
Source record: 113442

In article <D6KDF6.BpI@oasis.icl.co.uk>
terry@wg.icl.co.uk "NOT Terry Bailey" writes:

> [Article crossposted from rec.radio.amateur.misc]
> [Author was NOT Terry Bailey]
> [Posted on Wed, 5 Apr 1995 11:08:33 GMT]
>
> In the early eighties a well know US Ham Radio publication produced a design
> for a DF unit based around 4 1/4 wave antennas and an FM receiver. Does any-
> one know which publication this was and what the date was. I do have a
> serious use for this and would be grateful if someone could tell me.
> Thanks Terry Bailey G0CRF
>

I recall it in a UK mag. Either Rad Com or HRT, con't remember the date thou.

--
Ian G8ILZ

1442. Ok Qrp Club Address

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-16 00:00:00 UTC
From: Sam.Barrett@f429.n326.z1.fidonet.org
Message-ID: <576_9504172249@woodybbs.com>
Source record: 113443

Does anyone have the address for the Oklahoma QRP Club. I believe that
it is in Edmond, OK, but I am not sure.

.........Later...
.....Sam.....

73, de Sam, WA5RPP/1
Presque Isle, ME
WA5RPP @N1CHF.PQ.CAN.NOAM

---
* SLMR 2.1a * CQ CQ CQ de WA5RPP/1

--
|Fidonet: Sam Barrett 1:326/429
|Internet: Sam.Barrett@f429.n326.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

1443. AM receiver advice needed (for RDF project)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: ghopper@eskimo.com
Message-ID: <D761GG.DuF@eskimo.com>
Source record: 113444

[No readable article body recovered]

1444. 3D RF Propagation software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: bsmart@ccinet.ab.ca
Message-ID: <3mssm4$gnv@finzi.ccinet.ab.ca>
Source record: 113445

Could anybody tell me if there is any real good RF propagation 3D mapping software available on the net.I'm looking for IBM PC platform preferably windows program.

Please reply if you know where i can find a good program.

Thanks

1445. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_798149278@rtfm.mit.edu>
Source record: 113446
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

```
Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb,
rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet
mailing list counterparts and complements. It is intended to serve as a
guide for the new reader on what to find where. Questions and comments may
be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at
jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October
1994 to add the discussion of non-Usenet mailing lists and streamline most
of the history discussion, and to change the moderator information for
rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list
for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions
were held on the mailing list, and sent to the mailboxes of those who had
signed up for it. When the Usenet software was created, and net news as we
now know it was developed, a newsgroup was created for hams: net.ham-radio.
The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became
progressively higher. First one by one, and then as part of two
reorganizations, what was once one group became many. In the process,
developments elsewhere on the net were reflected in the groups as they were
created, most notably the change to place all of the ham radio groups in one
hierarchy.

The collection of newsgroups continues to grow as more people join the net,
and as more topics of discussion gain volume, I expect to see more groups be
created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the
notable exception being rec.radio.swap. There are also a few mailing lists
that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them,
and not to the groups that aren't. The whole idea of having different
```

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

1446. WTB: Hammurlund Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: carlheintz@aol.com
Message-ID: <3mtoka$e25@newsbf02.news.aol.com>
Source record: 113447

I need a power supply transformer for a Hammurlund receiver, specifically the HQ-170. Anybody got one of those beasts?

Also -- need the crystal calibrator crystal

And.... a knob (just one) for the antenna tweaker.

Thanks for your help! Reply via e-mail. 73s Carl

1447. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D75zo0.HBr@news.hawaii.edu>
Source record: 113448

In article <3mdfj9$ptb@abyss.West.Sun.COM> myers@Cypress.West.Sun.Com writes:
>
>You can always get the shielded Toko inductors, too.
>
>Jeff, you've never heard of chip inductors? They tend to
>have fairly low Qs, but they're very small. Like chip caps.

Are these the inductors disguised as 1/8 Watt resistors? Someone gave
me a bunch of these and also some capacitors disguised as resistors,
too. The dang pastel color bands are so thin that I almost need
a magnifying glass to see 'em.

Jeff NH6IL (Chips belong in ice cream)

1448. old oscillosope FOR SALE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: jmitch@auvm.american.edu
Message-ID: <jmitch.17.2F928348@auvm.american.edu>
Source record: 113449

I know absolutely nothing about oscilloscopes but I have an old RCA oscillosope I found at an estate sale which I have no need for. Only asking what I paid for it -- $10 plus shipping +COD.

1449. DigiVFO article in QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: alb0@roger.gte.com
Message-ID: <3mu4cr$r32@ceylon.gte.com>
Source record: 113450

The DigiVFO article highlighted a rather interesting IC:
specifically, it was a numerically-operated oscillator.
I must be out of the loop (and not just the phase-locked
kind!) - I had never heard of this chip before! The
homebrew possibilities are fantastic, though. It seems
like this chip could be really useful for building
homebrew transceivers and sweep generators.

Has anyone done anything with this chip? It looks
like quite a gem.

Drew
--
alb0@gte.com
"The new Gestapo in America." -- Gerry Spence on the BATF

1450. Re: Switching Diodes wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: gkd@wpi.WPI.EDU
Message-ID: <3msr7v$ffj@bigboote.WPI.EDU>
Source record: 113451

In article <MSGID_1=3A109=2F418_8c269245@fidonet.org>,
Donald N3heh <Donald_N3heh@f418.n109.z1.fidonet.org> wrote:
>QST june 94 article on receivers listed mod to use PIN switching
>diodes: HP5082-3081 and another article suggested using
>[Motorola] MPN3700 PIN diodes. Can not find either.

They are not the easiest parts in the world to locate. I obtained the MPN3700 diodes back in November from Hamilton/Hallmark. Newark Electronics also carries them, but they were on backorder at the time. If I remember correctly, they were $.76/ea. from Hamilton/Hallmark and $.95/ea. from Newark, but both establishments are large supply houses and have $25 minimum order requirements. If you can't find a phone number for your nearest sales branch, Hamilton/Hallmark can be reached in Peabody MA at 508-531-7430 and Newark Electronics can be reached in Marlboro MA at 508-229-2200. (Newark also lists a phone number to obtain catalogs of 1-800-298-3133 ext. 48 if you want to try that.) The MPN3700 is available in both a standard and surface mount package.

I installed the diodes in the front end filter and preamp/attenuator stages of my Icom R71A receiver, and they seem to work fine.

Greg

1451. Any Designs/ parts for Spread spectrum?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: henniger@cisco.com
Message-ID: <henniger.798155589@cisco.com>
Source record: 113452

Hello all.

I am interested in putting together a simple spread spectrum
system.

Is there any place that sells parts that would work?

Frequency hopping is okay.

Computer external control might be nice to allow easy prototyping
of different PN sequences/ resync-ing / etc.

I took apart a Uniden 9100 900Mhz SS phone and found a nice small
little RF transciever subassembly.. be cool to have a few of those.

If you know of any parts/pieces (or ancilliary facts like computer control)

I'm very interested,

Mick
AC6EU

1452. Re: Conner CP-3100 SCSI Help!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <3mup2p$p7b@grape.epix.net>
Source record: 113453

In article <nzutz.1lci@theborg.mlb.fl.us>, nzutz@theborg.mlb.fl.us
says...
> Have a Conner CP-3100 SCSI-1, 3.5" 104 Mb drive with no setup sheet and
>no idea as to what jumpers do what, what jumpers or plugs are for the
>terminator resistor pack (or if it even needs one, a jumper may activate
>a built-in terminator for all I know!). Have all the connectors and
>screws for mounting it in my Amiga 2000 on the GVP A4008 SCSI/RAM board.

Why not call Connor at 1-800-447-3140 and get a proper answer.

Pete, KC3TL
amsoft@epix.net

--
########## F R E E H A M N E W S L E T T E R
o)(o --
#C# _> A free newsletter about The World of Ham
\ ___/ / Radio CD-ROM is available by sending your
| / __/ present E-Mail address to amsoft@epix.net
/____\ / // --

1453. CHIP Inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199504171228.MAA06662@chaos.magibox.net>
Source record: 113454

I've seen several comments about "never heard of CHIP inductors".

Both Newark and Digikey carry Surface Mount (ie. CHIP, SMT, SMD)
inductors, in both fixed values (10nH - 2200uH) and adjustable
(0.10uH - 4.0mH). They have form factors like 2.5mm x 3.2mm for fix
inductors and 5.0mm x 5.2mm for variable. Newark carries muRata and
Digikey carries TOKO.

Of course, their current ratings are measured in mA.

For a Newark catalog call 1-800-298-3133 ext 48.
For a Digikey catalog call 1-800-344-4539.

Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

1454. Re: internal modem>TNCvia phone cable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <D77Dzo.3vJ@zeno.fit.edu>
Source record: 113455
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In <NEWTNews.10340.798051531.drayegon@drayegon.america.com>, drayegon@america.com writes:
>With all the internal and external 14.4 modems laying around had any one tried
>to hook up through the phone connector to a tnc? I just thought They normally
>have 16550 chips and it would be a great way to run at 19200. Guess if there
>are no pioneers out there I will have to use my old intel 14.4 and find out.
>ps mine doesn't have a floating math problem LOL
>73 dray AD4RR

isn't the problem something along the lines of the phone line modems don't
like working half duplex? something about training and all that that goes on
nicely on a phone line isn't there on a radio link. might be a signal plus noise
to noise ratio problem as well....

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio

1455. Re: DigiVFO article in QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-1704951839370001@nb-dyna75.interaccess.com>
Source record: 113456

In article <3mu4cr$r32@ceylon.gte.com>, alb0@roger.gte.com (Andrew Betz) wrote:

> The DigiVFO article highlighted a rather interesting IC: (snip)It seems
> like this chip could be really useful for building
> homebrew transceivers and sweep generators.
>
> Has anyone done anything with this chip? It looks
> like quite a gem.
>
> Drew

Haven't heard of it before, Drew. I would like to get a spec sheet on it
to find out how it is controlled. Us Mac users won't be able to use the
author's PC program. Also, it if it has a 90 degree (quadrature) output,
it could be handy to use with Rick Campbell's single-signal DC receivrs
and transmitters which he dexcribed in QST a couple of years ago.

Dave Moorman, K9SW
Downers Grove, Illinois

1456. paging J.Rocci

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: stevekit@eznet.net
Message-ID: <stevekit.51.0014BB57@eznet.net>
Source record: 113457

I'm not able to get mail back to you, so here is the info you need for
now.

Steve Kittelsen
145-H Spanish trail
Rochester, NY 14612

Thanks

```
**********************************************************************
* __/\__/\ Steve Kittelsen __________ *
* / /\ \ Rochester, New York \ / *
* I I I I " stevekit@eznet.net " \ / *
* \ __\/__ / * OPEN YOUR MIND * \/ *
**********************************************************************
```

1457. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: peterson@physc1.byu.edu
Message-ID: <1995Apr17.100643.2183@physc1.byu.edu>
Source record: 113458

In article <01HOV6IIBIXU9N4FGL@NKU.EDU> RAINS@NKU.EDU writes:

> Does anyone know how to make a circuit that will cause a beep to be
>sent after I let off on the mic button? I would like to give this a try, but I
>am not too sure on how to do it. Any help is greatly appreciated.

Wlll, I'm sure this won't help you with your request but the Alinco DJ-F1T
has the well hidden feature that you can set it to transmit a DTMF "C" when
the PTT is released. I have never used it but I did have to figure out how
to turn it off when a friend got button happy and turned it on for me. I'm
not sure why they built this in but I guess it makes as much sense as having
Kenwood put a video game on the radio :-)

73,

Bryan Peterson, KI7TD
peterson@physc1.byu.edu

1458. Question about modifying non-crystal VHF oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-17 00:00:00 UTC
From: peterson@physc1.byu.edu
Message-ID: <1995Apr17.101632.2184@physc1.byu.edu>
Source record: 113459

I am fiddling with a VHF oscillator that I would like to change the frequency on but rather than blindly changing components I would like to attack this with a little background. I looked in a book of oscillator circuits and found that it most resembles the Butler Common Base with inductive tap. However, the only information I have on that circuit uses a crystal to set the frequency and the one in question has no crystal. If anyone is acquainted with the characteristics and design of this type of oscillator without the crystal or knows of a good reference book that covers this I would greatly appreciate it.

Thanks in advance and 73,

Bryan Peterson, KI7TD
peterson@physc1.byu.edu

1459. Model for Monolithic XTAL Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: robboma@aol.com
Message-ID: <3n0cag$ee@newsbf02.news.aol.com>
Source record: 113368

Can someone direct me to a model for a monolithic crystal filter? I am looking to model the ordinary variety found in the IF strips of most ham equipment, ie 10.7 MHs 30 kHz wide.. I would be interested in any articles, app notes or books that cover this. I would ideally like to get a Spice type model but anything would help. I know what the basic topology of the standard one as shown in books by Raab, etc., but I am looking for actual values and more detail.

Thanks in advance!

Bob Masucci
WB3DBL

1460. Noise Blankers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: kirkland@bgtys22.bnr.ca
Message-ID: <3n0fl8$83a@bcarh8ab.bnr.ca>
Source record: 113369

What is available in the way of I.C. for noise blankers
these days? I am building my own rig. Unfortunately I live
in an apartment and and subjected to some pretty heavy qrm.

Bill Kirkland
VE3JHU

1461. Re: DigiVFO article in QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: alb0@roger.gte.com
Message-ID: <3n0ipd$d4t@ceylon.gte.com>
Source record: 113370

In article <dmoorman-1704951839370001@nb-dyna75.interaccess.com>,
Dave Moorman <dmoorman@interaccess.com> wrote:
>> The DigiVFO article highlighted a rather interesting IC: (snip)It seems
>Haven't heard of it before, Drew. I would like to get a spec sheet on it
>to find out how it is controlled. Us Mac users won't be able to use the
>author's PC program. Also, it if it has a 90 degree (quadrature) output,

Yes, I thought of that immediately when I was reading the article.
The control of the chip is no problem for me (I have a PC), but Mac
people will have to work something out. What also crossed my mind
was devising some way of getting maybe a dozen constant-memory
values that could be stored when the computer is off. That way,
the user could get a dozen frequencies for portable work. Sort
of like a rock-bound rig, but with more rocks!

Drew WJ8K/1
--
alb0@gte.com
"The new Gestapo in America." -- Gerry Spence on the BATF

1462. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: rohrwerk@orac.holonet.net
Message-ID: <3n0usn$m84@colossus.holonet.net>
Source record: 113371

RE the RF DESIGN article on more accurate inductance formulas:

> looked like a plug for software to calculate the "right" value.
> Anybody see other formulas for inductance?
> 73...Jim N2VNO

QST, April 1992, p. 76 Technical Correspondence (with corrections in Feedback,Jul 1992, page 73), the formulas behind this RF Design article/software. With a little careful work, you can plug it into a spreadsheet or BASIc program (I have mine in Excel). The work was done in 1910 or so! (The research, not my Excel sheet :-))

John Seboldt
K0JD
rohrwerk@holonet.net
(soon to be rohrwerk@netcom.com)

1463. Re: DF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: dave@chassis.demon.co.uk
Message-ID: <798239801snz@chassis.demon.co.uk>
Source record: 113372

In article <798040791snz@newbrain.demon.co.uk>
Ian@newbrain.demon.co.uk "Ian Robert Walker" writes:

> In article <D6KDF6.BpI@oasis.icl.co.uk>
> terry@wg.icl.co.uk "NOT Terry Bailey" writes:
>
> > [Article crossposted from rec.radio.amateur.misc]
> > [Author was NOT Terry Bailey]
> > [Posted on Wed, 5 Apr 1995 11:08:33 GMT]
> >
> > In the early eighties a well know US Ham Radio publication produced a design
> > for a DF unit based around 4 1/4 wave antennas and an FM receiver. Does any-
> > one know which publication this was and what the date was. I do have a
> > serious use for this and would be grateful if someone could tell me.
> > Thanks Terry Bailey G0CRF

> >
The article that you are thinking of was published in QST July 1981 and
entitled 'Double-ducky (!!!) direction finder. I have it in my collection
together with a couple of articles from RSGB Technical Topics April and
July 1991. If you confirm that you are QTHR I'll send you copies.

--
Dave Chapman - Consultant at Chapman Associates (dave@chassis.demon.co.uk)

1464. Homebrewing Duplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: bh627@freenet.toronto.on.ca
Message-ID: <3n1em7$h9r@data.interserv.net>
Source record: 113373

Hello there

Any one have any plans for home brewing duplexers
I got a repeater to put up on a comercial tower and have only
access to a single tower.... I have heard it no use by some and
works great from others...

73 from Fred VE3CFZ
<bh627@freenet.toronto.on.ca> internet
<ve3cfz@ve6rdr.#rdr.ab.ca.na> packet

1465. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: jfw@proteon.com
Message-ID: <D7905s.ECz@proteon.com>
Source record: 113374

jdc@cci.com (James D. Cronin) writes:
>In article <D6uzyD.n1H@news.hawaii.edu>, <jeffrey@math.hawaii.edu> wrote:
>>L = (ND)^2 / (18D + 40S) for air-core coils, where
>There was an article in "RF Design" magazine that said this formula is
>incorrect for smaller inductance values. Unfortunately the rest of it
>looked like a plug for software to calculate the "right" value.
>Anybody see other formulas for inductance?

There was an article in QST (April 1992) researching a more accurate formula.
I wrote the following program based on it.

```
/*
* solenoid - program to calculate the inductance of a solenoidal coil of wire
*
* based on the Technical Correspondance article
* "Accurate Single-Layer-Solenoid Inductance Calculations" by Hank Meyer,
* W6GGV, from QST magazine April 1992 (pp 76-77) plus corrections not yet
* published as of May.
*
* usage:
* with no arguments, prompts for number of turns, coil length,
* coil inner diameter ("mandrel diameter"), and wire size or gauge.
* Enter wire gauge as #16 (or =16) for 16 AWG; enter wire size in
* inches as a number, or mils by suffixing number with m.
* with 4 arguments: number of turns, coil length, ID, wire size
* all specified as above.
* with something other than 0 or 4 arguments, displays a terse usage
* message.
*
* This program written by John Woods, jfw@funhouse.com, 19 May 1992.
* All Rights Reversed (K).
*
* Requires strtol() and strtod() which are common pre-ANSI library
* extensions, as well as being official ANSI functions. This isn't
* necessarily the best code in the world, but it works.
*/
#include <stdio.h>
#include <math.h>
#include <stdlib.h> /* for definition of strtol(), strtod() */

double awg_to_diam[] = { /* from ARRL Handbook 1992 pg. 35-6 */
0, /* AWG 0, not in table */
.2893, .2576, .2294, .2043, .1819, /* 1 - 5 */
.1620, .1443, .1285, .1144, .1019, /* 6 - 10 */
.0907, .0808, .0720, .0641, .0571, /* 11 - 15 */
```

```
.0508, .0453, .0403, .0359, .0320, /* 16 - 20 */
.0285, .0253, .0226, .0201, .0179, /* 21 - 25 */
.0159, .0142, .0126, .0113, .0100, /* 26 - 30 */
.0089, .0080, .0071, .0063, .0056, /* 31 - 35 */
.0050, .0045, .0040, .0035, .0031, /* 36 - 40 */
.0028, .0025, .0022, .0020, .0018, /* 41 - 45 */
.0016 /* 46 */
};

#define DEBUG(x)
/* #define DEBUG(x) x */

main(argc, argv)
char **argv;
{
/* inputs */
double N; /* Number of turns */
double b; /* length of coil */
double a; /* coil radius (measured to center of wire) */
double p; /* coil pitch == b/N */
double d; /* wire diameter */
int awg; /* AWG of wire */
char Nbuf[64], bbuf[64], abuf[64], dbuf[64], *av[5], **avp, *pt;
/* important calculated results */
double K; /* Nagaoka's constant */
double G; /* a correction factor */
double H; /* another correction factor */
/* helpful quantities */
double ln_4_over_B, B;
double a2_b2, ab_term;
/* oh yeah, the answer */
double inductance;

/* Get inputs */
if (argc != 1 && argc != 5) {
fprintf(stderr,"usage: solenoid number-of-turns length coil-inner-diam
#awg-or-wire-diameter\n");
exit(1);
}
if (argc == 1) {
avp = av;
printf("N (number of turns) ");
if (fgets(Nbuf, 64, stdin) == NULL) exit(1);
av[0] = Nbuf;
printf("b (length, inches) ");
if (fgets(bbuf, 64, stdin) == NULL) exit(1);
av[1] = bbuf;
printf("a (coil inner diameter) ");/* will correct later */
if (fgets(abuf, 64, stdin) == NULL) exit(1);
av[2] = abuf;
printf("wire size (mils or #awg) ");
```

```
if (fgets(dbuf, 64, stdin) == NULL) exit(1);
av[3] = dbuf;
} else
avp = argv+1;
N = strtod(avp[0], &pt);
if (*pt && *pt != '\n') {
fprintf(stderr,"bad format for N: %s\n", avp[0]);
exit(1);
}
b = strtod(avp[1], &pt);
if (*pt && *pt != '\n') {
fprintf(stderr,"bad format for b: %s\n", avp[1]);
exit(1);
}
a = strtod(avp[2], &pt) / 2;
if (*pt && *pt != '\n') {
fprintf(stderr,"bad format for a: %s\n", avp[2]);
exit(1);
}
if (avp[3][0] == '#' || avp[3][0] == '=') {
awg = (int)strtol(&avp[3][1], &pt, 10);
if (*pt && *pt != '\n') {
fprintf(stderr,"bad format for d: %s\n", avp[3]);
exit(1);
}
if (awg < 1) {
fprintf(stderr,"using awg 1\n");
awg = 1;
} else if (awg > 46) {
fprintf(stderr,"using awg 46\n");
awg = 46;
}
d = awg_to_diam[awg];
} else {
d = strtod(avp[3], &pt);
if (*pt == 'm') { /* mils */
d /= 1000.;
} else
if (*pt && *pt != '\n') {
fprintf(stderr,"bad format for d: %s\n", avp[3]);
exit(1);
}
}
/* a should really be mean coil radius, not mandrel radius */
a += d/2;

p = b/N;

/* now we are ready to roll */
G = 1.25 - log(2. * p / d);
H = ((((-.83/N - 2.5)/N + 3.8)/N - 2.5)/N+1)*.336 + .004;
```

```
DEBUG( printf("G = %f\nH = %f\n", G, H); )
/* short or long coil? */
if (2*a/b > 1) {
/* short */
double B2, B4;
B = b / (2 * a);
ln_4_over_B = log(4. / B);
DEBUG( printf("ln 4/B = %f\n", ln_4_over_B); )
B2 = B*B;
K = ((5./1021.*(ln_4_over_B-109./120.)*B2
- 1/64.*(ln_4_over_B - 2./3.))*B2
+ 1/8.*(ln_4_over_B + 1/8.))*B2
+ ln_4_over_B - .5;
K *= M_2_PI * B; /*note: M_2_PI is 2/pi from <math.h>*/
} else {
ab_term = a/b;
K = 1 - 8./3.*M_1_PI * ab_term;
a2_b2 = ab_term * ab_term;
K += ((((147./128.*a2_b2 - 35./64.)*a2_b2 + 5./16.)*a2_b2
- .25)*a2_b2 + .5)*a2_b2;
}
DEBUG( printf("K = %f\n", K); )
/* payoff time */
inductance = 5.08 * M_PI*M_PI * a * K * N * N/ (b / (2*a))
- 10.2 * M_PI * N * (G+H) * a;
printf("inductance is %.4fnH\n", inductance);
}
```

1466. Re: internal modem>TNCvia phone cable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: n6315@pnet16.navy.mil
Message-ID: <D791E1.Fn7@nctams1.uucp>
Source record: 113375
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I can see where you could easily use phone modems to access a TNC in a
remote location. As far as over the air could be a problem, the first
one I can think of would be fairly easy to remedy, the second maybe not.

1. Your high speed modems use PSK (I believe it's QPSK, but I'm not sure.),
this can be overcome by connecting to the radio just like a 9600 BPS TNC.

2. Phone modems use one pair of leads for TX and RX audio. I'm not sure
which brands still allow you to set the modem for leased-line operation.
This would arrange two pairs in the RJ-11 connector, one for each.

It should be fairly easy to tap into the RS-232/EIA-232 for the CTS line,
and make use of that for your keyline. I'm not sure how effective this
would be, due to the modem being made for full duplex. Even 'half duplex'
isn't truly simplex, so you will probably run into problems there too.

INET: n6315@pnet16.navy.mil
The voltage mentioned by Dave might possibly hurt your relays. Most
of the teletypes in Naval use have been running on Low-Level (+/- 6V).
You could try that first, it won't hurt.

****
ET2 Rich Sheff KD6HWF/KH6
n6315@nctams1.navy.mil krokus@m-net.arbornet.org
****

1467. Re: Ceramic filters wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: stevekit@eznet.net
Message-ID: <stevekit.55.0015CCC0@eznet.net>
Source record: 113376

In article <3mvh1v$s3s@nuclear.microserve.net> jackl@pinetree.microserve.com (WB3U) writes:
>From: jackl@pinetree.microserve.com (WB3U)
>Subject: Re: Ceramic filters wanted
>Date: Tue, 18 Apr 95 03:57:00 GMT

>stevekit@eznet.net (Steve Kittelsen) wrote:
>>I'm looking for 5.5 MHz ceramic band-pass and band reject filters for a
>>VCR tuner demod. Usually, most parts suppliers carry the 4.5 MHz versions,
>>but not the 5.5 MHz.
>>

>Is this a PAL tuner? If so, JVC, Sony etc. should be able to direct you to a
>source of parts for their overseas models. Failing this, SAW filters for PAL
>are available through U.S. distributors, although they get kinda pricey for
>homebrew projects. You might get a lead on these from some of the LPTV
>manufacturers who often have to replace SAW's in their modulators in
>preparation for export.

>73,

>Jack WB3U

It's for the AIWA MX-1 PAL/NTSC VCR (with digital converter). If has a
standard NTSC demod and RF mod. I need it to tune PAL RF signals, so I need
to replace 2 ceramic filters for the audio demod, and a ceramic trap for the
audio carrier in the video signal. The SAW for the IF should work fine for
PAL signals, even if it's a bit narrow.
The RF mod only needs a retune of the audio carrier, using the adjustable
inductor.
Since the tuner has AFC, it locks to channels several MHz off center.

****
* __/__/\ Steve Kittelsen __________ *
* / /\ \ Rochester, New York \ / *
* I I I I " stevekit@eznet.net " \ / *
* \ __\/__ / * OPEN YOUR MIND * \/ *
****

1468. BA-244 diodes in HW9

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: Rick Zabrodski <zabrodsk@med.ucalgary.ca>
Message-ID: <Pine.SUN.3.91.950418193316.1574A-100000@ume>
Source record: 113377

Scrounging parts for WARC bands on my recently (yes, recently) built HW9.
What is a BA-244 diode? Is there an equivilant? Tried substituting a
IN914 which does not work! Before I order 16 of them from Heathkit at 43
cents each (plus shipping) I thought I might ask if there is a substitute
that would work.
Thanks!

****
Dr. Rick Zabrodski BSc, MD, CCFP(E) * VE6GK
Email: zabrodsk@med.ucalgary.ca * NorCal 519 ARCI 7099 GQRP 8329
Phone 403-271-5123 Fax 403-225-1276 * "Power is no subsitute for skill"
****

1469. Re: (Q): WX SAT receiver /converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-1804952056190001@nb-dyna73.interaccess.com>
Source record: 113378

In article <3mvpa7$4qe@louhi.to.icl.fi>,
vesa.myllykangas@fin1701.icl.icl.elisa.fi (Vesa Myllykangas) wrote:

> Hi there,
>
> I had no idea where to post my Q, so I thought HAMs should
> know this kind of things. Anyway I looking chematics for RX/
> converter to see/listen WXsats ?

Vesa - I'm sure you inow this, but weather pictures from sattelites are available in the Internet from a variety of sources. If you download a progam called "Blue Skies", you can access all sorts of sattelite stuff from the University of Michagan (north cental USA)....Or do you like to access this stuff directly? :-)

Dave Moorman, K9SW
Downers Grove, Illinois,
USA

1470. Re: DigiVFO article in QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-1804952059180001@nb-dyna73.interaccess.com>
Source record: 113379

What also crossed my mind
> was devising some way of getting maybe a dozen constant-memory
> values that could be stored when the computer is off. Sort
> of like a rock-bound rig, but with more rocks!
>

Goodidea! I bet it could be done with a bunch of DIP switches! ;-)

Dave

1471. Encodeing a 700kHz signal?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: cclonch@freenet.columbus.oh.us
Message-ID: <3n201d$a9f@acme.freenet.columbus.oh.us>
Source record: 113380

Does anyone have any kind of plans or know of a way to encode a 700kHz signal?

thanx..
mf

--

-mf- cclonch@freenet.columbus.oh.us

/) (\ .-._.-._.-._.-._.-._.-._.-._.-._.-._.-._.-. /) (\

1472. Re: (Q): WX SAT receiver /converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: stevekit@eznet.net
Message-ID: <stevekit.57.0017B093@eznet.net>
Source record: 113381

>Vesa - I'm sure you inow this, but weather pictures from sattelites are
>available in the Internet from a variety of sources. If you download a
>progam called "Blue Skies", you can access all sorts of sattelite stuff
>from the University of Michagan (north cental USA)....Or do you like to
>access this stuff directly? :-)

>Dave Moorman, K9SW
>Downers Grove, Illinois,
>USA

Do you have the address for this loaction on the net?

```
**********************************************************************
* __/\__/\ Steve Kittelsen __________ *
* / /\ \ Rochester, New York \ / *
* I I I I " stevekit@eznet.net " \ / *
* \ __\/__ / * OPEN YOUR MIND * \/ *
**********************************************************************
```

1473. Re: Transmitter tube info wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: magnee@telepost.no
Message-ID: <3n14i8$kvf@nms.telepost.no>
Source record: 113382

In article <3mveko$s3s@nuclear.microserve.net>, jackl@pinetree.microserve.com (WB3U) says:

Thank you for your quick response Jack.

>I looked for this in a 1947 edition of "The Radio Handbook", which lists a large
>number of older receiving and transmitting tubes. No luck.
>
>Your tube is either *very* old, very rare, or bears a number unrelated to its
>actual type number.

I do not think it is _that_ old. I'd rather guess '60 - '70,
but I may be wrong. It may be rare, I guess.

It's a glass tube, about 22 cm high, and a diameter of about
11 cm. The base on the tube is about 5 cm high (included in the
22 cm), with a diameter on about 8 cm. It has the anode and
cathode connections on the top, and the socket is marked f and f,
g1, g2 and g3 with pencil. Inside the glass, on a base plate there
is e little metal strip with the markings "G 340 / 117" as a serial
number? The pins at the base is 8 mm thick and 25 mm long, and
those of the anode and cathode at the top are 14 mm thick
and 30 mm long. As you can see it is a large tube, designed
for carrying high current.

>Sorry I couldn't be more help. BTW, what's it used in?

The tube was found in my father radio shack after he passed away.
There was many tubes there, but this tube is among the few I did'n
sell. My father was a ham (LA3SA) and was working at a radio station.
The tube may have come from that radio station. I do not know what
use it had, or in what equipment it was used. I am only guessing
when I say that it is a transmitter tube. But it is unlikey that
my father had any tube of this construction, _not_ related to
transmitters. This tube looks like a tube BROWN BOVERI would
have designed, when they made a transmitter, and not intend for
general use.

I hope this helps.

1474. Re: DF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: stan@netcom.com
Message-ID: <stanD77KH2.2n2@netcom.com>
Source record: 113460

Ian@newbrain.demon.co.uk (Ian Robert Walker) writes:

>In article <D6KDF6.BpI@oasis.icl.co.uk>
> terry@wg.icl.co.uk "NOT Terry Bailey" writes:

>> [Article crossposted from rec.radio.amateur.misc]
>> [Author was NOT Terry Bailey]
>> [Posted on Wed, 5 Apr 1995 11:08:33 GMT]
>>
>> In the early eighties a well know US Ham Radio publication produced a design
>> for a DF unit based around 4 1/4 wave antennas and an FM receiver. Does any-
>> one know which publication this was and what the date was. I do have a
>> serious use for this and would be grateful if someone could tell me.
>> Thanks Terry Bailey G0CRF
>>

>I recall it in a UK mag. Either Rad Com or HRT, con't remember the date thou.

>--
>Ian G8ILZ

Several years ago, I purchased and built a Doppler DF kit from Dick
Smith Electronics. It sounds just like what you're describing. I'm
not sure if the company is still in business (I seem to remember them
being in Australia). The kit seemed well-designed--not quite
Heathkit quality, but pretty good nonetheless. I used it for a
while and then sold it.

Stan (N6BYU)

--

| Stan Perkins | ASMG, Inc. |
| stan@netcom.com | 619-490-9074 |

1475. Need Help finding Fused Line Plug

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3mvdv2$s3s@nuclear.microserve.net>
Source record: 113461

I am in the process of restoring an older HF amplifier that originally used a fused (2-3AG) line plug. The plug was missing when I purchased the unit, and in its place the owner had installed a double-fused, plug-in adaptor.

The adaptor has now failed from age and I need either an original type plug that I can attach to the line cord, or another 120 VAC fused adaptor.

Anyone out there know if these items are still made, or whether any suppliers have NOS?

Thanks and 73,

Jack WB3U

PS: Also need some silver-plated copper strap for the tank, about 3/8 to 1/2" wide. If anyone has this, I'd very much like to purchase a foot or so.

1476. Re: Transmitter tube info wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3mveko$s3s@nuclear.microserve.net>
Source record: 113462

>I need info om a transmitter tube. It is old and has the
>markings "BROWN BOVERI" and "P 300-1".
>It looks like a pentode.

I looked for this in a 1947 edition of "The Radio Handbook", which lists a large number of older receiving and transmitting tubes. No luck.

Your tube is either *very* old, very rare, or bears a number unrelated to its actual type number.

Sorry I couldn't be more help. BTW, what's it used in?

73,

Jack WB3U

1477. Re: HF Amplifier using 811's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3mvgg0$s3s@nuclear.microserve.net>
Source record: 113463

Hi Ron:

I picked up an old Gonset with (4) 811A's about three years ago and am just now starting to restore it. My purchase decision was made on the basis of the finals, at a time when 811A's were not plentiful. The (RCA) tubes which are in the amplifier now are the result of a lucky find at a local hamfest shortly after my purchase. Since that time, I have been pleased to see that 811A's seem to be making a comeback and I think they are even being manufactured in the U.S. again.

The appeal of these tubes is their price and efficiency. For $60 to $80, a set of four will run 1KW CW and 1500W SSB input with a good power supply. Output at 1KW input (in a well designed amplifier) approaches 750 watts in Class AB.

Although 3-500Z's provide greater plate dissipation, they will not provide this output level when running CW at the legal limit. Note that "legal limit" is the key here - a pair of 3-500Z's can, of course, run 2KW input on CW no sweat.

Regarding homebrew, the 811A's will undoubtedly provide a less expensive project, unless you have a very well stocked junkbox. Everything is smaller - filter caps, plate tune cap, plate choke, power transformer etc. Also, the sockets are much less expensive and chimneys are unnecessary.

As a final note, I strongly recommend that you build input filters for the amp, rather than simply feeding drive directly to the cathodes. Even if this means adding another bandswitch, it's worth it. I have a schematic with component values if you need it.

73,

Jack WB3U

1478. Re: Ceramic filters wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3mvh1v$s3s@nuclear.microserve.net>
Source record: 113464

stevekit@eznet.net (Steve Kittelsen) wrote:
>I'm looking for 5.5 MHz ceramic band-pass and band reject filters for a
>VCR tuner demod. Usually, most parts suppliers carry the 4.5 MHz versions,
>but not the 5.5 MHz.
>

Is this a PAL tuner? If so, JVC, Sony etc. should be able to direct you to a source of parts for their overseas models. Failing this, SAW filters for PAL are available through U.S. distributors, although they get kinda pricey for homebrew projects. You might get a lead on these from some of the LPTV manufacturers who often have to replace SAW's in their modulators in preparation for export.

73,

Jack WB3U

1479. Re: Conner CP-3100 SCSI Help!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3mvhtv$s3s@nuclear.microserve.net>
Source record: 113465

nzutz@theborg.mlb.fl.us (Neil Zutz) wrote:
>
> Have a Conner CP-3100 SCSI-1, 3.5" 104 Mb drive with no setup sheet and no
>idea <SNIP>

Neil, hard drive problems can often be resolved through the following news group:

comp.sys.ibm.pc.hardware.storage

Conner's tech support number is 1-800-4CONNER. They can probably give you
the info you need on the phone, and they also have a "fax-back" service if you have
a fax number. When you call, the automated system takes a good while to get
through, but don't hang up. They *will* answer.

Hope this helps.

Jack WB3U

1480. Re: NorCal 40

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: PMike Siegel <ki6pr@delphi.com>
Message-ID: <pK9ch6Q.ki6pr@delphi.com>
Source record: 113466

I understand Wayne Burdick is taking both the NC-40 and the Sierra to an outside kit manufacturer. I don't believe they'll carry the NorCal name or logo on them, however. You'll have to contact either Wayne or KI6DS for details - I understand it's going to be competitively priced, and the kit-maker is supposed to be very good...

//
//

1481. (Q): WX SAT receiver /converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-18 00:00:00 UTC
From: vesa.myllykangas@fin1701.icl.icl.elisa.fi
Message-ID: <3mvpa7$4qe@louhi.to.icl.fi>
Source record: 113467

Hi there,

I had no idea where to post my Q, so I thought HAMs should
know this kind of things. Anyway I looking chematics for RX/
converter to see/listen WXsats ? Could someone post/reply or
point ftp site to me where to find this kind of info. I'm looking
cheap one, professional ones are beyond my budget. Please
any opinions are welcome !

73's de Vesa OH6MJM

1482. DUPLEXERS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: walth@plains.NoDak.edu
Message-ID: <D79Bnp.pAD@ns1.nodak.edu>
Source record: 113383

Hello. I am looking for info on building duplexers. I have 2 repeaters right now and I am possiably building another. I need to build duplexers for them, as I am a college student and don't have the money to spend on them. I am looking for any plans and/or references to plans or articles/books on how to build and design them. Specifically I am looking for plans for 1kw VHF, 200w UHF, and 50w 900mhz duplexers. These are the smallest watt ratings I can get by with.

Any and all help will be greatly appreciated.. Please post here or email me at walth@plains.nodak.edu.. Thanks..

Chris Walth (N0OXI)

1483. Re: DigiVFO article in QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkD79HDA.KF6@netcom.com>
Source record: 113384

Well, folks, I was happy to see such a nice, simple DDS in that there DigiVFO. However, just be aware of its limitations. The author implied that his TR7 had a PLL that would take care of a lot of the spurs. But those of us who put the output directly into our various homebrew receivers are likely to be a tad disappointed in the received signal spurs (look at 'em! only 70 dB down, with some 60 dB) and noise level, except for casual use. A band full of contesters would show this thing's weaknesses immediately.

As a transmitter VFO, this would meet specs pretty well directly.

Guess we'd have to apply some of Rohde's PLL tricks in the issue a few months before to really clean this baby up.

: John Seboldt rohrwerk@netcom.com / I am Bach of Borg...
: Amateur radio K0JD... / your style will be
: Church of the Annunciation, / assimilated.
: Minneapolis /

1484. balan to ATU - is it still UNBAL 52 ohms?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: spike@biosci.uq.oz.au
Message-ID: <3n2006$oho@dingo.cc.uq.oz.au>
Source record: 113385

Even though this is a transmit amateur group,
I thought I'd ask this receive only (SWL) question:

Does the ATU side of the balan (toloroid
transformer) stay UNBAL at 52 ohms?

In Chap.34 ARRL handbook (1992?) I read a
ATU design which suggests an optional balun add-on. I wish
make a ATU with two switchable balans (1:1 & 1:9).
The balanced input (Z 100-500+ ohms) connects to a toloroid
transformer which is wired into a ATU L-network which
then outputs to a 52 ohm coax to my receiver.

So, does the balan reduce some impedence, then the ATU
reduce the rest? OR does the ATU "see" unbalanced 52 ohms from
the balan?

Does the ATU wiring mess-up the 52 ohm unbalanced fields?

I would like to place the ATU with balan at the feed point
of my 1/2 wavelength loop and run 52 ohm coax to the receiver.
Alternative: balan at feed point of loop and run coax to
the ATU near receiver.

Stephen Pike email: spike@biosci.uq.edu.au

--

~~__/~~__/~~__/~~__/~~__/~~__/~~__/~~__/~~__/~~__/~~\
|
Stephen Pike MSc (Technical Officer) Voice:07 365 4865 ______|

1485. Re: DigiVFO article in QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: tvr@cnmat.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Apr19004708@cnmat.CNMAT.Berkeley.EDU>
Source record: 113386

The DigiVFO article highlighted a rather interesting IC:
specifically, it was a numerically-operated oscillator.
I must be out of the loop (and not just the phase-locked
kind!) - I had never heard of this chip before! The
homebrew possibilities are fantastic, though. It seems
like this chip could be really useful for building
homebrew transceivers and sweep generators.

Has anyone done anything with this chip? It looks
like quite a gem.

I'm not sure what article you're referring to here. In the "JulieBoard"
article (_73 Amateur Radio Today_, August 1993, pp. 40-46), they use a
Harris HSP45102, one of a family of "numerically controlled oscillators",
which is also used in the recent _QST_ article ("A High-Performance Hybrid
Frequency Synthesizer", March 1995, pp. 30-38 [which is a report, not a
project]).

The family includes the HSP45102, HSP45106, and HSP45116; but only the first
is accessible to those of us who aren't ready for post-DIP mounting technology
(e.g. beyond vanilla PC cards). These are not yet available in PostScript
format last i checked, but they are available in fax form via their WWW
server (or more conventional means):

http://rel.semi.harris.com:80/docs/AnswerFAX/Digital_Signal_Processing.html

Which covers the first half of the following:

Haven't heard of it before, Drew. I would like to get a spec sheet on it
to find out how it is controlled. Us Mac users won't be able to use the
author's PC program. Also, it if it has a 90 degree (quadrature) output,
it could be handy to use with Rick Campbell's single-signal DC receivrs
and transmitters which he described in QST a couple of years ago.
[_QST_: January 1993, pp. 32-40 (correction April, p. 75);
April, pp. 27-31; VHF & above, May, pp. 29-34]

The HSP45106 and i believe also the HSP45116 do have quadrature output, but
are considerably more complex and require more thought to program. You'll
need to deal with 'pin cushion' style ICs (PLCC) and that almost certainly
means CAD generated PC boards. Maybe someone else can tell us whether that
can be done plausibly with xerographic toner-transfer resist techniques.
Their DAC/ADC data sheetsd chips are available in PostScript form, so please
save everyone trouble by getting those if you can use that format.

You may also want to think about more conventional PPL techniques as well,
especially above the HF bands. Some of these are discussed in recent ARRL
handbooks (for 1993, pp. 10-14 to 10-17 cover VHF/UHF applications), and

you may be able to get useful information out of Motorola as well. You may want to look at one of their synthesized 46/49 MHz portable telephone applications to get an idea how a minimal application might work (MC13135 FM receiever datasheet, p. 7). [Of course, you'll need a synthesizer chip that has more than a 20 word ROM to control it.] Their fax service is available at:

http://motserv.indirect.com/home2/fax_rqst.html

You generally have to know more about what you're looking for, although their "Master Selection Guide" is searchable and pages available in .GIF format. Some of their datasheets contain artwork for sample applications, which can help you get started (especially for surface-mount-only devices), and others mention amateur radio applications.

There are certainly more DDS and synthesizer chips out there, as well as other devices which generate quadrature output (such as [i think] Qualcomm and MiniCircuits); i've merely listed these as being WWW accessible. Of course, you should take this all with a grain of salt, as i, too, am just learning at this point.
-- KD6PAG (networking old-timer and RF newbie)

1486. Transistor Information

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: wtg1@cornell.edu
Message-ID: <3n2ts6$f2l@newsstand.cit.cornell.edu>
Source record: 113387

I am looking for a cross referance to the following transistors:

ON614
ON642
BCX58
BCY58X
BDX539

I believe that these are European transistors and I would like to replace
these with more commonly known transistors

Thanks.

Bill Genter, NK2V

1487. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: dbengtso@pts.mot.com
Message-ID: <D7AApG.9yG@pts.mot.com>
Source record: 113388

In article <linleyD7460L.140@netcom.com>, linley@netcom.com (Bruce James Robert Linley) writes:
> In ye olden post jones@San-Jose.ate.slb.com (Clark Jones) spake...
> >jeffrey@math.hawaii.edu wrote:
> >: brian.carling@acenet.com (Brian Carling) writes:
> >: >
> >: Inductors on chips? Never heard nor seen that. Inductors
> >: will always be needed by the homebuilder. One can either
> >: wind on an air-core form or on a toroid.
> >
> >Sorry, Jeff, there _are_ chip inductors, though they tend to have very
> >small inductance _and_ current carrying ratings. There are lots of folks
> >[...]
> >P.S. The chip inductors are made in a similar fashion to chip capacitors,
> >except that instead of having alternating plates that are insulated, they
> >have an area that runs "around the outside" of each "plate", with adjacent
> >"plates" being connected, so that there's a "squared off" coil structure
> >formed. Not used a lot, but they've been commercially available for at
> >least 5 years.

Well, Pagers ship bazillions of chip coils a year, since those tiny things are too small for a good 10 gauge airwound coil. In addition, Coilcraft is selling real wire wound chip inductors, down into the 50 mil by 80 mil footprint. Nice fine wire they use, also.

--
David Bengtson 407-364-3806
Motorola My Opinions, Not Motorola's
Mail Stop 84
1500 Gateway Blvd. .
Boynton Beach, FL 33626

1488. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Apr19.151425.10681@ke4zv.atl.ga.us>
Source record: 113389

In article <linleyD7460L.140@netcom.com> linley@netcom.com (Bruce James Robert Linley) writes:
>In ye olden post jones@San-Jose.ate.slb.com (Clark Jones) spake...
>>jeffrey@math.hawaii.edu wrote:
>>: Inductors on chips? Never heard nor seen that. Inductors
>>: will always be needed by the homebuilder. One can either
>>: wind on an air-core form or on a toroid.
>>
>>Sorry, Jeff, there _are_ chip inductors, though they tend to have very
>>small inductance _and_ current carrying ratings. There are lots of folks
>>[...]
>>P.S. The chip inductors are made in a similar fashion to chip capacitors,
>>except that instead of having alternating plates that are insulated, they
>>have an area that runs "around the outside" of each "plate", with adjacent
>>"plates" being connected, so that there's a "squared off" coil structure
>>formed. Not used a lot, but they've been commercially available for at
>>least 5 years.
>
>I vaguely recall some circuits in some EE texts that use op amps,
>resistors, and capacitors to realize a pure inductance. Doing away
>with the actual coil would make it easy to create chip inductors.
>Not sure about the range on feasible inductances or current limits
>on stuff like this, though.

Yep, the circuit is called a gyrator. Very large inductances can
be synthesized using this circuit. The ft of the active device,
and it's gain, usually limits this method to the lower frequencies,
but that's exactly where you need large inductances. At higher
frequencies, the physical chip inductors can suffice, and of course
at VHF+ frequencies, strip line circuits are practical.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1489. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: hanavin@stimpy.eecis.udel.edu
Message-ID: <3n3cnn$qsu@louie.udel.edu>
Source record: 113390

>>
>>I vaguely recall some circuits in some EE texts that use op amps,
>>resistors, and capacitors to realize a pure inductance. Doing away
>>with the actual coil would make it easy to create chip inductors.
>>Not sure about the range on feasible inductances or current limits
>>on stuff like this, though.
>
>Yep, the circuit is called a gyrator. Very large inductances can
>be synthesized using this circuit. The ft of the active device,
>and it's gain, usually limits this method to the lower frequencies,
>but that's exactly where you need large inductances. At higher
>frequencies, the physical chip inductors can suffice, and of course
>at VHF+ frequencies, strip line circuits are practical.
>

I would love to get rid of my 100 pound, 50 henry, choke, I use
in my AM rig and replace it with some op-amps!

--
Chuck Hanavin Email: hanavin@eecis.udel.edu
Senior Electronics Specialist Phone: 302-831-8403
140 Evan Hall, University of Delaware Callsign: WB3FJJ
Newark, Delaware 19716

1490. Who Built This Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3n3hvv$i38@nuclear.microserve.net>
Source record: 113391

I know this is a long shot, but it's worth a try.

About seven years ago, I gave away two KVG 9 MHz crystal filters to a guy who was building a receiver. The filters were new and I had mounted them on a homebrew PC board with switching diodes, mini RF chokes and decoupling caps.

I shipped the filters to this gentleman (I think he had a 5 call) and have wondered ever since how the project turned out. Unfortunately, I cannot identify the name or call from my logbook. The only other thing I remember is that I think he said he was in college at the time.

If the above describes you, or you know someone who built a receiver using these filters, drop me a line. BTW, my call at the time was WB5GGY.

Thanks and 73,

Jack WB3U

1491. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD7ALG0.6DG@netcom.com>
Source record: 113392

In article <3n3cnn$qsu@louie.udel.edu> hanavin@stimpy.eecis.udel.edu (Chuck Hanavin) writes:
>
>>Yep, the circuit is called a gyrator. Very large inductances can
>>be synthesized using this circuit. The ft of the active device,
>>and it's gain, usually limits this method to the lower frequencies,
>>but that's exactly where you need large inductances. At higher
>>frequencies, the physical chip inductors can suffice, and of course
>>at VHF+ frequencies, strip line circuits are practical.
>
>I would love to get rid of my 100 pound, 50 henry, choke, I use
>in my AM rig and replace it with some op-amps!

The problem is that you now need an op-amp that can sink a few hundred amps, no doubt.

But gyrator circuits can be used at higher frequencies. About ten years ago, I was using some of the National Semi video amplifiers as gyrators in the IF strip of a homebrew receiver. They had a high enough Ft, but they were really too noisy for the application so I had to shove a lot of broadband gain into the front end. No doubt the state of the art in op-amps has improved considerably.

I was, however, very disappointed that I couldn't get the same level of performance that I get from my Collins R-390A..... and it cost me a lot more to build the thing than the Collins cost me at the hamfest.
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

1492. Re: Homebrewing Duplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <3n3ir7$abf@newshost.lanl.gov>
Source record: 113393

bh627@freenet.toronto.on.ca wrote:
>
> Hello there
>
> Any one have any plans for home brewing duplexers
> I got a repeater to put up on a comercial tower and have only
> access to a single tower.... I have heard it no use by some and
> works great from others...

The ARRL FM and Repeater Handbook has plans for a 2 meter duplexer.
The homebrew designs I have seen in use may work fine at times,
terrible at others. Duplexers seem extremely expensive but when you
get into making one for yourself you will surely, like me, think
several hundred dollars isn't so bad after all. The biggest problem
one faces withhomebrew duplexers is that even after all the headaches
of contructing and tuning it, mechanical stability is a problem,
especially with copper-clad PC board versions and even with the brass
or copper tubing versions... temperature swings will invariably detune
them. Then, if you put up with it long enough, the internal surface of
the duplexer will oxidize and develop intermittent problems where the
finger stock rubs the side of the cavity.
I've never built a complete duplexer; only filter cavities, and they
are pain enough.
Jim Devenport WB5AOX

1493. FT-726R Hang AGC Mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: Charles Reichert <reichert@cig.mot.com>
Message-ID: <3n3u3f$9ko@newdelph.cig.mot.com>
Source record: 113394

FYI

I've just worked up a circuit which I've installed on a
recently acquired FT-726R to provide Hang AGC. For those
not familiar with Hang AGC a little explanation.

When using the Slow (long RC) AGC the receiver takes forever to
recover on strong signals. The Hang circuit still allows
for the long time constant but will always provide a rapid
discharge a fixed delay after the signal disappears, thus the
apparent "hang" time.

If anyone is interested I'll supply the circuit if you send
me an SASE. Sorry no PC layout, I'll leave that to you.

```
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^ ^
( O O )
___.ooO__U__Ooo.___
Hmmmm...Could Be!
```


```
=====================================================
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
=====================================================
```

1494. Mod for Icom737 not same for 737A-expanded RF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: haworth@Direct.CA
Message-ID: <3n4745$oql@stud.Direct.CA>
Source record: 113395

Anyone else ever tried to mod. a 737A for expanded Rf work?? I understand the older 737 may be modified by cutting diode D3 (of the three diodes on the board D3-D4-D5).

However the 737A only has one diode labelled D303 and when cut the set is no longer operational.

Any help insorting this problem out would now be very deeply appreciated.

Please email me at <haworth@DIRECT.CA>

Many thanks
73

Irv ...VE0SAO and VE7CVL

1495. Re: Ceramic filters wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3n4a9c$ktn@nuclear.microserve.net>
Source record: 113396

stevekit@eznet.net (Steve Kittelsen) wrote:

>It's for the AIWA MX-1 PAL/NTSC VCR (with digital converter). If has a
>standard NTSC demod and RF mod. I need it to tune PAL RF signals, so I need
>to replace 2 ceramic filters for the audio demod, and a ceramic trap for the
>audio carrier in the video signal. The SAW for the IF should work fine for
>PAL signals, even if it's a bit narrow.
>The RF mod only needs a retune of the audio carrier, using the adjustable
>inductor.
>Since the tuner has AFC, it locks to channels several MHz off center.
>

Steve, I'm not certain how Aiwa places that SAW in the IF, but if it's used to pass the entire video IF, you could have a problem. The chroma subcarrier in PAL systems is located approximately 4.5 MHz above the visual carrier, not 3.58 as in NTSC. An NTSC visual SAW is probably set for a bandwidth of 4.1 or 4.2 MHz. In other words, visual resolution may not suffer to a great extent, but the color subcarrier may be attenuated to unacceptable levels. This would result in B/W pics.

73,

Jack WB3U

1496. Re: (Q): WX SAT receiver /converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-1904952109120001@nb-dyna81.interaccess.com>
Source record: 113397

In article <stevekit.57.0017B093@eznet.net>, stevekit@eznet.net (Steve Kittelsen) wrote:

> Do you have the address for this loaction on the net?
>
Steve -

Blue Skies is available for Macintosh from "ftp.tidbits.com". I'm not sure if it is available for PC's from that site. But if you did a Veronica serch for "Blue Skies" you could probably come up witha number of sites from which to download it.

The Univerity of Illinois (uiuc -- University of Illinois Urbana Champaign) ftp server has lots of weather maps and sattelite images as well. They also have a web site at http://www.atmos.uiuc.edu/wxworld/html/general . I'm sure there are more sites with weather pix. Once you get to one, you can usually use their pointers to access others. Let me know how it works out.

Dave

1497. Re: FREE HAM NEWSLETTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-19 00:00:00 UTC
From: earl.weidman@woodybbs.com
Message-ID: <93.6754.7584.0NFB9FAB@woodybbs.com>
Source record: 113398

Subject: Re: FREE HAM NEWSLETTER

==========

Packet: DRAGONDN
Date: 04-11-95 (21:44) Number: 134
From: MIKE STOLLER Refer#: NONE
To: ALL Recvd: NO
Subj: Re: FREE HAM NEWSLETTER Conf: (159) AmateurHomeb

>>The Jan 95 "The World of Ham Radio" CD-ROM newsletter is now
>>available. This CD-ROM offers more ham programs than any of the
>>others out there! Over 20,000 IBM files for amateur radio are
>>stored on this CD-ROM. Included are the FCC CALLSIGN call book
>>with US & Foreign listings current to 12/94, and AMCALL the new
>>logbook from AmSoft that will auto log from the CD for you. Over
>>1,350 Radio Modifications. The latest HST, NASA & Space images.
>>Over 700 Megabytes of Amateur Radio Software packed into 1 CD. This
>>CD-ROM is published every 4 months without delay in JAN, MAY, & SEP.
>>
>>If you would like to get a FREE newsletter about the JAN 1995 AmSoft
>>CD-ROM please send your Internet E-mail address to: amsoft@epix.net
>>
MS>---
> &#65533; wcECHO 4.1 &#65533; AR-NET | SILICON GARDEN, SELDEN,NY 516-736-6662

My address is weidmane@hutchcc.edu

&#65533; QMPro 1.51 &#65533; Thesaurus: ancient reptile with an excellent vocabulary.
&#65533; wcECHO 4.1 &#65533; AR-NET | THE DRAGON'S DEN, HUTCHINSON, KS 316-665-3528 28.8V34

1498. Mosley says you can't wind coils????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: "Jake A. Hellbach" <Jake_A._Hellbach@ccmail.mobil.com>
Message-ID: <3n6h6g$spg@dlsn31.dal.mobil.com>
Source record: 113318

My brother recently bought a used Mosley triband beam and when
he got it home he found one of the traps had been hit by lighting.
Trying to find a source of aluminum wire he called Mosley to see
if they would sell some to him. When the operator answered he
explained the story and there was a moment of silence on the
other end, then she said "Sir we don't recommend you wind our on
coils because it could blow up." Well when my brother regained his
composure he asked to speak to a tech who also told him you can't
wind your own coils because they (Mosley) have a special machine that
winds the coils and tests them.(But they would sell him a new coil).

I guess if Mosley says you can't wind coils then I should throw out
all my reference manuals!
Oh, my brother got the wire and he and the antenna are doing great.

So I'm writing this to all the homebrewers out there, BEWARE!!!!!
DON'T TRUST THAT COIL!!!!!!!!! (HI HI)

Jake KK5HY

P.S. We just had a "build the smallest cw transmitter contest" at my
local club. I built mine in a computer mouse case and used the left
button as the key. worked great!

The views here are my own and not of Mobil Oil Corporation.

1499. Copper Tape

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950420154656.10677A-100000@pmafire.inel.gov>
Source record: 113319

I would like to know of a commercial source for copper tape (1.5" wide, conductive adhesive). 3M is one manufacturer. This ends up being remarkably useful in many applications.

Charles Mott

1500. RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: adam@libertynet.org
Message-ID: <3n6bvc$mc9@rodan.UU.NET>
Source record: 113399
Cross-posted to: news.announce.newgroups,news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

REQUEST FOR DISCUSSION (RFD)
unmoderated group rec.radio.amateur.low-profile

Group Name: rec.radio.amateur.low-profile
Proponent: Adam O'Donnell <adam@libertynet.org>
Distribution: worldwide
Newsgroups file: Operation of low-profile amateur radio stations.

This is a formal Request For Discussion on the creation of an unmoderated Usenet newsgroup, rec.radio.amateur.low-profile.

This RFD has been posted in accordance with the Guidelines for Newsgroup Creation. Its language is based on previously submitted RFDs.

****

NOTE: This is not a Call for Votes (CFV). Do not try to vote now.

This message begins a discussion period considering the creation of a rec.radio.amateur.low-profile newsgroup. Discussion should take place in news.groups. All follow-up posts should be made to news.groups.

Any comments such as "I vote yes for rec.radio.amateur.low-profile" will be treated only as a positive reaction to the proposed charter and not as a yes vote on the creation of the group. The CFV will contain instructions on how to vote.

****

CHARTER:

Rec.Radio.Amateur.Low-Profile is a newsgroup devoted to those amateurs who, for various reasons, must configure their radio stations to operate from restrictive areas such as condos, apartments, townhouses, neighborhoods with outdoor antenna restrictions, ships/boats, mobile homes,
or wherever they fry their burgers and call home.

The objective of this newsgroup is to encourage us to investigate means of employing all of the modes available to us for as many different purposes as possible. For examples, how can we use: FM (frequency modulation), CW (morse code),
SSB (Single Side Band: Voice on the Short Wave bands) on: LongWave, ShortWave, VHF (Very High Frequency), UHF (Ultra High Frequency), MicroWave, and Satellite.

Operators who use the newsgroup will be encouraged to describe in
detail their home station and how they solved the never-ending problem of
small city lots and housing development "no-antenna" contracts.

Rec.Radio.Amateur.Low-Profile will be an unmoderated newsgroup.
Users of the group are already experienced netiquette because of their
experience in Amateur Radio, which is a sort of Ladies/Gentleman's club.

A Rec.Radio.Amateur.Low-Profile FAQ will be posted a few weeks after the
creation of the newsgroup.

REASONING:

There are many newsgroups and mailing lists that exist on the
Internet for amateur radio antennas, low power operation, satellite
communications, etc. where operators in restrictive conditions post
continually post messages for help with their situation. In more cases
than not, the operator cannot find sufficient help on the 'group or list.

There should be a place where people who have solved their problems
with cramped quarters can post their problems to a group of knowledgable
amateurs.

I have conducted several informal polls and have discovered
that there are many amateurs (and, actually, non-amateurs) who would
very much favor and enjoy the creation of a newsgroup of this sort.

Distribution of RFD:

The complete official messages - RFD, CFV and vote results
will be posted to these required or affected newsgroups:
news.announce.newgroups, news.groups
rec.radio.amateur.antenna, rec.radio.amateur.misc,
rec.radio.amateur.homebrew, rec.radio.amateur.equiptment,
rec.radio.amateur.space, rec.radio.amateur.policy

Procedure for creating this newsgroup:

Interested parties are encouraged to comment on this proposal in
news.groups. Please post your comments *only* in news.groups.

After 21 days, if there appears to be a strong consensus in favor of
this proposal as it is written here, a CFV will be posted, which
will initiate the voting process; otherwise, discussion will
continue until a more refined proposal can be prepared.

After the CFV is posted, the voting period will be at least 21 days.
If the group passes by receiving 100 more YES votes than NO votes,
and (at least) two-thirds of the total vote is affirmative, the
newsgroup
rec.radio.amateur.low-profile will be created.

Again, please do *not* vote now. The voting process has not begun,
and your votes will be DISCARDED if you attempt to do so.

For more information on the newsgroup creation process, see the documents entitled "How to Create a New Usenet Newsgroup" and "Usenet Newsgroup Creation Companion", posted regularly to news.groups, news.announce.newusers, and news.answers, and available for ftp at rtfm.mit.edu in /pub/usenet/news.groups.

72, 73 (best regards)
Adam O'Donnell <adam@libertynet.org>

1501. AF mods for R4-C

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: garret@strobe.ATC.Olivetti.Com
Message-ID: <3n562k$d0s@olivea.ATC.Olivetti.Com>
Source record: 113400
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Subject: AF mods for R4-C
Newsgroups: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Hello friend,

Do you know AF mods for R4-c Drake ?

Thanks in advance .73.

1502. Wanted: Power GaAs FETs > 2 watts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: kbanke@qualcomm.com
Message-ID: <kbanke-200495072042@kbanke-mac.qualcomm.com>
Source record: 113401

I'm looking for surplus power GaAS FETs capable of >2 watts output at 2.4 GHz and above. This is for Amateur radio use & can be devices still in equipment or removed from equipment, mismarked, experimental, etc. Devices internally matched for higher frequncies are fine as I have found them usually to be easily rematched to lower frequencies. My interest is for devices probably up through Ku band which I can externally rematch for the 10 GHz amateur band. - Kerry N6IZW kbanke@qualcomm.com

1503. Re: DigiVFO article in QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: raymonda@Eng.Sun.COM
Message-ID: <3n624f$7fi@engnews2.Eng.Sun.COM>
Source record: 113402

In article 1804952059180001@nb-dyna73.interaccess.com, dmoorman@interaccess.com (Dave Moorman) writes:
> What also crossed my mind
>> was devising some way of getting maybe a dozen constant-memory
>> values that could be stored when the computer is off. Sort
>> of like a rock-bound rig, but with more rocks!
>>
>
>
>Goodidea! I bet it could be done with a bunch of DIP switches! ;-)
>
>Dave

It will take more than a bunch of DIP switches. The chip is programmed
by a clocked serial data stream, not just parallel bits.

Ray WB6TPU
raymonda@radium.eng.sun.com

1504. KU-BAND LNB'S

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <3n5uu1$2lf@newsbf02.news.aol.com>
Source record: 113403

I am looking for a source of new or used KU-band LNB's. If anyone can help thanks beforehand.

1505. MOTOROLA PROGRAMMING

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: jedent@Sam.Neosoft.Com
Message-ID: <jedent.13.001ED8C1@Sam.Neosoft.Com>
Source record: 113404

MORE AND MORE USED MOTROLA HANDHELDS ARE SHOWING UP AT SALES, AND FESTS.
SOME ONE NEEDS TO LOOK INTO WRITING AN ARTICLE IN QST OR 73MAG ON THE BUILDING
OF PROGRAMMING CABLES AND SOME SORT OF COM PROG TO BE USED WITH THE VARIOUS
KINDS SUCH AS SABER , RADIUS, MTX-900. SO WE DON'T HAVE TO PAY TO HAVE THESE
UNITS RE-PROG'ED TO THE HAM FREQS..

1506. PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: jms@col.hp.com
Message-ID: <3n61jt$meh@nonews.col.hp.com>
Source record: 113405

In the May issue of QST, in the Lab Notes column is an article about measurement of Peak Envelope Power (PEP). The article states that PEP is measured by the following equation, with PEV=Peak Envelope Voltage: ((PEV * .707)^2)/50 for a 50 ohm system. I don't quite understand why a *peak* measurement is made by reducing the peak voltage to a .707 value. Even accepting that PEV * .707 is determining the *average* value instead of the RMS value (for RF) , as stated in the ARRL Amateur Radio Handbook, I still don't follow the reasoning. Using the above equation, it appears that a 1500W PEP output amplifier would have to be capable of outputting 3000W PEP on the *true* peaks in order to not "flat top" and produce excessive distortion products.

Additionally, the QST article stated that one can not measure CW or FM signals the same way, but it seems to me that what's valid for SSB is for CW/FM. Part 97 defines PEP as:

> (6) PEP (peak envelope power). The average power supplied to the >antenna transmission line by a transmitter during one RF cycle at the crest >of the modulation envelope taken under normal operating conditions.

O.K. Accepting that the 'average power during one RF cycle at the crest of the modulation envelope' is actually ((PEV * .707)^2)/50 and not ((PEV * .636)^2)/50 why would CW/FM be treated differently than SSB? And, am I correct about the true peak power being 2X the 'PEP' measured by the above methods?

Anyone care to clarify this for me?

BTW, I know that maybe this post should be in rec.radio.amateur.misc instead of here, but I *have* been working on my home brew linear and thought I could find an answer here. Thanks.

Mike, K0TER

1507. BAYCOM / RAMSEY / Packet info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: Karl Weller <kweller@cris.com>
Message-ID: <3n6clb$7bf@warp.cris.com>
Source record: 113406

I have the RAMSEY Packet Interface board connected via COM Port to
IBM-386 works great with BAYCOM! I want to access the data via
the serial port directly.... I have used all the settings in several
different COM programs but can't see a single character. I am
able to see the carrier detect change states as packets are received
but can't latch a single character :7(

Help if you can, post here or E-mail me
Thanks
Karl Weller

1508. Power Transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: gregl@iglou.com
Message-ID: <D7Cr3z.M82@iglou.com>
Source record: 113407

A friend is repairing an amplifier and needs some 2N6096 power transistors. If anyone knows he might find this transistor, I'd sure appreciate it. I've looked through a few catalogs I have and came up empty. Thanks!

1509. Kits for tube rigs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: mtrail@violet.berkeley.edu
Message-ID: <3n6o9q$dqi@agate.berkeley.edu>
Source record: 113408

Hi,
I've recently completed building the Norcal 40a and Explorer
20 meter kits, and had a ball doing so. I'm still very much in the
beginner/tyro stage--i.e, I can't just whip up a circuit myself or roll
my own gear "ugly" style.
I've always been taken with the romance and allure of tube gear,
and I wonder if there are any good kits out there for novices like me who
want to build hf tube gear simply for charm of it. Any ideas out there?
I ordered a catalog from Antique Electronic Supply today; I wonder
if there will be any ideas in there?

Matt

C
I ordered a catalog from Antique Electronic Supply today; I wonder if t

1510. RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: Adam O'Donnell <adam@libertynet.org>
Message-ID: <3n6qg4$mif@netnews.upenn.edu>
Source record: 113409

REQUEST FOR DISCUSSION (RFD)

Group Name: rec.radio.amateur.low-profile
Status: unmoderated
Proponent: Adam O'Donnell <adam@libertynet.org>
Distribution: world-wide
Newsgroups file: Discussion of the operation of a low-profile amateur radio
station.

This is a formal Request For Discussion on the creation of an unmoderated Usenet newsgroup, rec.radio.amateur.low-profile.

This RFD has been posted in accordance with the Guidelines for Newsgroup Creation. Its language is based on previously submitted RFDs.

****

NOTE: This is not a Call for Votes (CFV). Do not try to vote now.

This message begins a discussion period considering the creation of a rec.radio.amateur.low-profile newsgroup. Discussion should take place in news.groups. All follow-up posts should be made to news.groups.

Any comments such as "I vote yes for rec.radio.amateur.low-profile" will be treated only as a positive reaction to the proposed charter and not as a yes vote on the creation of the group. The CFV will contain instructions on how to vote.

****

CHARTER:

Rec.Radio.Amateur.Low-Profile is a newsgroup devoted to those amateurs who, for various reasons, must configure their radio stations to operate from restrictive areas such as condos, apartments, townhouses, neighborhoods with outdoor antenna restrictions, ships/boats, mobile homes,
or wherever they fry their burgers and call home.

The objective of this newsgroup is to encourage us to investigate means of employing all of the modes available to us for as many different purposes as possible. For examples, how can we use: FM (frequency modulation), CW (morse code),
SSB (Single Side Band: Voice on the Short Wave bands) on: LongWave, ShortWave, VHF (Very High Frequency), UHF (Ultra High Frequency), MicroWave, and Satellite.

Operators who use the newsgroup will be encouraged to describe in
detail their home station and how they solved the never-ending problem of
small city lots and housing development "no-antenna" contracts.

Rec.Radio.Amateur.Low-Profile will be an unmoderated newsgroup.
Users of the group are already experienced netiquette because of their
experience in Amateur Radio, which is a sort of Ladies/Gentleman's club.

A Rec.Radio.Amateur.Low-Profile FAQ will be posted a few weeks after the
creation of the newsgroup.

REASONING:

There are many newsgroups and mailing lists that exist on the
Internet for amateur radio antennas, low power operation, satellite
communications, etc. where operators in restrictive conditions post
continually post messages for help with their situation. In more cases
than not, the operator cannot find sufficient help on the 'group or list.

There should be a place where people who have solved their problems
with cramped quarters can post their problems to a group of knowledgable
amateurs.

I have conducted several informal polls and have discovered
that there are many amateurs (and, actually, non-amateurs) who would
very much favor and enjoy the creation of a newsgroup of this sort.

Distribution of RFD:

The complete official messages - RFD, CFV and vote results
will be posted to these required or affected newsgroups:
news.announce.newgroups, news.groups
rec.radio.amateur.antenna, rec.radio.amateur.misc,
rec.radio.amateur.homebrew, rec.radio.amateur.equiptment,
rec.radio.amateur.space, rec.radio.amateur.policy

Procedure for creating this newsgroup:

Interested parties are encouraged to comment on this proposal in
news.groups. Please post your comments *only* in news.groups.

After 21 days, if there appears to be a strong consensus in favor of
this proposal as it is written here, a CFV will be posted, which
will initiate the voting process; otherwise, discussion will
continue until a more refined proposal can be prepared.

After the CFV is posted, the voting period will be at least 21 days.
If the group passes by receiving 100 more YES votes than NO votes,
and (at least) two-thirds of the total vote is affirmative, the
newsgroup
rec.radio.amateur.low-profile will be created.

Again, please do *not* vote now. The voting process has not begun,
and your votes will be DISCARDED if you attempt to do so.

For more information on the newsgroup creation process, see the
documents entitled "How to Create a New Usenet Newsgroup" and
"Usenet Newsgroup Creation Companion", posted regularly to news.groups,
news.announce.newusers, and news.answers, and available for ftp at
rtfm.mit.edu in /pub/usenet/news.groups.

72, 73 (best regards)
Adam O'Donnell <adam@libertynet.org>

1511. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3n6r7i$jqr@hpscit.sc.hp.com>
Source record: 113410

In article <3n61jt$meh@nonews.col.hp.com>,
Mike Stansberry <jms@col.hp.com> wrote:
>Using the above equation, it appears that a 1500W PEP output amplifier
>would have to be capable of outputting 3000W PEP on the *true* peaks
>in order to not "flat top" and produce excessive distortion products.

That's right. But the FCC talks about about peak *envelope* power, not
peak power.

>Additionally, the QST article stated that one can not measure CW or
>FM signals the same way, but it seems to me that what's valid for SSB

Sure you can. But the power limit for those modes is 750 watts, not
1500 watts.

>is for CW/FM. Part 97 defines PEP as:
>
>> (6) PEP (peak envelope power). The average power supplied to the
>>antenna transmission line by a transmitter during one RF cycle at the crest
>>of the modulation envelope taken under normal operating conditions.
>
>O.K. Accepting that the 'average power during one RF cycle at the crest
>of the modulation envelope' is actually ((PEV * .707)^2)/50 and not
>((PEV * .636)^2)/50 why would CW/FM be treated differently than SSB?

It isn't. FM has constant envelope, hence peak envelope power is the
same as average power. Same for CW (during key down).

>And, am I correct about the true peak power being 2X the 'PEP' measured
>by the above methods?

Yes, but that isn't what the FCC cares about.

>
>Anyone care to clarify this for me?

Rick Karlquist N6RK
rkarlqu@scd.hp.com

1512. Re: Ceramic filters wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: stevekit@eznet.net
Message-ID: <stevekit.58.00164140@eznet.net>
Source record: 113411

>Steve, I'm not certain how Aiwa places that SAW in the IF, but if it's used to pass>the entire video IF, you could have a problem. The chroma subcarrier in PAL>systems is located approximately 4.5 MHz above the visual carrier, not 3.58 as>in NTSC. An NTSC visual SAW is probably set for a bandwidth of 4.1 or 4.2 MHz.>In other words, visual resolution may not suffer to a great extent, but the color>subcarrier may be attenuated to unacceptable levels. This would result in B/W pics.

>73,

>Jack WB3U

Well, the SAW filter is not very steep (Nyquist), and feeding the VCR a booming RF signal, there should be no problem. There is also a color AGC in the demod chip. If there is a problem, it could be with the audio at 5.5. The SAW is usually always before the audio "mixer". As for reducet video bandwidth, recording in the VHS system, half the signal is gone anyway. I'll give it a test as soon as I get the new ceramic filters.

****
* __/__/\ Steve Kittelsen _____ *
* / /\ \ Rochester, New York \ / *
* I I I I " stevekit@eznet.net " \ / *
* \ __\/__ / * OPEN YOUR MIND * \/ *
****

1513. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Apr20.021843.12572@ke4zv.atl.ga.us>
Source record: 113412

In article <3n3cnn$qsu@louie.udel.edu> hanavin@stimpy.eecis.udel.edu (Chuck Hanavin) writes:
>>>I vaguely recall some circuits in some EE texts that use op amps,
>>>resistors, and capacitors to realize a pure inductance. Doing away
>>>with the actual coil would make it easy to create chip inductors.
>>>Not sure about the range on feasible inductances or current limits
>>>on stuff like this, though.
>>
>>Yep, the circuit is called a gyrator. Very large inductances can
>>be synthesized using this circuit. The ft of the active device,
>>and it's gain, usually limits this method to the lower frequencies,
>>but that's exactly where you need large inductances. At higher
>>frequencies, the physical chip inductors can suffice, and of course
>>at VHF+ frequencies, strip line circuits are practical.
>
>I would love to get rid of my 100 pound, 50 henry, choke, I use
>in my AM rig and replace it with some op-amps!

You can, but I don't think you'd like the power opamp you'd need
to replace it. :-)

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1514. Re: Ham-Homebrew Digest V95 #115

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: Andromedo@aol.COM
Message-ID: <950420000421_89424729@aol.com>
Source record: 113413

Greetings-
I hear thru the grapevine that Dan's Small Parts & Kits is defunct. I understand that his phone has been disconnected and that kits ordered from Oak Hills were returned undeliverable.
It has further been stated that he has surfaced somewhere in Wyoming. Does anyone have information on this?
Thanks.
George, WF0K
Hambrew Mag.

1515. Re: Homebrewing Duplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: gcouger@jsun.okstate.edu
Message-ID: <3n6chr$onr@bubba.ucc.okstate.edu>
Source record: 113414

In article <3n3ir7$abf@newshost.lanl.gov>,
Jim Devenport <jdevenport@lanl.gov> wrote:
>bh627@freenet.toronto.on.ca wrote:
>>
>> Hello there
>>
>> Any one have any plans for home brewing duplexers
>> I got a repeater to put up on a comercial tower and have only
>> access to a single tower.... I have heard it no use by some and
>> works great from others...
>
>The ARRL FM and Repeater Handbook has plans for a 2 meter duplexer.
>The homebrew designs I have seen in use may work fine at times,
>terrible at others. Duplexers seem extremely expensive but when you
>get into making one for yourself you will surely, like me, think
>several hundred dollars isn't so bad after all. The biggest problem
>one faces withhomebrew duplexers is that even after all the headaches
>of contructing and tuning it, mechanical stability is a problem,
>especially with copper-clad PC board versions and even with the brass
>or copper tubing versions... temperature swings will invariably detune
>them. Then, if you put up with it long enough, the internal surface of
>the duplexer will oxidize and develop intermittent problems where the
>finger stock rubs the side of the cavity.
>I've never built a complete duplexer; only filter cavities, and they
>are pain enough.

Stainless steel is the best material to make cavities from because of its
low coeficent of therminal expansion. There is one alloy, incnel(sp) that
if I remember right has a coeficent near 0. The bad side is the omic
resistance is high so the commercial jobs are cotated with silver.

If I were considering making a cavity and had plenty of power avalible
I would make it out of copper and put it in an oven. I built an oven
for a demo on R factors in insulation that use a 150 watt light bulb
and muffin fan. I wrote a round robin computer program that read a
thermocopule and turned the light and fan on if the temp was less than
50 degrees and off if it was over that. It reached stability in about
3 hours for a 3'x3' box. You could use a lot simpler controler to hold
the temp. If you do this use some kind of Woods metal link that will
melt at 250 degrees or so. Mine got to 300 f when I forgot and left it
on.

Gordon AB5DG

Gordon Couger
Biosystems & Agricultural Engineering
Oklahoma State University
114 Ag Hall, Stillwater, OK 74074
gcouger@agen.okstate.edu 405-744-9763 day 624-2855 evenings
I do not speak for my employer

1516. Re: antenna switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: Charles.Mccurdy@f1492.n106.z1.fidonet.org
Message-ID: <58b_9504211324@woodybbs.com>
Source record: 113415

Hi ther i tryed that same thing and my swr was way to high it better to buy the mfj switches.

--
|Fidonet: Charles Mccurdy 1:106/1492
|Internet: Charles.Mccurdy@f1492.n106.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

1517. Want ATV Transmitter homemade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: Charles.Mccurdy@f1492.n106.z1.fidonet.org
Message-ID: <58c_9504211324@woodybbs.com>
Source record: 113416

Hi im looking for some txt on how to build a atv transmitter for the 1 gig rang
ok bye.

--
|Fidonet: Charles Mccurdy 1:106/1492
|Internet: Charles.Mccurdy@f1492.n106.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

1518. Re: 222 MHz Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-20 00:00:00 UTC
From: Alf Green <alf>
Message-ID: <3n6an1$gea@adm09.iac.honeywell.com>
Source record: 113417

pbutlalj@ia.net (Allan Butler) wrote:
> Hello All,
>
> I am interested in building the 222 MHz ransverter that is in the
>latest ARRL handbook. The artwork for the boards has been obtained and
>printed out. The list of parts is not too difficult to find but the one
>problem that I can see with the unit is the transmit power level. The
>unit is designed with an output of +6dBm. Now this is fine for across
>the yard or the basement type of work but I would like something that can
>be useful for weak signal work and also to operate with the 56Kb packet
>modems sold by GRAPE.
>
> What it seems is required is an amplifier of some type that would
>take the 4 mW from the transverter to about 25 watts into the antenna.
>Does anyone have any ideas as to the best way to accomplish this at 222
>MHz? The output of the transverter is a 50 ohm impedance. Also the
>article in the handbool says that there will be additional filtering
>required to meet the FCC rules.
>
> I look forward to hearing back from people on how to do this,
>Thanks for your help.
>--
> Al Butler KA0IES
> ajbutler@ia.net
>

The easiest way to get a reasonable amount of power is to use a hybrid power module for the PA. Toshiba makes the M67712 which will put out about 30w for around 80mW in, class AB, 220 -225 MHz. To get from the +6dBm from the transverter to the +19dBm you are probably stuck with a discrete stage, but a BFR96 or MRF571 should be pretty easy.

The power modules are available from RF Parts, San Marcos, CA 1-619-744-0750

73s de Alf NU8I/G4ABB

alf@agreen.iac.honeywell.com Phoenix, AZ

1519. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3n7ssn$7j5@nuclear.microserve.net>
Source record: 113320

jms@col.hp.com (Mike Stansberry) wrote:

> I don't quite understand why a *peak* measurement is made by reducing the peak
>voltage to a .707 value.

I've always thought "MEP" (Maximum Envelope Power) would have been a more appropriate nomenclature for this measurement. Anyway, the meaning of the word "peak" in "PEP" is a misnomer. I think the layman's definition of PEP would be something like "the maximum instantaneous power of the envelope, measured in RMS watts".

>Additionally, the QST article stated that one can not measure CW or
>FM signals the same way, but it seems to me that what's valid for SSB
>is for CW/FM.

The meaning of this statement is unclear. My advice is to ignore it and it will go away.

> Part 97 defines PEP as:
>
>> (6) PEP (peak envelope power). The average power supplied to the
>>antenna transmission line by a transmitter during one RF cycle at the crest
>>of the modulation envelope taken under normal operating conditions.

I've always had a problem with this definition because I don't believe the literal translation
is what the FCC intended. Further, the word "average" shouldn't be in this definition at all.
The average power of a single RF cycle is *not* how SSB or CW RF power is measured - it is indeed an RMS function. Therefore, "average" power of an SSB signal is only relevant when applied to the modulation envelope, and it has no distinct relationship to maximum envelope power. I think the FCC's definition for this measurement is a grammatic goof.

Under Type Acceptance rules, Part 2.985, the output power of an SSB transmitter is measured by injecting a (sinewave) tone, "the level of which is adjusted to produce a radio frequency signal component equal in magnitude to the magnitude of the carrier in this mode."

In other words, the tester would use a wattmeter (like an RMS-reading thruline or thermistor
type) to measure the RF output, which under these conditions will be a continuous wave. The modulation envelope will be flat, and the peak output (misnomer again) will be at maximum carrier level. This paragraph doesn't mention the term "PEP", but I think it's farily obvious that with the output at maximum, the transmitter is producing maximum PEP. Therefore, this procedure tests the rated PEP output of the transmitter. This brings up the point that PEP is not just a theoretical definition - introduction of an AF sine wave at the
balanced modulator produces a carrier, the RMS power level of which is equal to PEP.

>And, am I correct about the true peak power being 2X the 'PEP' measured
>by the above methods?

Yes.

73,

Jack WB3U

1520. SSTV demod advice needed please!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: david@pitvax.xx.rmit.edu.au
Message-ID: <3n6uo7$4mv@aggedor.rmit.EDU.AU>
Source record: 113321

I have been intrigued by receiving slow scan pictures with JV-Fax lately, using the simple op-amp limiter interface. So far I've gotten excellent pics from ZL, JA, 6Y (Jamaica) and from around VK of course. A highlight was a noisy but recognisable picture from a GW3. It's a real blast! I'm pleased with the results from a modest 386 PC and a $10 interface.

Now I'm wondering what I can do to dig out the more noisy signals. The limiter I/F has a definate noise threshold - tones have to be well above band noise to decode cleanly.

I'm wondering results with a discriminator type detector compared to the limiter would be similar to results I noted when experimenting with RTTY a while back. Using the limiter I/F and Hamcomm copy was only possible for strong signals, but when using a demodulator with dual filters and a 'slicer' I could copy signals down into the fades.

I have started to collect bits to build a SSTV demod using LC filtering and discriminator. I'll see how it goes as I progress, and will report any success. I see that the trend nowadays is to use pulse width detectors after filtering and squaring the signal. My subjective feeling is that an LC discriminator would work better under noisy conditions as its output is detected and integrated - with the 1/f type detectors the data is fed to the computer without further processing. A step change is as valid as any other data.

I'd appreciate any comments from anyone who has experimented along these lines. I suppose DSP will render both these techniques obsolete eventually - but until I can afford a device I'm happy to spend a few hours winding inductors!

Best 73, David VK3JKP

1521. wxfax

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: YJWV83A@prodigy.com
Message-ID: <3n7bav$1blk@usenetp1.news.prodigy.com>
Source record: 113322

Hi
I'll looking for help on a design from a shortwave audio out to a
serial in so I can use wxfax or rtty software
73's de Dale KE4GIW
YJWV83A@Prodigy.com

1522. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: R lindberg + E Winnie <rlindber@kendaco.telebyte.com>
Message-ID: <Pine.LNX.3.91.950421071354.14921A-100000@kendaco.telebyte.com>
Source record: 113323
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

I never thought I would say this about an amateur newsgroup, but I
think this is a BAD idea, too narrow in focus and with too limited a base
of users.

Ralph Lindberg N7BSN Ellen Winnie N7PYK
e-mail => dragonsl@scn.org (best address, read daily, forwards to find us)
rlindberg@kpt.nuwc.navy.mil (last resort only)

1523. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: cweddle@astro.as.arizona.edu
Message-ID: <3n8htf$cn0@news.ccit.arizona.edu>
Source record: 113324
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

In article <Pine.LNX.3.91.950421071354.14921A-100000@kendaco.telebyte.com> R lindberg + E Winnie <rlindber@kendaco.telebyte.com> writes:
> I never thought I would say this about an amateur newsgroup, but I
>think this is a BAD idea, too narrow in focus and with too limited a base
>of users.
>
>
>Ralph Lindberg N7BSN Ellen Winnie N7PYK
>e-mail => dragonsl@scn.org (best address, read daily, forwards to find us)
>rlindberg@kpt.nuwc.navy.mil (last resort only)
>

Do you mean the topic of "antennas" is too narrow in focus? I would expect such a topic to catch the interest of quite a few amateurs. Seems to be doing that now, methunks.
Chris N7RME

1524. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: k2ph@dxis.monroe.pa.us
Message-ID: <D7EAIp.Dov@dxis.monroe.pa.us>
Source record: 113325
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

From article <3n8htf$cn0@news.ccit.arizona.edu>, by cweddle@astro.as.arizona.edu (Chris Weddle):
> In article <Pine.LNX.3.91.950421071354.14921A-100000@kendaco.telebyte.com> R lindberg + E Winnie <rlindber@kendaco.telebyte.com> writes:
>> I never thought I would say this about an amateur newsgroup, but I
>>think this is a BAD idea, too narrow in focus and with too limited a base
>>of users.
>
> Do you mean the topic of "antennas" is too narrow in focus? I would expect
> such a topic to catch the interest of quite a few amateurs. Seems to be
> doing that now, methunks.

Exactly! The rec.radio.amateur.antenna group already exists and
appears to be a perfect forum for the discussion of antennas,
low profile and otherwise.

73,
Bob K2PH

--
+------------------ \-\-\-\ -----------------------------+
Bob Schreibmaier K2PH	INTERNET: k2ph@dxis.monroe.pa.us
(a.k.a. "The QRPer")	ICBM: 40o55'N 75o30'W
Kresgeville, PA	Free the Intel 486!
+---+

1525. Re: SSTV demod advice needed please!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: johnl@world.std.com
Message-ID: <D7Dutn.4oA@world.std.com>
Source record: 113326

In article <3n6uo7$4mv@aggedor.rmit.EDU.AU>,
<david@pitvax.xx.rmit.edu.au> wrote:
>I have been intrigued by receiving slow scan pictures with JV-Fax lately,
>using the simple op-amp limiter interface. So far I've gotten excellent
>pics from ZL, JA, 6Y (Jamaica) and from around VK of course. A highlight
>was a noisy but recognisable picture from a GW3. It's a real blast! I'm
>pleased with the results from a modest 386 PC and a $10 interface.
>
>Now I'm wondering what I can do to dig out the more noisy signals. The
>limiter I/F has a definate noise threshold - tones have to be well above
>band noise to decode cleanly.
>
:
:
>
>I'd appreciate any comments from anyone who has experimented along these lines.
>I suppose DSP will render both these techniques obsolete eventually - but
>until I can afford a device I'm happy to spend a few hours winding inductors!
>
>Best 73, David VK3JKP

I've done a lot of SSTV homebrewing and experimenting over the years.
One of my early attempts (described in 73 Magazine December '89) used
the discriminator design with op amps rather than L-C circuits. It
wasn't exactly linear for frequency to voltage conversion and required
adjustment. the output voltage swing was proportional to the input
voltage so a limiter was required anyhow at the input.

Later attempts used digital hardware to measure the time between zero
crosssings (QST Magazine January 93) and the single op-amp limiter
approach (E Z SSTV software from ftp.ucsd.edu:/hamradio/sstv or
ftp.cs.buffalo.edu:/pub/hamradio).

SSTV uses tones in the 1100-2300 Hz range. I found that adding a switched
capacitor filter with bandpass of approx 1000-2400 (to allow for
slight mistuning) made a tremendous difference with the single op-amp
design when interference was outside that range. Of course it
can't do anything about noise within that range.

the external filter didn't help much with my Pasokon TV system because
it already has a bandpass filter in front of the limiter.

Send me your postal address and I'll send copies of the magazine
articles mentioned. I'll even pay the postage to Australia. Always
glad to help another homebrewer. Other people can send me an
SASE with 3 ounces of postage.

Information about SSTV is available on the World Wide Web at
http://www.ultranet.com/~sstv

Let us know the results of your experiments. The major equipment manufacturers have no interest in SSTV so the advances will come from the homebrewers like you.

73,
John WB2OSZ

1526. Focal Point of a Microwave Dish

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199504211336.NAA03410@chaos.magibox.net>
Source record: 113327

> I am in need of a formula for the focal-point of a microwave dish. I have a 18" dish that I want
> to put on 10 GHZ. I can't find the formula. If anyone could help, I would sure appreciate the help

Sorry if this comes too late, but I just dug my Satellite
Experimenters Handbook out of storage.

The focal point (f) of a dish is given not by its frequency but by
the physical dimensions of the disk: diameter (d) and height (h).
Height is the depth of the dish (from the bottom of the disk up to an imaginary
string streched from lip to lip). The formula is:

f = d^2 / (16*h)

Hope it helps. Are you using wideband FM or narrowband? I've got
two gunplexor style units that I plan to use for a high speed
(115kb) digital link when I can make the time to work with them.
I've used them for short range (across the room) voice using a 30MHz
FM IF, but I need to build a very-wide band (500MHz) FM IF.

Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

1527. Mod. for SPORTCAT scanner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: seang900@aol.com
Message-ID: <3n8hq0$ktv@newsbf02.news.aol.com>
Source record: 113328

Would anybody have information on how to modify the Uniden Sportcat
Scanner for cellular phones. It works only with branching.
thanks

1528. Need Microwave parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <3n8ljn$lp5@newsbf02.news.aol.com>
Source record: 113329

I have an HP 8551B spectrum analyzer I am looking for parts for. I am also looking for an HP415 SWR meter and also a microwave power meter. Anybody have any info. Thanks in advance. My phone is 203-573-5581 days and 203-583-1191 eves. and weekends.

1529. Re: (Q): WX SAT receiver /converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: mzenier@eskimo.com
Message-ID: <D7E6w3.C8z@eskimo.com>
Source record: 113330

in <3mvpa7$4qe@louhi.to.icl.fi>, Vesa Myllykangas wrote:
: I had no idea where to post my Q, so I thought HAMs should
: know this kind of things. Anyway I looking chematics for RX/
: converter to see/listen WXsats ? Could someone post/reply or
: point ftp site to me where to find this kind of info. I'm looking
: cheap one, professional ones are beyond my budget. Please
: any opinions are welcome !

The American Radio Relay League publishes the "Weather Satellite Handbook"
by Dr. Ralph E. Taggart. $20, ARRL 1990 ISBN 0-087259-319-3

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1530. Re: 222 MHz Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995Apr21.132028.16284@arrl.org>
Source record: 113331

KA0IES Allan Butler (pbutlalj@ia.net) wrote:

: What it seems is required is an amplifier of some type that would
: take the 4 mW from the transverter to about 25 watts into the antenna.
: Does anyone have any ideas as to the best way to accomplish this at 222
: MHz? The output of the transverter is a 50 ohm impedance. Also the
: article in the handbool says that there will be additional filtering
: required to meet the FCC rules.

The March 1993 QEX has a 100 mW no-tune amp with 16 dB of gain, or
2 dB more than typically needed to drive a Mitsubishi M67712 25 watt
222 MHz power module. A helical filter such as that published in the
20th Eastern States VHF conference would do the job nicely. Putting
everything in separate, shielded enclosures connected with coax is
the easiest way get a really clean signal. Trying to get a clean signal
while stuffing everything in a single box requires either luck, black
magic, or a really sharp radio designer.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1531. BAYCOM / RAMSEY / Packet info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199504211712.RAA10096@chaos.magibox.net>
Source record: 113332

> I have the RAMSEY Packet Interface board connected via COM Port
> to IBM-386 works great with BAYCOM! I want to access the data
> via the serial port directly.... I have used all the settings
> in several different COM programs but can't see a single
> character. I am able to see the carrier detect change states as
> packets are received but can't latch a single character :7(

Baycom style modems don't use the standard RS232 TX and RX lines. The Baycom modems are just that, modems; i.e they don't manipulate the data, just translate audio frequency to on/off.

AX.25 (packet radio) is synchronous - sync flags and checksums for a whole frame (block) of characters; and standard PC serial ports are asynchronous - start/stop bits for each character. So there would have to be some "smart" translation of sync to async between the modem and the PC - which is precisely what a TNC does (and more).

Since the PC has to detect each bit in the received signal, they dont even use the RX and TX data lines. They used the CTS and RTS (or something) since these lines generate interupts for each transition (as apposed to an interupt after an entire character). So the RX and TX aren't even used (except in Baypac modem where they steal 11Vdc to drive the circuitry).

The bottom line is that you wont see anything as a normal serial port. You (and me) wanted to save money but there's still a price to be paid. For me its a price I can (and do) live with.

Besides the Baycom software, there are two other drivers that can work with Baycom style modems: TFPCX (found often with SP6xx) and AX25 (a driver compatible with JNOS-TCP/IP). I think both can be downloaded from ftp.ucsd.edu. I have used both and they work fine (on anything bigger than an 8088!). TFPCX features W8DED emulation and a DED terminal program. Neither of these are straight forward plug and play, though; so if you have questions, I'd be glad to help.

Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

1532. LMX1501 MB1501 ant experience?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: Pete@mahy.demon.co.uk
Message-ID: <798499082snz@mahy.demon.co.uk>
Source record: 113333

Does anyone have experience of using the synth chips by National, or Fujitsu. I am using these Ic's but finding problems with the drive level, or miscounting due to harmonics.

-- Pete Mahy

1533. Homebrew Coil Forms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3n9f2g$fgh@nuclear.microserve.net>
Source record: 113334

Hello there,

Just wanted to mention a source of coil forms that I discovered some time ago.

Hardware stores sell a toilet overflow tube that is ideal for coil forms and high power RF chokes. The tubes are made of styrene and are approximately 9-3/4" long after removing the small base assy. Actually, the base has a hole in it's center that's just right for upright mounting with a 6-32 or 8-32 machine screw. The base is not especially sturdy, however, so it's not an ideal mounting method if you're using more than two or three inches of the tube, or if you're building it for a VFO. For large RF chokes, I use a PVC adaptor with two mounting ears and epoxy it to the bottom of the form.

Anyway, the tubes are 1" diameter and have a wall thickness of approximately 0.09" or 0.10", much sturdier than the pill bottles I have sometimes seen used for this purpose. Being styrene (butyrate?), they can distort at the temperatures used in soldering, but are otherwise very stable. If you use a solvent-based adhesive to secure the ends of the coil, the slight dissolving action provides a secure anchor for the wire. Personally, I just spray the completed coil with a couple coats of Krylon or other clear lacquer.

Aside from tuned coils and HV RF chokes, these tubes should also work well for homebrew filament chokes. Cut the tube to size, secure a ferrite rod inside with two dabs of silicone glue, and you have a durable form for winding the chokes. A small hole drilled at right angles in each end will allow mounting the completed choke(s) on nylon or ceramic standoffs.

Incidentally, I have seen these tubes in two varieties. They are both styrene, but one is copper colored and looks as though it may have metallic color flakes in the plastic. I avoid this type for obvious reasons.

Final cost? The tube itself costs about 3 or 4 dollars. Adding the PVC mount, #22 magnet wire, a couple brass screws at the top and a can of Krylon, my last high-power RF choke cost less than $10. In addition, I have enough tubing left for a second choke, and sufficient Krylon for many more.

With care in asssembly (and selection of mounting hardware), the resulting coils and chokes will provide a professional appearance

and long-term performance, all at a much lower cost than their commercial counterparts.

73,

Jack WB3U

1534. 800mhz mod for the kenwood 79a needed!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: dmclean@dfw.net
Message-ID: <3n9kl1$g6b@dfw.net>
Source record: 113335

I need the 800mhz mod for the Kenwood 79a. Thanks for your help

--
David MClean
From the World of Ham Radio!
KC5NNV Is Clear!

1535. Re: Mosley says you can't wind coils????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-21 00:00:00 UTC
From: zardoz@ornews.intel.com
Message-ID: <3n9hir$a1d@ornews.intel.com>
Source record: 113336

In article <3n6h6g$spg@dlsn31.dal.mobil.com>,
Jake A. Hellbach <Jake_A._Hellbach@ccmail.mobil.com> wrote:

>I guess if Mosley says you can't wind coils then I should throw out
>all my reference manuals!

I have an old Mosley parts list at home which includes BLANK coil
forms so that you can wind your own. Maybe they have had some personel
changes or something.

--
zardoz@ornews.intel.com WA7LDV Greetings and Hallucinations
I speak only for myself... I come in peace...

1536. Re: DigiVFO article in QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950422135835.11917A-100000@pmafire.inel.gov>
Source record: 113337

I would like to know of a hobbyist source for the HSP45102 numerically controlled oscillator (I prefer not to order the whole kit mentioned in the QST article).

Another part I am interested in is the Analog Devices AD7008. This part includes a DAC as well as an I/Q modulation function in a 44 pin PLCC package.

Charles Mott

1537. Re: Copper Tape

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: mzenier@eskimo.com
Message-ID: <D7Hy1t.HFC@eskimo.com>
Source record: 113338

in <Pine.HPP.3.91.950420154656.10677A-100000@pmafire.inel.gov>, Jack Mott wrote:
: I would like to know of a commercial source for copper tape (1.5" wide,
: conductive adhesive). 3M is one manufacturer. This ends up being
: remarkably useful in many applications.

I bought some at Advance Wire, an electronic distributor that seems to have evaporated in the 5 years since then. Pity, they stocked it in 9 inch rolls and would cut it in any width you wanted on their lathe.

For 3M, it comes from the Electrical Products Division. (Different Divisions have different distributors.) A buyers guide I have lists Anixter, Bisco, EIS, Larsco, Peters-de Laet, West Vally Industries, Coast Air, H. W. Eckhardt and Gourmet Electronics as distributors. (No idea who really stocks it, though.)

Best Bet would be to call the nearest 3M office and ask who distributes Electrical Products. Or maybe 3M has an 800 inquiry number that someone knows.

Type 1181 is the smooth copper with the metal particles in the adhesive
1194 is smooth copper with non conductive adhesive
1245 is quilted copper with partial adhesive coverage for thru conductivity
1345 is a tinned version of 1245

All of them, except 1345 will tarnish over time.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1538. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2204952104340001@nb-dyna71.interaccess.com>
Source record: 113339
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

In article
<Pine.LNX.3.91.950421071354.14921A-100000@kendaco.telebyte.com>, R
lindberg + E Winnie <rlindber@kendaco.telebyte.com> wrote:

> I never thought I would say this about an amateur newsgroup, but I
> think this is a BAD idea, too narrow in focus and with too limited a base
> of users.

As a condo-dwelling ham, I can see a use for this group. It would be
handy to be able to exchange information about invisible antennas and
RFI/TVI type problems, etc., in a focused group. I couldn't say how many
people woudlpost to it, though. Anyone else interested?

Dave K9SW
Downers Grove,
Illinois

1539. Re: DigiVFO article in QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <798535651snz@lfheller.demon.co.uk>
Source record: 113340

In article <pechanec.113.2F987816@dsp1.ece.psu.edu>
pechanec@dsp1.ece.psu.edu "Martin Pechanec" writes:

>
> > The DigiVFO article highlighted a rather interesting IC:
> > specifically, it was a numerically-operated oscillator.
> > I must be out of the loop (and not just the phase-locked
> > kind!) - I had never heard of this chip before! The
> > homebrew possibilities are fantastic, though. It seems
> > like this chip could be really useful for building
> > homebrew transceivers and sweep generators.
>
> > Has anyone done anything with this chip? It looks
> > like quite a gem.
>
>
> >There are certainly more DDS and synthesizer chips out there, as well as
> >other devices which generate quadrature output (such as [i think] Qualcomm
> >and MiniCircuits); i've merely listed these as being WWW accessible. Of
> >course, you should take this all with a grain of salt, as i, too, am just
> >learning at this point.
> > -- KD6PAG (networking old-timer and RF newbie)
>
> Analog Devices have two chips - AD7008 and the new one AD9955.
>
> AD7008 has 32-bit phase accumulator and 10-bit DAC converter on chip.
> 20MHz output.

I've just been given one of the 50 MHz AD7008 devices to play with (my
thanks to Colin, G3SBI). The data sheet is very interesting; it includes
a circuit for a two chip Rx using the AD7008 and an AD607 for AM and FM.
Of course, with an AD7008-50 it will be limited to less than 25 MHz,
and the performance won't be very good, but I might try it out for my
own amazement, as one of my maths teachers used to say.

Colin also sent me some info on the "Radware card" which appears to use
a DDS, and connects to a PSA DSP-based sound card. The Radware card plugs
into a PC and, in conjunction with the sound card, constitutes an AM/SSB/CW
Rx, which can also be used as an exciter for a Tx, spectrum analyser for
450 KHz to 30 MHz, and a signal generator. Has anyone got any experience of
this card? I have a feeling that it uses the AD7008, probably in conjunction
with a PLL synthesiser.

Leon
--

Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

1540. NEED 10GHz Skeds...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: smchenry@freenet.columbus.oh.us
Message-ID: <3nal0o$hbf@acme.freenet.columbus.oh.us>
Source record: 113341

I am looking for folks in ther Columbus, Ohio area to get on 10 GHz
wideband FM. I have built a transceiver and a rx. I would like to find
someone in the area to try the things out with. I can talk to myself and
have been crossbanding some of the local repeaters onto 10 GHz occasionally.
If I don't find enough intrest in the band soon, I'm going to have to
mount it on the tower and set it up as a becon...
Please e-mail at smchenry@freenet.columbus.oh or call me at (614)
529-8529 after 2:00pm. The call is KB8JNE. Thanks.
--
smchenry@FREENET.COLUMBUS.OH.US In Cyberspace, no one can hear you scream.

1541. Re: HELP WITH RF DIRECTIONAL COUPLER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <798541174snz@lfheller.demon.co.uk>
Source record: 113342

In article <3na765$lhl@tibalt.supernet.ab.ca>
mwilde@freenet.edmonton.ab.ca "agtss" writes:

> Hi,
>
> I'm looking for some information on directional couplers. I've read several
> articles and texts but am still left with a several questions.
>
> 1. What value should a designer pick for Zoe or Zoo and why. I realize they are> related and to the system Zo [Zo = (Zoe *Zoo)**1/2], but I can't find anything
> to
> tell me what values to use and why. Given one has a frequency BW, and degree
> of coupling in mind it seems to me you still need Zoo or Zoe before you have
> your coupler?
>
> Any ideas?
>
> 2. Is there any good literature on very broadband couplers (10 Mhz to 1000 Mhz.)> In the 60's HP designed a coupler (HP778D) which used a tapered line from the
> main line to achieve a very broad bandwith. Is there any published information> on this? Or given I only want one, does anyone know where I can pick one up
> without a
> major expense.
>
>
> Any help or suggested references would be deeply appreciated!

The Mini-Circuits RF/IF Designer's Handbook has a lot of info on their
broad-band directional couplers. They aren't too expensive, and it probably
isn't worth "rolling your own". For instance, they have a 1 to 1000 MHz
device for $32.95, one off. They are on (718) 934-4500.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

1542. Re: Copper Tape

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: dnewkirk@nai.net
Message-ID: <3nb5lc$d12@a3bsrv.radnet.com>
Source record: 113343

Jack Mott <jackm@pmafire.inel.gov> wrote:

>I would like to know of a commercial source for copper tape (1.5" wide,
>conductive adhesive). 3M is one manufacturer. This ends up being
>remarkably useful in many applications.

1.5 inches wide may be beyond the pale, but try art/craft shops that
stock stained-glass window supplies. And the adhesive is meant to take
soldering heat...

Regards

David Newkirk (WJ1Z)
email: dnewkirk@nai.net

1543. Re: Q: Regulated screen supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: G3SEK@ifwtech.demon.co.uk
Message-ID: <360183495wnr@ifwtech.demon.co.uk>
Source record: 113344

Sorry I missed some of the postings on this topic since going away
on April 10th. Here's what I've been able to retrieve, with a few
comments.

In article: <3mseta$6p3@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:

: >Zack are you trying to say that Ian is wrong in stating what IS!!
: necessary
: >for screen regulation for 4cx series tetrodes.The imd does deteriorate
: >rapidly if this sort of regulation is not adhered to. In the 80's John
: Nelson
: >G4FRX now GW4FRX did exhaustive work on this very subject.
:
: Where can I get copy of this work?

Conrad G0RUZ has passed on the references from Short Wave Magazine.
It's also mentioned in GW4FRX's chapter in the VHF/UHF DX Book.

: While I agree that zeners aren't
: usually enough, I disagree that it has to be millivolts to be effective.

Slight misquotation there: I said "hundreds of millivolts" as an
order-of-magnitude, i.e. not "millivolts" and not "volts" either.

Since zeners typically have a slope resistance of up to 10 ohms,
and you need (say) five diodes, then for screen-current swings of
the order of +/-20mA per tube you'll see a voltage swing of +/-
several hundred millivolts on a two-tube amp. It doesn't help to
use a smaller number of higher-voltage zeners, because their slope
resistance is higher and you find that the overall regulation is
about the same. In other words, zeners are marginal, as Tom says.

: I asked a couple Engineers at Eimac and they are puzzeled about the
: millivolts too as long as there is some dynamic regulation from a cap.

As noted above, "millivolts" is overstating the requirement,
so I daresay Eimac would have been puzzled :-)
The cap is a good idea, but it needs to be quite a high value -
100uF or more - to have much effect on dynamic regulation for SSB
speech.

By the way, GW4FRX did discuss his results with Eimac, who at that
time had no comparable measurements of their own.

: What I found here was that if the screen was held within a percent or so,
: the IMD from typical radios (only -30 to -35 dB on the ones I tested) was
: much worse than the tube. I wonder why this difference? I also found a

: cathode resistor for negative feedback helped substantially.

Were your measurements with 4CX250s and 350s, Tom?
These tubes are far more sensitive to dynamic screen voltage than are beam tetrodes in general. For example, you can get excellent IMD results from 6146Bs without any attempt at regulating the screen voltage - in fact it's customary to use a 100ohm series resistor in each screen feed! But you can't do that with 4CX250s or 350s... well, you can try, but your neighbors on the band will notice the difference.

To be fair, the original question way-back-when was about a VHF amp, and the lower background noise at VHF does call for a higher standard of signal purity than at HF, where IMDs of -30dB may vanish down in the crud and QRM. For HF SSB, maybe I'm being over-critical.

Zack KH6CP/1 asked:

: What would you recommend in place of a two tone test for better
: measuring the distortion products? Perhaps something along the
: lines of an effective bandwidth measurement with a "standard"
: voice waveform?

Yes, I think so, because IMD under dynamic voice conditions is what other band users are concerned about. More specifically, we're concerned about *peak transient* levels of IMD, a.k.a. "splatter". At VHF/UHF in particular, we're also concerned about the levels far out from the signal itself, and how rapidly they die off as you tune away.

We definitely need something more realistic than the conventional two-tone tests, which are static and usually only cover close-in 3rd and 5th order IMPs. No hi-fi lab would dare to test an audio linear amplifier in such a naive way!

A very simple technique requiring no testgear at all is to have a local friend tune across your SSB signal using a RX with a known good dynamic range, and tell you how many kHz either side before your splatter disappears into the noise.

For all its simplicity, that talk-and-tune method goes directly to what you need to know about your transmission quality.

Since the spurious-free dynamic range of a good VHF RX can be well over 90dB, that's how far down from PEP you need to be looking in laboratory measurements as well.

To adapt this to reproducible laboratory technique, one possible method would be to make a very narrowband slow sweep through the SSB signal,while a digital voice recorder reads from the ARRL Handbook in an endless loop. The sweep needs to go as far out on either side as necessary for the splatter to disappear completely.

You'd need a storage spectrum analyser in peak-hold mode to save and plot the *highest* recorded IMD level as a function of frequency.

It would need a very good analyser to achieve the dynamic range required, and it might be better to use a dedicated single-conversion 'front end' with a high-level mixer and narrowband IF filter. Say you use a 250Hz IF filter; you could then leave the analyser tuned to the IF frequency, in peak-hold mode, and tune the LO to step across the signal in 250Hz increments.

OK, I'm sort of making this up as I go along. Pause for comment: does it make sense to test our SSB transmitters in this way?

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1544. Re: LMX1501 MB1501 ant experience?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: Joe Rocci <rocci@netaxs.com>
Message-ID: <3nbdib$1a4@netaxs.com>
Source record: 113345

> Does anyone have experience of using the synth chips by National, or Fujitsu. I
> am using these Ic's but finding problems with the drive level, or miscounting
> due to harmonics.

The 1501 chip MUST have CHIP (as in SMD) capacitors as close to the
IC pins as possible. This is particularly true of the phase comparator
output, the lock detector output, and the VCC lines. I recently
had a difficult time using this part at 550MHZ until I switched over
to chip cap bypasses. By the way, this also improved the sensitivity
at least 10dB, and the part then was stable and met its published
specs.

Joe
WA3CMQ

1545. THE "LOWFER" 160 - 190 KHz BAND

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: magill@ix.netcom.com
Message-ID: <3nbhpu$m6u@ixnews3.ix.netcom.com>
Source record: 113346

Being an enthusiast of long-wave communications, wondering if anyone on the NET is still participating in the 160 - 190 KHz band per FCC part 95 (I believe). Some years back there were alot of beacons and experimental work happening in this band, mainly driven by HAMS even though a ticket is not required.
I am interested in hearing from anyone still interested in, or active on this experimental band. I am located in the San Francisco Bay area. Also at one time there was a newsletter published by someone (a HAM) for projects, equipment and other activities for the "LOWFER" gang.

Any contact please --- Thanks --- Bob // N6MTU.

1546. Re: Copper Tape

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: geletka@interaccess.com
Message-ID: <3n9qat$mcg@nntp.interaccess.com>
Source record: 113347

Jack Mott <jackm@pmafire.inel.gov> wrote:

>I would like to know of a commercial source for copper tape (1.5" wide,
>conductive adhesive). 3M is one manufacturer. This ends up being
>remarkably useful in many applications.

>Charles Mott

I got mine at American Science Center, 5700 N. Northwest Highway,
Chicago. phone 312 763-0313.

The tape was surplus. They have a nice selection of many unusual
things.

1547. Re: DigiVFO article in QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: pechanec@dsp1.ece.psu.edu
Message-ID: <pechanec.113.2F987816@dsp1.ece.psu.edu>
Source record: 113348

> The DigiVFO article highlighted a rather interesting IC:
> specifically, it was a numerically-operated oscillator.
> I must be out of the loop (and not just the phase-locked
> kind!) - I had never heard of this chip before! The
> homebrew possibilities are fantastic, though. It seems
> like this chip could be really useful for building
> homebrew transceivers and sweep generators.

> Has anyone done anything with this chip? It looks
> like quite a gem.

>There are certainly more DDS and synthesizer chips out there, as well as
>other devices which generate quadrature output (such as [i think] Qualcomm
>and MiniCircuits); i've merely listed these as being WWW accessible. Of
>course, you should take this all with a grain of salt, as i, too, am just
>learning at this point.
> -- KD6PAG (networking old-timer and RF newbie)

Analog Devices have two chips - AD7008 and the new one AD9955.

AD7008 has 32-bit phase accumulator and 10-bit DAC converter on chip.
20MHz output.

AD9955 has also 32-bit phase accumulator, 12-bit sine digital output,
no DAC on chip. Driving freguency 100MHz typ., 85MHz min.

Qualcomm has Q2220, Q2230 and flagship Q2334 with _two_ DDS
circits in one chip with the noise reduction circuit
(noise due to the phase truncation). To my knowledge neither
Harris nor AD have that. Also FSK, MSK and PSK are possible.
There are some good ideas of the second order dithering in conference
proceedings from 1994 and 1995.Qualcomm also offers evaluation boards
with DDS chip and DAC on theboard. I found their idea of PLL driven by
DDS output very interesting.(850-1750MHz with <1Hz steps - application
note AN2334-4).

Martin Pechanec
pechanec@dsp1.ece.psu.edu
OK1DOP

1548. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: jbloom@nai.net
Message-ID: <3n9tv1$27s@a3bsrv.radnet.com>
Source record: 113349

jms@col.hp.com (Mike Stansberry) wrote:

>In the May issue of QST, in the Lab Notes column is an article about
>measurement of Peak Envelope Power (PEP). The article states that
>PEP is measured by the following equation, with PEV=Peak Envelope
>Voltage: ((PEV * .707)^2)/50 for a 50 ohm system. I don't quite
>understand why a *peak* measurement is made by reducing the peak
>voltage to a .707 value.

Look at it this way. Compared to the carrier frequency, the modulating frequency is extremely low. That means that from one RF cycle to the next, the peak amplitude--and thus the RMS amplitude--of the signal doesn't change much. But if you look at the signal for long enough, you'll see the RF cycle amplitude changing with the modulation. What we are looking for is the largest-amplitude RF cycle during the period of the modulating signal. We then calculate the RMS power for that largest RF cycle, and that's the PEP. Since we are calculating an RMS power, we need to do so using an RMS voltage. That's where the .707 comes from.

>Even accepting that PEV * .707 is determining
>the *average* value instead of the RMS value (for RF) , as stated in the
>ARRL Amateur Radio Handbook, I still don't follow the reasoning.
>Using the above equation, it appears that a 1500W PEP output amplifier
>would have to be capable of outputting 3000W PEP on the *true* peaks
>in order to not "flat top" and produce excessive distortion products.

No, a 1500-W PEP amplifier has to output 3000 W *peak,* or instantaneous, not PEP. But you have to be a bit careful here. "Instantaneous" power is something of a conundrum.

>Additionally, the QST article stated that one can not measure CW or
>FM signals the same way, but it seems to me that what's valid for SSB
>is for CW/FM. Part 97 defines PEP as:

I don't think it said quite that. It said the PEP of a CW transmitter is just its key-down RMS output power, and for an FM transmitter it's just its RMS output power, which doesn't vary. In all cases, the PEP is the power in the highest-amplitude cycle of the RF signal. For CW and FM transmitters, the amplitude is constant (and easily measured).

>> (6) PEP (peak envelope power). The average power supplied to the
>>antenna transmission line by a transmitter during one RF cycle at the crest
>>of the modulation envelope taken under normal operating conditions.

>O.K. Accepting that the 'average power during one RF cycle at the crest
>of the modulation envelope' is actually ((PEV * .707)^2)/50 and not

>((PEV * .636)^2)/50 why would CW/FM be treated differently than SSB?

For power, "average" and "RMS" mean the same thing (over one cycle).
For voltage and current, the two terms mean different things.
Specifically, for voltage and current, you get the average by
averaging the instantaneous values of voltage or current over a cycle.
You get the RMS value by average the *squares* of the instantaneous
values and then taking the square root. For power, you calculate
average/RMS by taking the average of the product of voltage times
current, then taking the square root.

If you were to go through the math for that, you would find that
another way of getting the RMS (or average) power is to multiply the
peak voltage by .707, the peak current by .707, then multiply the two
resulting values. That's the *reason* why the RMS value of voltage or
current is 0.707 times the peak: because that's the value which makes
the product of RMS voltage time RMS current equal to RMS power.
(The .707 is only valid when the waveform is a sine wave, by the way.)

>And, am I correct about the true peak power being 2X the 'PEP' measured
>by the above methods?

The peak power is 2x the PEP. But that's not particularly useful
information. Values such as tube dissipation ratings are concerned
with RMS power, not instantaneous values.

>Anyone care to clarify this for me?

Hope that helps.

>BTW, I know that maybe this post should be in rec.radio.amateur.misc
>instead of here, but I *have* been working on my home brew linear and
>thought I could find an answer here. Thanks.

>Mike, K0TER

--
Jon Bloom, KE3Z
jbloom@nai.net

1549. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: jbloom@nai.net
Message-ID: <3n9u3u$27s@a3bsrv.radnet.com>
Source record: 113350

jackl@pinetree.microserve.com (WB3U) wrote:

>jms@col.hp.com (Mike Stansberry) wrote:

>> I don't quite understand why a *peak* measurement is made by reducing the peak
>>voltage to a .707 value.

>I've always thought "MEP" (Maximum Envelope Power) would have been a more appropriate
>nomenclature for this measurement. Anyway, the meaning of the word "peak" in "PEP" is
>a misnomer. I think the layman's definition of PEP would be something like "the maximum
>instantaneous power of the envelope, measured in RMS watts".

"Instantaneous power" can't be an RMS value, since RMS values are
time-average values.

[snip]

>> Part 97 defines PEP as:
>>
>>> (6) PEP (peak envelope power). The average power supplied to the
>>>antenna transmission line by a transmitter during one RF cycle at the crest
>>>of the modulation envelope taken under normal operating conditions.

>I've always had a problem with this definition because I don't believe the literal
translation
>is what the FCC intended. Further, the word "average" shouldn't be in this definition at
all.
>The average power of a single RF cycle is *not* how SSB or CW RF power is measured -
>it is indeed an RMS function. Therefore, "average" power of an SSB signal is only relevant
>when applied to the modulation envelope, and it has no distinct relationship to maximum
>envelope power. I think the FCC's definition for this measurement is a grammatic goof.

"RMS power" and "average power" are the same thing when you are
talking about a single cycle of a sine wave. That's why the FCC's
definition is technically correct.

--
Jon Bloom, KE3Z
jbloom@nai.net

1550. Re: Copper Tape

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: ddlee@NeoSoft.com
Message-ID: <3n9vcc$q7i@uuneo.neosoft.com>
Source record: 113351

In <Pine.HPP.3.91.950420154656.10677A-100000@pmafire.inel.gov>, Jack Mott
<jackm@pmafire.inel.gov> writes:
>I would like to know of a commercial source for copper tape (1.5" wide,
>conductive adhesive). 3M is one manufacturer. This ends up being
>remarkably useful in many applications.
>
>Charles Mott
>
Hi Charles-

I just bought a roll of 3/16" x 36 yds roll from local crafts shop.
It doesn't have mfg name, tho. They use it for stained glass building.

What do you use yours for?
-dave

1551. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3na5hp$i4v@nuclear.microserve.net>
Source record: 113352

jbloom@nai.net (Jon Bloom) wrote:

>"Instantaneous power" can't be an RMS value, since RMS values are
>time-average values.

Yes, I realized too late that this was a poor choice of words. I probably should have said "the RMS power of the envelope at maximum modulation". Then again -

>"RMS power" and "average power" are the same thing when you are
>talking about a single cycle of a sine wave. That's why the FCC's
>definition is technically correct.

Yes, again. In fact, I'd go so far as to say that "RMS power" is a nonsensical term, because technically, RMS Volts x RMS Amperes = Average Power.

Anyway, thanks for pointing this out. Gotta stop posting this stuff at 4:00 in the morning . . .

73,

Jack WB3U

1552. HELP WITH RF DIRECTIONAL COUPLER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: agtss@tibalt.ab.ca
Message-ID: <3na765$lhl@tibalt.supernet.ab.ca>
Source record: 113353

Hi,

I'm looking for some information on directional couplers. I've read several articles and texts but am still left with a several questions.

1. What value should a designer pick for Zoe or Zoo and why. I realize they are related and to the system Zo [Zo = (Zoe *Zoo)**1/2], but I can't find anything to tell me what values to use and why. Given one has a frequency BW, and degree of coupling in mind it seems to me you still need Zoo or Zoe before you have your coupler?

Any ideas?

2. Is there any good literature on very broadband couplers (10 Mhz to 1000 Mhz.) In the 60's HP designed a coupler (HP778D) which used a tapered line from the main line to achieve a very broad bandwith. Is there any published information on this? Or given I only want one, does anyone know where I can pick one up without a major expense.

Any help or suggested references would be deeply appreciated!

Reply by post or email me at mwilde@freenet.edmonton.ab.ca

'73s

Mel Wilde (VE6MML)

1553. Re: Collins 390A/URR

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: ebarbour@netcom.com
Message-ID: <ebarbourD7FDnn.7oJ@netcom.com>
Source record: 113354

Piero Garetto (garret@strobe.ATC.Olivetti.Com) wrote:

: Do you know where I can find a mechanical filter (f = 455Kc , bw = 2Kc) for
: Collins 390A/URR ??

The biggest dealer in old R390s is:
Fair Radio Sales
Lima, OH

1554. Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-22 00:00:00 UTC
From: ebarbour@netcom.com
Message-ID: <ebarbourD7FDsJ.7ty@netcom.com>
Source record: 113355

I have an email account now, so if anyone has questions about
tube electronics, I can probably help or give you a contact.

Eric Barbour
GLASS AUDIO, VTV NEWS
ebarbour@netcom.com (408)733-6146 fax

1555. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-23 00:00:00 UTC
From: brucem@eskimo.com
Message-ID: <D7Hzpx.89o@eskimo.com>
Source record: 113356
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

Well, I currently live in an apartment and have been wondering what
to do about antennae, et al, so there might be interest here.

1556. Know 800Mhz+ low power freq?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-23 00:00:00 UTC
From: patriot@kaiwan009.kaiwan.com
Message-ID: <3ndp3i$ond@kaiwan009.kaiwan.com>
Source record: 113357
Cross-posted to: rec.radio.amateur.homebrew,alt.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.policy,rec.radio.scanner

I need to know a frequency that can be used for a low power transmitter for "home" use, like a remote control or whatever, above 800 Mhz. I want to put out up to 300 mW, but would settle for 100 mW.

I really don't know where to look, so if you would please tell me where you got your data, it would be appreciated. I looked through my "scanner" listing and also the ARRL manual with no luck.

This is for use both in the USA and elsewhere, so it would be nice to have a freq that is open everywhere. (yea I know, good luck)

It needs to be "approved" by any local government, since it may become a product.

Please write me via Email, so as to not tie up the net, thanks!

patriot@kaiwan.com

1557. Re: THE "LOWFER" 160 - 190 KHz BAND

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-23 00:00:00 UTC
From: daleh@skypoint.com
Message-ID: <3nddq5$qas@stratus.skypoint.net>
Source record: 113358

In article <3nbhpu$m6u@ixnews3.ix.netcom.com>, magill@ix.netcom.com (Robert Magill) says:
>
>Being an enthusiast of long-wave communications, wondering if anyone on
>the NET is still participating in the 160 - 190 KHz band per FCC part
>95 (I believe). Some years back there were alot of beacons and
>experimental work happening in this band, mainly driven by HAMS even
>though a ticket is not required.
>I am interested in hearing from anyone still interested in, or active
>on this experimental band. I am located in the San Francisco Bay area.
>Also at one time there was a newsletter published by someone (a HAM)
>for projects, equipment and other activities for the "LOWFER" gang.
>
>Any contact please --- Thanks --- Bob // N6MTU.
>
>Bob: The monthly newsletter is called "The Lowdown" and is published
by Bill Oliver, 45 Wildflower Road, Levittown, PA 19057. The cost is
$15 a year. It cover all lowfer, medfer, and other interest in the VLF
area. I find it to be quite interesting. Also, there is a couple of
different systems available for computer operated beacons. A lot of
activity in all areas of the country. Some are hams and other seem to
be engineering types. I am in the process of building a station now.

73's
Dale A. Hagert NM0H
3881 Serpentine Circle
Eagan, MN 55122
612-688-7155
email daleh@skypoint.com

1558. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-23 00:00:00 UTC
From: achurch394@aol.com
Message-ID: <3ncpqd$nq7@newsbf02.news.aol.com>
Source record: 113359

Contact WX7E or research his fine article in QST about a year ago. Very few parts and sounds great on HF.
AA7CV

1559. Re: Ku-band lnb's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-23 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <798642594.AA01335@hamlink.mn.org>
Source record: 113360

VV>From: vinyn1vc@aol.com (VINY N1VC)
VV>Newsgroups: rec.radio.amateur.homebrew
VV>Subject: KU-BAND LNB'S
VV>Organization: America Online, Inc. (1-800-827-6364)
VV>Reply-To: vinyn1vc@aol.com (VINY N1VC)
VV>Message-ID: <3n5uu1$2lf@newsbf02.news.aol.com>
VV>Date: 20 Apr 1995 11:34:25 -0400
VV>
VV>I am looking for a source of new or used KU-band LNB's. If anyone
VV>can help thanks beforehand.
VV>
VV>---
VV> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
VV>(1:282/100.0)
Hi,
I have seen lots of these showing up at hamfests. I don't hink there is
much of a commercial market for used Ku band LNBs.
Good luck. 72 Bob WB0POQ

1560. Data on Morse Interpretation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-23 00:00:00 UTC
From: khadfw@onramp.net
Message-ID: <3nekqq$571@news.onramp.net>
Source record: 113361

I've seen several packages that allow a PC to send and receive morse code through the serial port. I am interested in both the hardware and software asspects of this.

I am planning to create a small low-power morse transceiver for use with home built transmitters and receivers. Specifically how does the software convert the electrical signals into the corresponding text?

Walt Anderson
KD4KIL

1561. Re: Transistor Information

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-23 00:00:00 UTC
From: rsmits@ham.island.net
Message-ID: <042395121702Rnf0.79b6@ham.island.net>
Source record: 113362

wtg1@cornell.edu (William T. Genter) writes:

>I am looking for a cross referance to the following transistors:
>
>ON614
>ON642
>BCX58
>BCY58X
>BDX539
>
>I believe that these are European transistors and I would like to replace
>these with more commonly known transistors
>
>Thanks.
>
>Bill Genter, NK2V
>

An old copy of A Radio Shack cross reference catalog lists the following:

For the BCX58IX, BCX58VII and BCX58VIII, the RS 276-2009.
For the BCY58X, the RS 276-2038.

I cannot find references for the others.

--
rsmits@ham.island.net (Robert Smits)

"Usenet is like a herd of performing elephants with diarrhea -- massive,
difficult to redirect, awe-inspiring, entertaining, and a source of mind-
boggling amounts of excrement when you least expect it."
--gene spafford, 1992

1562. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-23 00:00:00 UTC
From: Tony Stalls <ras@us.net>
Message-ID: <Pine.BSI.3.91.950423010225.2431F-100000@laurel.us.net>
Source record: 113363
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

On Fri, 21 Apr 1995, R lindberg + E Winnie wrote:

> I never thought I would say this about an amateur newsgroup, but I
> think this is a BAD idea, too narrow in focus and with too limited a base
> of users.

It's getting to the point that in order to live somewhere these days, it's necessary to waive all kinds of rights and otherwise regular privileges, including those pertaining to antennas that are normally at least partially protected by PRB-1. Condo and apartment living is becoming more common as single family dwellings are becoming less affordable and an increasing number of amateurs are being subjected to these severe restrictions.

The issues that might be addressed go beyond just a type of antenna. A rec.radio.amateur.low-profile newsgroup can deal with and provide help with both "stealth" antennas and the issues that make them necessary.

+---------------------------------+---------------+------------+
| Richard A. (Tony) Stalls, K4KYO | Arlington, VA | ras@us.net |
+---------------------------------+---------------+------------+

1563. Re: BAYCOM / RAMSEY / Packet info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-23 00:00:00 UTC
From: jdport <jdevenport@lanl.gov>
Message-ID: <3nckde$8jh@newshost.lanl.gov>
Source record: 113364

Karl Weller <kweller@cris.com> wrote:
> I have the RAMSEY Packet Interface board connected via COM Port to
> IBM-386 works great with BAYCOM! I want to access the data via
> the serial port directly.... I have used all the settings in several
> different COM programs but can't see a single character. I am
> able to see the carrier detect change states as packets are received
> but can't latch a single character :7(
> Help if you can, post here or E-mail me
> Thanks
> Karl Weller

The BIG problem with trying to look at data on the serial port is that, with BAYCOM, it is not using the serial port in a serial manner. Serial Port pins 2&3 are the TX & RX data pins (and thus are what are used by your typical Com Port programs) but are not even USED in the BAYCOM hookup. The pins are actually monitored and controlled directly by the baycom software in a manner that is not comprehensible to the "normal" serial port program. The interrupts and everything else is completely ignored. This is why you can't see the data, it is not appearing on the pins. If you have machine language capability you can monitor activity on pin 5 (normally CTS on db25 connector) or pin 8 on a 9 pin connector... but even if you can read data from those pins somehow it will be just garbage... unless you can cobble up the AX25 protocol to decode it .... which is what your baycom software is doing already. I believe if you read your baycom docs you can set your monitor capability in the SCC.INI file to display all characters on your F10 monitor screen which allows you to see all the scrimshaw stuff coming through your modem.
73 de Jim WB5AOX
Web httpd://sst.lanl.gov/~jdport/

1564. Re: Copper Tape

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-23 00:00:00 UTC
From: raiar@vulcan.inlink.com
Message-ID: <3ncbol$ett@news.inlink.com>
Source record: 113365

I never checked on that width, but I have used copper tape for a long time,
I obtained mine from the local stained glass shop...
Gary

1565. Having a problem my my CAT, can you help???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: mckee@fc.hp.com
Message-ID: <3nfgqr$dkf@tadpole.fc.hp.com>
Source record: 113268

Greetings all:

I have just finished a quick and dirty (and at the moment not functional :-)
homebrewing project. I have a Yaesu FT747GX that I wanted to hook to
my computer using the CAT (Computer Aided Transceiver) interface. In
order to gouge you for $80 or so, Yaesu decided to make the serial output
TTL level, not RS-232 level and then get rich selling level converters.

Using a MAX232CPE (a single 5V IC designed to do just this), I build a
small level converter that takes RS-232 in and spits TTL out in one
direction (to the radio) and does exactly the opposite thing going the
other way.

Looking at the circuit with my 'scope seems to indicate that it is working
fine. Unforunately, I'm unable to control the radio with my PC.

I wrote a small program to send data to the interface as documented in
my manual (port set to4800:8,n,2), and once again, the 'scope shows it
to be working. When I send commands to the radio, the <CAT> indicator
on the front panel lights up, but I cannnot get it to do anything else.

I have sent it all possible commands, just to see if I was having a
problem with understanding the manual, but it did nothing either (Since
command blocks are 5 bytes long, I just sent 255 groups, each consiting
of the same character repeated 5 times). Since there is a "up 500K" and
a "down 500k" command, I expected to see the indicator change at some
point through the cycle.

So, has someone who as successfully done either half of this (built an
interface, written control software) give me a hint??

73,

de N0MTA, Bret "so close, yet so far" McKee

1566. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: plaws@comp.uark.edu
Message-ID: <3nglq0$7ps@wizard.uark.edu>
Source record: 113269
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

dmoorman@interaccess.com (Dave Moorman) writes:

>In article
><Pine.LNX.3.91.950421071354.14921A-100000@kendaco.telebyte.com>, R
>lindberg + E Winnie <rlindber@kendaco.telebyte.com> wrote:

>> I never thought I would say this about an amateur newsgroup, but I
>> think this is a BAD idea, too narrow in focus and with too limited a base
>> of users.

>As a condo-dwelling ham, I can see a use for this group. It would be

How about rec.radio.amateur.qrp? That includes those of us in rental
units and CONdos as well as QRP fans (even though I run about 30W ... :).

Peter Laws<plaws@comp.uark.edu>|"Suppose you were a politician. Now suppose you
n5uwy@ka5bml.#nwar.ar.usa.noam |were an idiot. Ah, but I repeat myself."-Twain

1567. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: etuggle@dora.auc.trw.com
Message-ID: <3ngvvi$okn@dora.auc.trw.com>
Source record: 113270
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

>On Fri, 21 Apr 1995, R lindberg + E Winnie wrote:
>
>> I never thought I would say this about an amateur newsgroup, but I
> think this is a BAD idea, too narrow in focus and with too limited a base
> of users.

I think it's a great idea!

--
Eddie D. Tuggle, etuggle@dora.auc.trw.com | "There is nothing either good or
TRW Denver Operations | bad, but thinking makes it so."
16201 Centretech Pky / Aurora, CO 80011 | -- SHAKESPEARE
Voice: 303.360.4001 FAX: 303.360.4133 |

1568. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkD7K9yz.GJK@netcom.com>
Source record: 113271

jms@col.hp.com (Mike Stansberry) writes:

>Richard Karlquist (rkarlqu@scd.hp.com) wrote:
>: In article <3n61jt$meh@nonews.col.hp.com>,
>: Mike Stansberry <jms@col.hp.com> wrote:
>: >Using the above equation, it appears that a 1500W PEP output amplifier
>: >would have to be capable of outputting 3000W PEP on the *true* peaks
>: >in order to not "flat top" and produce excessive distortion products.

>: That's right. But the FCC talks about about peak *envelope* power, not
>: peak power.

>Thanks for the response, but where in part 97 does it say that SSB is
>allowed 1500 watts output and CW/FM is allowed only 750 watts output?
>If that's the case, I'd better stop running 1000 watts output on CW.

>Mike, K0TER

Peak envelope power is peak envelope power. Period. On CW/FM, it's

peak voltage times .707 to give you RMS voltage.

Then calculate power from there. (E^2 over R).

On SSB, they are just taking the maximum peak voltage, and (somewhat
arbitrarily) taking that as a voltage that you multiply by .707 from
which to calculate the power.

thus, a carrier of 20 volts peak (40 volts peak to peak) comes to 4 watts PEP
into 50 ohms. A SSB signal with the same maximum value is also 4 watts PEP.

That's how it's done, folks :-) .

John Seboldt K0JD
Minneapolis, MN
rohrwerk@netcom.com

1569. How to find QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950424095720.20089D-100000@pmafire.inel.gov>
Source record: 113272

I have noticed some references to QEX in this newsgroup. How can I cantact this publication? What other publications might be of interest to homebrewers? I am just getting started in the hobby.

Charles Mott

1570. How do DTMF decode chips work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: rn@cs.brown.edu
Message-ID: <3nglak$c7j@cocoa.brown.edu>
Source record: 113273

I would like to find out precisely what heuristics DTMF decode chips use to do accurate detection of tones. I've been playing around with DTMF detection in software (doing real-time FFTs on a digitized audio stream and checking the frequency spectrum for energy at the appropriate frequencies), but I'm having difficulty striking a balance between falsing (detecting tones that aren't there) and missing tones that really are there.

My experience with various DTMF decode chips has been very good: they rarely seem to false yet they pick up what sounds like even very faint tones. Does anyone know precisely what they do? Do they simply check for energy at the appropriate frequencies (plus or minus some tolerance), or do they do something more sophisticated such as trying to look for energy at certain freqs and no energy elsewhere? My goal is to do as well in software as these chips do in hardware, but the simple approaches have so far failed.

Rob Netzer, KD1TS.
rn@cs.brown.edu

1571. Re: How do DTMF decode chips work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: pmonta@venice.qualcomm.com
Message-ID: <PMONTA.95Apr24110131@venice.qualcomm.com>
Source record: 113274

rn@cs.brown.edu (Robert H.B. Netzer) writes:

> I would like to find out precisely what heuristics DTMF decode chips
> use to do accurate detection of tones. I've been playing around with
> DTMF detection in software (doing real-time FFTs on a digitized audio
> stream and checking the frequency spectrum for energy at the
> appropriate frequencies), but I'm having difficulty striking a balance
> between falsing (detecting tones that aren't there) and missing tones
> that really are there.

Some of the DSP chip manufacturers have excellent application notes
for robust DTMF detection. I remember seeing the AT&T
Microelectronics and TI notes, and probably Motorola and Analog
Devices have them as well. A good bookstore would have the TI
or ADI collection-of-apnotes books.

Cheers,
Peter Monta pmonta@qualcomm.com
Qualcomm, Inc./Globalstar

1572. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: au156@yfn.ysu.edu
Message-ID: <3ngv1p$98d@news.ysu.edu>
Source record: 113275

The recent discussion here regarding peak envelope power engendered
by the May 1995 "Lab Notes" column has resulted in some pretty
substantial mangling of proper definitions and concepts associated
with alternating current.

One of the crucial points is that there is NO accepted standard
definition of "RMS power." This is a misnomer, no doubt fueled by
almost universal misuse in advertisements for consumer audio equipment.

The correct term is AVERAGE POWER. Besides just terminology,
the underlying concept of the distinction between RMS current
or voltage, and *average* power is very important. If this is clear,
then some of the confusion concerning things like PEP will lift.

Quoting the ARRL Handbook (1987 ed.) in the Electrical Fundamentals
chapter under AC Waveform Measurement: (<> denotes "not equal")

The relationship between ac voltage, current
and power follow:

RMS voltage x RMS current = average power <> RMS power
....
RMS power is a mathematical curiosity only and has no
physical significance.

So a previous writer's assertion, while reflecting the common
usage of the misnomer "RMS power", is nevertheless technically
incorrect:

>For power, "average" and "RMS" mean the same thing (over one cycle).

Another person questions the language in the FCC rules regarding
PEP measurement:

>Part 97 defines PEP as:

> (6) PEP (peak envelope power). The average power
> supplied to the antenna transmission line by a
> transmitter during one RF cycle at the crest of
> the modulation envelope taken under normal
> operating conditions.

>I've always had a problem with this definition because I don't believe
>the literal translation is what the FCC intended. Further, the
>word "average" shouldn't be in this definition at all.

I hope that it will be clear from the foregoing explanation of the
meaning of average power that this definition is perfectly correct.

For those that would like to know more about RF power measurement,
I would recommend careful reading of the appropriate
sections of the ARRL handbook.

Hank, N1LTV

1573. Re: HELP WITH RF DIRECTIONAL COUPLER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: Alf Green <alf>
Message-ID: <3nh3mh$j2a@adm09.iac.honeywell.com>
Source record: 113276

agtss@tibalt.ab.ca (agtss) wrote:
>Hi,
>
>I'm looking for some information on directional couplers. I've read several
>articles and texts but am still left with a several questions.
>
>1. What value should a designer pick for Zoe or Zoo and why. I realize they are
> related and to the system Zo [Zo = (Zoe *Zoo)**1/2], but I can't find anything to
> tell me what values to use and why. Given one has a frequency BW, and degree
> of coupling in mind it seems to me you still need Zoo or Zoe before you have
> your coupler?
>
>Any ideas?
>

The relative values of Zoe and Zoo determine the amount of coupling. Most texts assume that the coupler is sized for maximum transfer, which occurs when the coupling line is an electrical quarter-wavelength. If you want to evaluate a particular geometry, the following equations may help.

I assume you have a means of calculating Zoe and Zoo from physical dimensions. You also need the wavelength, lambda, (electrical, not free-space) and actual length (same units, of course).

lambda = Veff / frequency
theta = length/lambda * 2*pi
k = (Zoe - Zoo)/(Zoe + Zoo)
Coupling, dB = 10*log10((1 + (1 - k^2) * 1/(tan(theta)^2)) /k^2)
Zo = sqrt(Zoe * Zoo)

I'd suggest setting up a spreadsheet so you could enter Zoe, have it calculate Zoo for the desired value of inline impedance, Zo, then calculate the coupling value. Iterate until you get the desired result.

>2. Is there any good literature on very broadband couplers (10 Mhz to 1000 Mhz.)
> In the 60's HP designed a coupler (HP778D) which used a tapered line from the
> main line to achieve a very broad bandwith. Is there any published information
> on this? Or given I only want one, does anyone know where I can pick one up without a
>major expense.
>

Low-loss, multi-octave couplers are tough to homebrew. Particularly down to 10MHz, where a quarter wavelength is pretty long. If I remember correctly, the HP778 is around 2foot long, and only goes down to about 100MHz. If you can tolerate some inline loss, a transformer based hybrid would be feasible, although limited in terms of power-handling.

If you are just looking for something in the small-signal range, for swept frequency measurements, etc., they are available from Mini-Circuits, amongst others. Alternatively, a few 50ohm surface mount resistors and a ferrite balun can give excellent results over the 1MHz - 1GHz range albeit with about 6dB loss.

Good luck,
Alf NU8I/G4ABB
alf@agreen.iac.honeywell.com
Phoenix, AZ

1574. Re: NEED 10GHz Skeds... Me too! (FN20)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Apr24.115708.259@nad.com>
Source record: 113277

In article <3nal0o$hbf@acme.freenet.columbus.oh.us>, smchenry@freenet.columbus.oh.us (Sean McHenry) writes:

> I am looking for folks in ther Columbus, Ohio area to get on 10 GHz
> wideband FM. I have built a transceiver and a rx. I would like to find
> someone in the area to try the things out with. I can talk to myself and
> have been crossbanding some of the local repeaters onto 10 GHz occasionally.
> If I don't find enough intrest in the band soon, I'm going to have to
> mount it on the tower and set it up as a becon...
> Please e-mail at smchenry@freenet.columbus.oh or call me at (614)
> 529-8529 after 2:00pm. The call is KB8JNE. Thanks.
> --
> smchenry@FREENET.COLUMBUS.OH.US In Cyberspace, no one can hear you scream.
>

Me too, but I'm in Southeastern PA, north of Phila. I'm almost ready for some skeds. Anybody in this area doing 10Ghz WBFM? Any Narrowband? Any beacons?

Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com

1575. Re: How do DTMF decode chips work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <798750903snz@lfheller.demon.co.uk>
Source record: 113278

In article <3nglak$c7j@cocoa.brown.edu>
rn@cs.brown.edu "Robert H.B. Netzer" writes:

> I would like to find out precisely what heuristics DTMF decode chips use
> to do accurate detection of tones. I've been playing around with DTMF
> detection in software (doing real-time FFTs on a digitized audio stream
> and checking the frequency spectrum for energy at the appropriate frequencies),
> but I'm having difficulty striking a balance between falsing (detecting
> tones that aren't there) and missing tones that really are there.
>
> My experience with various DTMF decode chips has been very good: they
> rarely seem to false yet they pick up what sounds like even very faint tones.
> Does anyone know precisely what they do? Do they simply check for energy
> at the appropriate frequencies (plus or minus some tolerance), or do they
> do something more sophisticated such as trying to look for energy at
> certain freqs and no energy elsewhere? My goal is to do as well in software
> as these chips do in hardware, but the simple approaches have so far failed.

The standard technique for decoding DTMF using DSP is the Goertzel algorithm.
It is related to the FFT (it's much simpler and can process samples on the
fly), and is described (with source code) in the Analog Devices book Digital
Signal Processing Applications using the ADSP-2100 Family, published by
Prentice-Hall. You can find the code on ftp.analog.com, I think.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

1576. Re: HELP WITH RF DIRECTIONAL COUPLER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3ngks1$ia9@hpscit.sc.hp.com>
Source record: 113279

In article <798541174snz@lfheller.demon.co.uk>,
Leon Heller <Leon@lfheller.demon.co.uk> wrote:
>In article <3na765$lhl@tibalt.supernet.ab.ca>
> mwilde@freenet.edmonton.ab.ca "agtss" writes:
>
>> Hi,
>>
>> I'm looking for some information on directional couplers. I've read several
>> articles and texts but am still left with a several questions.
>>
>> 1. What value should a designer pick for Zoe or Zoo and why. I realize they are> related
and to the system Zo [Zo = (Zoe *Zoo)**1/2], but I can't find anything
>> to
>> tell me what values to use and why. Given one has a frequency BW, and degree
>> of coupling in mind it seems to me you still need Zoo or Zoe before you have
>> your coupler?

The degree of coupling dictates Zoo. For tight coupling (3 db hybrids) you need
a relatively low Zoo. Frequently, this is impractical, so two 8.44 dB. hybrids
are used in tandem to get 3 dB. For loose coupling like the 778D, Zoo would
typically be rather high, and Zoe would be close to 50 ohms.

>> Any ideas?
>>
>> 2. Is there any good literature on very broadband couplers (10 Mhz to 1000 Mhz.)> In the
60's HP designed a coupler (HP778D) which used a tapered line from the
>> main line to achieve a very broad bandwith. Is there any published information> on this?
Or given I only want one, does anyone know where I can pick one up
>> without a
>> major expense.

I've never seen a 778D at a swap meet (if I did, I would have snapped it up).
Your best bet is to try to find a Narda equivalent with bent, spun, or broken
connectors, get it cheap, and repair it. I've seen many Nardas needing repair.
If you want to read about how to design them, get Matheis, Young and Jones's
Handbook and read Bud Crystal's papers on the subject in the 1964 to 1968
IEEE MT&T transactions.

Rick Karlquist N6RK
rkarlqu@scd.hp.com
>>
>>
>> Any help or suggested references would be deeply appreciated!
>
>The Mini-Circuits RF/IF Designer's Handbook has a lot of info on their

>broad-band directional couplers. They aren't too expensive, and it probably
>isn't worth "rolling your own". For instance, they have a 1 to 1000 MHz
>device for $32.95, one off. They are on (718) 934-4500.
>
>Leon
>--
>Leon Heller, G1HSM | "Do not adjust your mind, there is
>E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
>Phone: +44 (0)1734 266679 | many years ago in Oxford.

1577. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: jms@col.hp.com
Message-ID: <3ngosm$dh7@nonews.col.hp.com>
Source record: 113280

Richard Karlquist (rkarlqu@scd.hp.com) wrote:
: In article <3n61jt$meh@nonews.col.hp.com>,
: Mike Stansberry <jms@col.hp.com> wrote:
: >Using the above equation, it appears that a 1500W PEP output amplifier
: >would have to be capable of outputting 3000W PEP on the *true* peaks
: >in order to not "flat top" and produce excessive distortion products.

: That's right. But the FCC talks about about peak *envelope* power, not
: peak power.

: >Additionally, the QST article stated that one can not measure CW or
: >FM signals the same way, but it seems to me that what's valid for SSB

: Sure you can. But the power limit for those modes is 750 watts, not
: 1500 watts.

(stuff deleted)

Thanks for the response, but where in part 97 does it say that SSB is
allowed 1500 watts output and CW/FM is allowed only 750 watts output?
If that's the case, I'd better stop running 1000 watts output on CW.

Mike, K0TER

1578. Re: LMX1501 MB1501 ant experience?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: Pete@mahy.demon.co.uk
Message-ID: <554916161wnr@mahy.demon.co.uk>
Source record: 113281

In article: <3nbdib$1a4@netaxs.com> Joe Rocci <rocci@netaxs.com> writes:

>
> The 1501 chip MUST have CHIP (as in SMD) capacitors as close to the

Thanks Joe,
I am using the National IC from 45MHz to 470MHz, but find that at the low frequency it seems to require an enormous drive level 5V p-p, and if the signal is not absolutely clean of harmonics, then it miscounts, just a little, so that with a 12.5kHz reference it is about 3kHz off frequency. You can see it miscounting by the jitter on the divider monitor output. I am using good SM capacitors on the supply, but have not tried decoupling the phase and LD outputs, this I will try and report back!
There is no spec. quoted for min rise time/slew rate of the clock input, I suspect this may be the problem, and I can't seem to get any more info out of National. The National IC seems to be only available as SM, does anyone know otherwise?
Sorry for the Typo in the thread.

--
Pete Mahy (G4NIS)

1579. CTCSS tone encoder design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: bruces@mpd.tandem.com
Message-ID: <1995Apr24.222340.22128@integrity.uucp>
Source record: 113282

Looking for design or IC's or products that will let me add CTCSS
PL tones to my Kenwood TR2600A HT. Any info would be appreciated.

Thanks

--
| Bruce Sawtelle AX.25 : W3NJ @ W5SYT.TX.USA.NA |
| Tandem Computers, Inc. Internet : bruces @ mpd.tandem.com |
| 14231 Tandem Blvd. USENET : halley!bruces |
| Austin, Tx 78728 TCP/IP : 44.76.1.42 (w3nj.ampr.org) |

1580. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: ebowers@ix.netcom.com
Message-ID: <3nervf$opb@ixnews4.ix.netcom.com>
Source record: 113366
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

In <D7Hzpx.89o@eskimo.com> brucem@eskimo.com (Bruce Miller) writes:
>
>Well, I currently live in an apartment and have been wondering what
>to do about antennae, et al, so there might be interest here.

As for one who has had to deal with using "hidden attennas" I feel this newsgroup would be highly useful. As for those who might not feel this way, dont knock it until you have had the :pleasure" of working Alaska or Hawaii using 30 ga magnet wire for your attenna. The contacts at times my be rough but just as rewarding as any contact that can be made using Full size attenna's.

Ed - NIHSH
Ct

1581. Programmable keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-24 00:00:00 UTC
From: paul1@wizard.ucs.sfu.ca
Message-ID: <3nf9r9$rrr@seymour.sfu.ca>
Source record: 113367

I have been off the air for quite some time, and am looking for
programmable keyer ideas. Any suggestions?

cheers, Paul
VE7CQK

email: paul1@wizard.ucs.sfu.ca

1582. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: jim@n5ial.mythical.com
Message-ID: <1995Apr25.035714.5840@n5ial.mythical.com>
Source record: 113283
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

In article <3nglq0$7ps@wizard.uark.edu> plaws@comp.uark.edu (Peter Laws) writes:

>How about rec.radio.amateur.qrp? That includes those of us in rental
>units and CONdos as well as QRP fans (even though I run about 30W ... :).

I'm undecided as to how I'd vote for the proposed group, but the above suggestion is an entirely different topic. I live in an apartment, and have done so for virtually all of my time as a ham (the other time was in a duplex with a small yard, so it still sort of applies). I haven't run much QRP. In fact, the closest I ever really came to QRP was when I was using a loaner HF rig w/ my 4.5 Amp power supply---I had to limit the transmit power to < 10 watts to avoid going beyond the power supply's limits. Even the 30m xcvr I built once ran about 15 watts....

In my current apartment, I have full-sized dipoles folded along the (wood) stairs (like many buildings along the coast, and particularly here on the island, this apartment building is built on stilts to help protect it from storm surge in a hurricane/himicane). When I run voice (rare) or cw, I run a full 100 watts. When I run AMTOR/PacTOR, my HF rig automatically cuts the power down to about 50 watts due to the high duty cycle.

Do I have RFI problems? Nope. I did, briefly, when a neighbor had a quick-disconnect cable between his TV and VCR, but that took a few seconds to fix, and has never re-appeared.

If anything, though, I think a QRP group would be more fitting than a sub-group for restricted space antennas, which, IMHO, is probably ok right here.

Just my $0.02, all IMHO, of course.

Later,
--jim

--
73 DE N5IAL (/4) MiSTie #49997 < Running Linux 1.0.9 >
jim@n5ial.mythical.com ICBM: 30.23N 86.32W
|| j.graham@ieee.org Packet: --OFFLINE-- (Ft. Walton Beach, FL)
E-mail me for information about KAMterm (host mode for Kantronics TNCs).

1583. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: rlindberg@kendaco.telebyte.com
Message-ID: <rlindberg-2504950544230001@192.0.2.1>
Source record: 113284
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

> In article <3nglq0$7ps@wizard.uark.edu> plaws@comp.uark.edu (Peter Laws)
> writes:
>
> >How about rec.radio.amateur.qrp? That includes those of us in rental
> >units and CONdos as well as QRP fans (even though I run about 30W ... :).

IMHO this is a much better idea then the current name. My feeling is
there is a much broader base of users for qrp, and it could include the
low profile people also, since they seldom run 1000 watts.

Ralph

--
Ralph Lindberg N7BSN
email to: dragonsl@scn.org (best address, read daily)
rlindberg@kpt.nuwc.navy.mil (last resort only, please)
They call it "Surfin the Net" beacuse you can wipe out so easy

1584. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3nir1e$stu@nuclear.microserve.net>
Source record: 113285

>Thanks for the response, but where in part 97 does it say that SSB is
>allowed 1500 watts output and CW/FM is allowed only 750 watts output?
>If that's the case, I'd better stop running 1000 watts output on CW.

1,000 Watts CW Output??? Isn't it 1,000 Watts DC Input?

Did I miss a rule change?

Jack WB3U

1585. Re: Wanted: Power GaAs FETs > 2 watts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3nituo$t8c@nuclear.microserve.net>
Source record: 113286

kbanke@qualcomm.com (Kerry Banke) wrote:
>I'm looking for surplus power GaAS FETs capable of >2 watts output at 2.4
>GHz and above. This is for Amateur radio use & can be devices still in
>equipment or removed from equipment, mismarked, experimental, etc

Hi Kerry,

Not to rain on your parade, but the devices you're looking for are in high demand
in the MMDS/ITFS industry. We use GaAsFET's working from 2.5 - 2.7 GHz,
at power levels from 10 to 30 watts, and they're very expensive.

Additionally, the only devices of this type with any record of dependability are
manufactured in Japan (Fujitsu, Hitachi etc.). At one time, there was a company
on the east coast making them, but (I've been told) the yield was very low.
I believe they went out of business a few years ago.

Anyway, the devices we use cost about $100 - 300 each, and they're like
gold. Some of our higher-power (100 watt) television transmitters use thousands
of dollars of these FET's.

Good luck and I hope you find something, but you might want to consider a
different means of generating this power for now. On the other hand, if
you come across a sizeable stash of these at something less than the
above-mentioned prices, let me know. Maybe we can work out a good
deal for both of us.

73,

Jack WB3U

1586. Re: Focal Point of a Microwave Dish

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199504251324.NAA19284@chaos.magibox.net>
Source record: 113287

In my previous message I said:

> ... Are you using wideband FM or narrowband? I've got
> two gunplexor style units that I plan to use for a high speed
> (115kb) digital link when I can make the time to work with them.
> I've used them for short range (across the room) voice using a
> 30MHz FM IF, but I need to build a very-wide band (500MHz)
> FM IF.

Oops! That's 500kHz, not 500MHz. Sorry for the fat fingers! I'm
using the Motorola MC3356 with on-board IF mixer. Motorola does
have a 12MHz bandwith chip that might work for 10MHz signal; (imagine
having a 10BaseT link).

Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

1587. Re: How to find QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: hawley@aries.scs.uiuc.edu
Message-ID: <hawley.798842067@aries>
Source record: 113288

Jack Mott <jackm@pmafire.inel.gov> writes:

>I have noticed some references to QEX in this newsgroup. How can I
>cantact this publication? What other publications might be of interest
>to homebrewers? I am just getting started in the hobby.

>Charles Mott
Just call ARRL at 203 666 1541 and tell them you want to suscribe. It's abt
10 dollars a year.

Chuck Hawley
Amateur Radio KE9UW
BMW K100RS rider, BMWMOA #224
hawley@aries.scs.uiuc.edu
Sr. Research Engineer Emeritus
School of Chemical Sciences
Univ of Ill, Urbana-Champaign

1588. WTB: power transformer for rcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: carlheintz@aol.com
Message-ID: <3nj13o$6kq@newsbf02.news.aol.com>
Source record: 113289

I need a replacement power transformer for a HQ-170. The specs are something like 250V, 6.3 - with enough umph to drive 14 tubes. Anybody got something that will do? Thanks es 73 to all AA7ZZ

1589. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: jms@col.hp.com
Message-ID: <3nj0ak$p3m@nonews.col.hp.com>
Source record: 113290

WB3U (jackl@pinetree.microserve.com) wrote:
: >Thanks for the response, but where in part 97 does it say that SSB is
: >allowed 1500 watts output and CW/FM is allowed only 750 watts output?
: >If that's the case, I'd better stop running 1000 watts output on CW.

: 1,000 Watts CW Output??? Isn't it 1,000 Watts DC Input?

: Did I miss a rule change?

: Jack WB3U

Yes, you did. Quite a long time ago, as a matter of fact. It was
changed from 1000W DC input/2000W PEP input to 1500W PEP output.

part 97.313 says:
(b) No station may transmit with a transmitter power exceeding 1.5 kW
PEP.

Section 97.3 (a) (6) states:
(6) PEP (peak envelope power). The average power supplied to the
antenna transmission line by a transmitter during one RF cycle at the crest
of the modulation envelope taken under normal operating conditions.

Note that it says 'supplied to the antenna transmission line by a transmitter'
or, output power.

Of course part 97.313 (a) still applies:
(a) An amateur station must use the minimum transmitter power necessary
to carry out the desired communications.

On my part, this is all discussion. I haven't had my amplifier on the air
since December. Haven't needed it.

Thanks to all of you for your interest in my original question.

Mike, K0TER

1590. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3njgke$273@abyss.West.Sun.COM>
Source record: 113291

In article <3nir1e$stu@nuclear.microserve.net>,
WB3U <jackl@pinetree.microserve.com> wrote:
>>Thanks for the response, but where in part 97 does it say that SSB is
>>allowed 1500 watts output and CW/FM is allowed only 750 watts output?
>>If that's the case, I'd better stop running 1000 watts output on CW.
>
>1,000 Watts CW Output??? Isn't it 1,000 Watts DC Input?
>
>Did I miss a rule change?

Yes, you certainly did. Something like 10 years ago or so.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Damn I'm smooth" (Anon.) *

1591. Swedish Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: jgg@iglou.iglou.com
Message-ID: <D7LsEt.43A@iglou.com>
Source record: 113292

I am looking for imformation on some vhf FM millitary radios made by SRA in Sweden. Does anyone know how to get a manual from these folks. I'm trying to crystals in these to put them on 6 meters from thier previous Iraqi freq's.
Thanks,
DE Jim, KQ4EL

--
****
This Space *** **
J G. Gray jjg@iglou.com For ****
Rent *****

1592. Need Plans for Portable 440 Beam

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: dmarra@fast.net
Message-ID: <dmarra-2404952125030001@dmarra.fast.net>
Source record: 113293

Hi Everyone--I am interested in building a small, portable beam for 440 packet operation. I have a supply of heavy aluminum ground wire (from RadShack) that I would like to use for the elements, if possible. Can anyone tell me where to look for plans for such a project?

Thanks in advance.

DAVE MARRA/n3odx
Macungie, PA

1593. Anyone know how to reduce RF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: shade@primenet.com
Message-ID: <3nhtu1$pc8@news.primenet.com>
Source record: 113294

After using my Z1A HT in my house a few times, my computer monitor now twitches. It twitches particularly bad when I TX around it. But now, even with the radio off and the antenna from the HT removed, my monitor still twitches. It's a ViewSonic 6 and I've had it for 3 years or so.

Shade

--

Responsibility and risk-taking
are the hallmarks of maturity
shade@primenet.com

1594. Re: Having a problem my my CAT, can you help???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: little@iamu.chi.dec.com
Message-ID: <3nhe8i$k6t@jac.zko.dec.com>
Source record: 113295

In article <3nfgqr$dkf@tadpole.fc.hp.com>, mckee@fc.hp.com (Bret McKee) writes:
|>Greetings all:
|>
|>I have just finished a quick and dirty (and at the moment not functional :-)
|>homebrewing project. I have a Yaesu FT747GX that I wanted to hook to
|>my computer using the CAT (Computer Aided Transceiver) interface. In
|>order to gouge you for $80 or so, Yaesu decided to make the serial output
|>TTL level, not RS-232 level and then get rich selling level converters.
|>
|>Using a MAX232CPE (a single 5V IC designed to do just this), I build a
|>small level converter that takes RS-232 in and spits TTL out in one
|>direction (to the radio) and does exactly the opposite thing going the
|>other way.
|>
|>Looking at the circuit with my 'scope seems to indicate that it is working
|>fine. Unforunately, I'm unable to control the radio with my PC.

What exactly do you see? Do you see your send data? Do you see an echo
coming back from the 747? The 767 CAT echoes back the command received
within 5-20 ms. Are you seeing anything at all come back from the 747?
After the radio echoes the command, you may need to send an ACK command
to the radio to acknowledge that it got the command correct. Again, this
is how the 767 CAT works. Note that each CAT implementation is different
(thank you Yaesu :-( ) The FT-1000 does not echo the commands or expect
an ACK.

I also seem to recall there being some timing issues, i.e., if you delay
too long between characters, the radio won't recognize the command.

Good luck and keep plugging away at it. It should work as I basically
did the exact same thing, i.e. built a level converter using the
MAX232CPE chip, and it works like a champ.

--
73, Member of AMSAT, ARRL, Palatine RACES, and the Arlington
Todd Communications League. Weather spotter and sponsor of the Hunting
N9MWB Ridge Elementary School Radio Club. See you on 160-1296 and OSCAR.

1595. Source for GE Mastr II Digital Exciters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: terry@news.edge.net
Message-ID: <3ni51n$e5o@excalibur.edge.net>
Source record: 113296

I am looking for a few GE Mastr II PLL (digital) exciter boards. Any
pointers would be appreciated.
TIA

--
/*
**
** Terry Bartholomew NQ4Y Programmer/Analyst
** -->> Edge Internet Services <<--
** http://www.edge.net/~terry
**
*/

1596. Re: Ideas on mounting a radio on a bike

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: SRWD37A@prodigy.com
Message-ID: <3njk7j$sbc@usenetw1.news.prodigy.com>
Source record: 113297

I saw a motorcycle with a 2 meter HT mounted on a Radio Shack aluminum project box. The project box was bolted to the handlebar, and the project box was fitted with a place to catch and hold the HT.

73 de AA0QX Austin -- srwd37a@prodigy.com

1597. Ideas on mounting a radio on a bike

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: FLETCHER@vilas.uwex.EDU
Message-ID: <MAILQUEUE-101.950425092154.448@vilas.uwex.edu>
Source record: 113298

I am looking for help/ideas for mounting a (two meter) transciever,
either a handheld or mobile, on a bicycle.

Our Boy Scout Troop will be on a bike outing this summer and it
would be nice to have ham radio along.

Thanks for any help and advice you can give.

73, Bill AF9B

Bill Fletcher AF9B
fletcher@vilas.uwex.edu

1598. Re: MOTOROLA PROGRAMMING

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: uid@ornl.gov
Message-ID: <uid.26.2F9D44AF@ornl.gov>
Source record: 113299

In article <jedent.13.001ED8C1@Sam.Neosoft.Com> jedent@Sam.Neosoft.Com (Joel E. Davis) writes:
>Path: stc06.ctd.ornl.gov!fnnews.fnal.gov!uwm.edu!spool.mu.edu!howland.reston.ans.net!gatech!swrinde!news.uh.edu!uuneo.neosoft.com!scooter-slip-bd.NeoSoft.com!jedent
>From: jedent@Sam.Neosoft.Com (Joel E. Davis)
>Newsgroups: rec.radio.amateur.homebrew
>Subject: MOTOROLA PROGRAMMING
>Date: Thu, 20 Apr 1995 10:10:54 LOCAL
>Organization: J.E. Davis Enterprises
>Lines: 5
>Message-ID: <jedent.13.001ED8C1@Sam.Neosoft.Com>
>NNTP-Posting-Host: scooter-slip-bd.neosoft.com
>X-Newsreader: Trumpet for Windows [Version 1.0 Rev B final beta #4]

>MORE AND MORE USED MOTROLA HANDHELDS ARE SHOWING UP AT SALES, AND FESTS.
>SOME ONE NEEDS TO LOOK INTO WRITING AN ARTICLE IN QST OR 73MAG ON THE BUILDING
>OF PROGRAMMING CABLES AND SOME SORT OF COM PROG TO BE USED WITH THE VARIOUS
>KINDS SUCH AS SABER , RADIUS, MTX-900. SO WE DON'T HAVE TO PAY TO HAVE THESE
>UNITS RE-PROG'ED TO THE HAM FREQS..

GOOD LUCK!

I HAVE A HARD TIME WITH LEGAL MOTOROLA SOFTWARE IN THE SHOP.

DANNY

1599. programmer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: Lester@bannold.demon.co.uk
Message-ID: <349002975wnr@bannold.demon.co.uk>
Source record: 113300

SMART CARD READER / PROGRAMMER
PIC 16C84 PROGRAMMER

An extremly versatile unit to enable the user to Read and Write to all types of ISO 7816 Smart cards AND Program PIC16C84 devices.

The unit requires an IBM PC computer and a power supply of between 15 and 20 Volts AC or DC.

Fully ISO 7816 compatible (the standard used in many TV access cards, Phone cards and GSM Mobile Phones)

The Smart Card ISO7816 Reader / Programmer software can use external data files to write to the card and "log" the answers back to a disk file of your choice. Data parameters can be changed from within the software. Single or Multiple bytes can be sent via the on screen "Send Buffer" editor, any response from the card will be displayed in the "Received File" Window.

The PIC84 programmer will allow the user to program the chips in circuit via a 5 pin connector on the main board, the unit can also program the common 2Chip and 3Chip ISO7816 card emulators commonly used in the Satellite TV industry.
With this unit it is possible to program in .BIN or .OBJ format

The unit is supplied with powerful operating software to enable the user to Read / Write / Copy and Examine / Change any or all of the internal memory on the 2 and 3 Chip ISO7816 type smartcard emulators.

The unit mesures 9cm X 6.5cm approx, is double sided throgh plated and solder masked, because of the high standard of manufacture we have no problem in offering a 1 Year parts and labour guarantee with every unit.

The unit is supplied with all operating software and "useful" data on various subjects relating to Smart Cards.

The complete package (hardware / software and data) costs only:-
79.95 inclusive of postage and packing to UK
85.00 inclusive of postage and packing to EEC (outside UK)
other destinations 85.00 + DHL costs or Royal Mail swift costs.

Cheques or Money Orders to:
Crownhill Associates Limited
PO BOX 845
Waterbeach
Cambridge
CB5 9JS

0956 7000017 voice
0956 7000018 data / fax

--
Best Regards

Lester

-----BEGIN PGP PUBLIC KEY BLOCK-----
Version: 2.6

mQBtAy+JizYAAAEDAN/jsyzLJII0xrHWRIjC62ty5MwQKv0j8MBTRZaVJZEZPayJ
d8Tg3MKoQk/GBVL5bGoMF2n50rAxLGKTefCWmm3IoiytANbo+Tap7msQN2QkXfPW
cnUbB2DcbjaJdOqOwQAFEbQjbGVzdGVyIDxsZXN0ZXJAYmFubm9sZC5kZW1vbi5j
by51az4=
=uUvE
-----END PGP PUBLIC KEY BLOCK-----

1600. Dx of lightning strikes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: psystat@aol.com
Message-ID: <3nkbqq$ist@newsbf02.news.aol.com>
Source record: 113301

I understand that lightning strikes can be received worldwide by tuning in to the Schuman frequency of 8 Hz. Has anyone heard of this? Are any schematics for such a receiver available?

Any info will be greatly appreciated.

Gary Davis

1601. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: R lindberg + E Winnie <rlindber@kendaco.telebyte.com>
Message-ID: <Pine.LNX.3.91.950425115930.18970B-100000@kendaco.telebyte.com>
Source record: 113302
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

On Sun, 23 Apr 1995, Bruce Miller wrote:

> Well, I currently live in an apartment and have been wondering what
> to do about antennae, et al, so there might be interest here.

Hi, the best place would probibly be in the existing newsgroup,
rec.radio.amateur.antenna.

Ralph Lindberg N7BSN Ellen Winnie N7PYK
e-mail => dragonsl@scn.org (best address, read daily, forwards to find us)
rlindberg@kpt.nuwc.navy.mil (last resort only)

1602. Re: THE "LOWFER" 160 - 190 KHz BAND

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: ezeran@powergrid.electriciti.com
Message-ID: <3nhuuv$510@arc.electriciti.com>
Source record: 113303

daleh@skypoint.com (Dale A. Hagert) wrote:

>In article <3nbhpu$m6u@ixnews3.ix.netcom.com>, magill@ix.netcom.com (Robert Magill) says:
>>
>>Being an enthusiast of long-wave communications, wondering if anyone on
>>the NET is still participating in the 160 - 190 KHz band per FCC part
Thanks for that post!! Most useful!!! For the past several weeks Ive
read about 1750m in the Boatanchors listserv and wondered if there
was a place to contact builders and experementers. Wahoo!

1603. Re: HELP WITH RF DIRECTIONAL COUPLER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3nj51q$a3t@tierra.santafe.edu>
Source record: 113304

Actually the degree of coupling determines the difference between Zoo
and Zoe. For very weak coupiing Zoo and Zoe are close to Zo. Extreme
example, imagine no coupling at all. Then both lines are Zo and Zoo=Zoe=Zo.
3 dB coupling is non-trivial, but you can buy them readily. They are
called 3-dB hybrid couplers. The principle use is power splitting/combining
whereas the weaker couplers are used for power measurement and impedance
measurement(VSWR).
Broadband couplers are indeed an art if you want constant coupling factor
over a wide bandwidth.

--
==========

James M. Potter, President Internet: jpawi@roadrunner.com
JP Accelerator Works, Inc. AOL: jpawi@aol.com,jpotter@aol.com
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

1604. Building or Buying a Phone Patch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: donert@tdbank.ca
Message-ID: <3nivpn$rh@inforamp.net>
Source record: 113305

I am looking for a phone patch design that provides a line level output signal of the remote caller as well as a line level input for the local caller.

The purpose of this patch is to interconnect an audio mixer with a telephone. I would like to be able to build such for under $100. Are commercial units available in this price range?

A friend suggested that this kind of equipment is plentiful in amateur radio land.

1605. Re: B&W corporate suicide?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-25 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D7KwB4.9L9@news.hawaii.edu>
Source record: 113306

jones@San-Jose.ate.slb.com (Clark Jones) writes:

>Sorry, Jeff, there _are_ chip inductors, though they tend to have very
>small inductance _and_ current carrying ratings. There are lots of folks
>making surface-mount inductors (both chokes and transformers). Suggest
>you run over to the library and thumb through something like Electronic
>Products magazine once in a while to keep up to date on what's available
>in terms of parts! ;-)

Sorry Clark, but as long as I've got two good eyes and 10 nimble fingers
I'll continue to build what I can rather than buy (something that seems
to becoming a lost art among today's hams). |-(

Jeff NH6IL

1606. S.H.F. Microwave Parts Company.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: pbutlalj@ia.net
Message-ID: <3nmkt7$gao@allanon.ia.net>
Source record: 113168

Hello everyone,

I am wondering if there is any information available on the company S.H.F. Microwave Parts Compnay. They are located in La Porte IN suppposedly. From what I can gather they can supply microwave parts like gunn oscillator parts along with some other related hardware for the X and K bands.

I have their address but there is not an address listed there. I would really like to talk to these people so that I could get a current flier from them and see what the prices are and also what is available from them.

--
Al Butler KA0IES
ajbutler@ia.net

1607. Re: Reversing a transverter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <3nmev6$amk@canyon.sr.hp.com>
Source record: 113169

David Tock (dit@dylan.isltd.insignia.com) wrote:
: I have been looking at a circuit for a transverter (2m transceiver
: transverted to 6m). I have a 6m multimode rig, and was wondering
: about doing it the other way round.

: As far as I can see, the circuit is basically a 94MHz LO, a
: mixer, appropriate filters and the necessary switching...

: If I redesign the filters for the appropriate frequencies, is there
: much else I need to do to make it work 'the other way round' ?

: Any advice, suggestions or comments welcomed.

I think you should be able to make it work OK but be careful about the
levels you pick for the transmit direction. 3 X 50MHz isn't too far from
2M and you will probably have some of that component to filter out.

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

1608. Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: sjohnson@melpar.esys.com
Message-ID: <D7nnvE.Bvx@melpar.esys.com>
Source record: 113170

I am thinking of building a small transmitting loop per Ted Hart's design
in the ARRL handbook. I have never talked to anyone on the air that
was using one. Would appreciate if those with on-the-air experience would
compare these antennas with commonly used ones (such as dipole or vertical)
for DX use in a restricted space application.

Steve Johnson,
N2FT

P.S. Also interested in possibility of using a two or three turn loop. Any takers?

1609. Re: Data on Morse Interpretation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: Larry Kenan <larry.kenan@SanDiegoCA.NCR.COM>
Message-ID: <D7M9EF.CJy@lcpd2.SanDiegoCA.ATTGIS.COM>
Source record: 113171

>In article <3nekqq$571@news.onramp.net> khadfw@onramp.net writes:
>
>I've seen several packages that allow a PC to send and receive morse code
>through the serial port. I am interested in both the hardware and software
>asspects of this.
>
>I am planning to create a small low-power morse transceiver for use with home
>built transmitters and receivers. Specifically how does the software convert
>the electrical signals into the corresponding text?
>

I built the Morse/PC interface that was in QST about 3 months ago. On the receive side it is a phase lock loop that locks onto the audio tone from the BFO. On the send side it just drives the key input of a transmitter. I have a small relay installed for isolation.

The PC software (download from the ARRL BBS) assumes that the time ratio of dits to dahs to character spaces is correct. Any time that a received dit varies from the duration that it is currently expecting, then it adjusts the time partially in that direction, thereby constantly adjusting the timing to the characteristics of the received signal. When a character space is detected then the received Morse pattern is used for a table lookup.

The transmit side uses the last receive timing and reverses the table lookup to switch the keyer in a Morse code pattern.

It works well on a fairly good signal. The ear works better on a weak signal.

Larry Kenan - KO6SM

1610. PLATE TRANSFORMER NEEDED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: goodwin@kaiwan009.kaiwan.com
Message-ID: <3nlrtc$51n@kaiwan009.kaiwan.com>
Source record: 113172

I'm looking for a reasonably priced audio output transformer, for an amplifier restoration project. It's got to be a good match to a pair of 6L6GC tubes in push-pull configuration, and ideally will have secondary windings/taps to match 4, 8 and 16 ohm speakers.

If anyone has such a beast kicking around in their junkbox, I'd appreciate hearing from you. Suggestions of where to buy one would also be great. Otherwise, I'll have to bite the bullet and buy new from AES; a bit more than I'd hoped to pay!

Tnx es 73 de Larry, KC6WOG

```
*************************************************************************
* Larry Goodwin KC6WOG * reply to... INTERNET: goodwin@kaiwan.com *
* 73 es gud DX * AX25 PACKET: kc6wog@wb6wfh#soca.ca.usa *
* --... ...-- * Better Living Through Sound Effect Editing *
*************************************************************************
```

• MR/2 2.03 NR • What happens if you touch these two wires tog.....

• MR/2 2.03 NR •

1611. Re: Homebrew Starter Kit - SPECIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: shade@primenet.com
Message-ID: <3nki7t$pkg@news.primenet.com>
Source record: 113307
Cross-posted to:
rec.food.drink,rec.radio.amateur.homebrew,alt.beer.like-molson-eh,rec.food.drink.beer,rec.crafts.brewing,rec.beer,alt.beer

Stop spamming, please. This article does not exactly pertain to homebrew amateur radio equipment.

Shade

In article <homebrew-2504951913330001@ip140.flg.primenet.com>,
homebrew@allnight.com says...
>
>Homebrew Starter Kit - SPECIAL: FREE bottle brush
>
>Making great beer at home is easy and affordable thanks to the Homebrewers
>Outpost Starter Kit. It contains everything you'll need to make great beer
>at home, including complete instructions and high-quality equipment and
>ingredients. The starter kit costs only $69.95, and Internet customers
>will receive a FREE bottle brush.
>
>To find out more, visit our brand new web site:
> http://www.allnight.com/homebrew/
>
>Or just give us a call at (520) 774-2499.
>
>----------
>Homebrewers Outpost
>823 N. Humphreys St., Flagstaff, AZ 86001
>(520) 774-2499, open every day 11am to 8pm MST
>homebrew@allnight.com
>http://www.allnight.com/homebrew/
>----------

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Responsibility and risk-taking
are the hallmarks of maturity
shade@primenet.com

1612. Reversing a transverter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: dit@dylan.isltd.insignia.com
Message-ID: <3nl19aINNh3u@dylan.isltd.insignia.com>
Source record: 113308

I have been looking at a circuit for a transverter (2m transceiver transverted to 6m). I have a 6m multimode rig, and was wondering about doing it the other way round.

As far as I can see, the circuit is basically a 94MHz LO, a mixer, appropriate filters and the necessary switching...

If I redesign the filters for the appropriate frequencies, is there much else I need to do to make it work 'the other way round' ?

Or am I being far too simplistic?

Any advice, suggestions or comments welcomed.

Thanks

David (G0SYA)

1613. Re: Anyone know how to reduce RF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3nkukr$17r4@info4.rus.uni-stuttgart.de>
Source record: 113309

>It twitches particularly bad when I TX around it. But now, even with the radio
>off and the antenna from the HT removed, my monitor still twitches.

Shade,

I think the best idea is to remove the battery pack from your hand held and
store the set in a sealed die cast box. Hopefully your monitor will then
have a chance to recover from the RF shock.

73, Moritz DL5UH

1614. Re: Dx of lightning strikes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3nkr6j$9mq@nuclear.microserve.net>
Source record: 113310

psystat@aol.com (Psystat) wrote:
>I understand that lightning strikes can be received worldwide by tuning in
>to the Schuman frequency of 8 Hz. Has anyone heard of this? Are any
>schematics for such a receiver available?

Never heard of it, but seems to me the equipment would consist of a loooong
antenna, low pass filter (about 15 Hz), and an audio amplifier.

Personally, this sounds like a lot of trouble to me. My 50' mast in the
backyard receives lightning on a regular basis.

1615. Antique Radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: gemohler@dyslexic.phoenix.net
Message-ID: <3nlmoj$6b0@gryphon.phoenix.net>
Source record: 113311
Cross-posted to:
aus.radio,rec.antiques.radio+phono,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap,uk.radio.amateur

This is posted, by me for an old friend in Niagara Falls, New York.
Kindly do not reply to me..but to the information listed below.

-Thank you.

From: Gary@f145.n260.z1.fidonet.org

Serious Collector looking for Old Radios (Wood-Bakelite-Table-Early
Transistor)Also Tubes, Literature, Electrical Devices, Test Equipment. All
this preferably from the Early 20's to the Late 40's except for Early 60,s
Transistor Radios. Maybe you've got something laying around in your damp
basement or hidden in your dusty attic! If you do, please leave E-Mail or
Voice call me at 716-283- 2274 and ask for Gary or leave Message on Ans.
Machine. Could be a few extra bucks for unwanted stuff just laying around!
Thanks.

Gary

1616. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: mark@ve6mgs.ampr.ab.ca
Message-ID: <D7n9p3.K8@ve6mgs.ampr.ab.ca>
Source record: 113312
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

rlindberg@kendaco.telebyte.com (R. Lindberg & E. Winnie) writes:

>> In article <3nglq0$7ps@wizard.uark.edu> plaws@comp.uark.edu (Peter Laws)
>> writes:
>> >How about rec.radio.amateur.qrp? That includes those of us in rental
>> >units and CONdos as well as QRP fans (even though I run about 30W ... :).
> IMHO this is a much better idea then the current name. My feeling is
>there is a much broader base of users for qrp, and it could include the
>low profile people also, since they seldom run 1000 watts.

Gohd, I hate being prototypical, but a `me too' for this one. When we were creating the new rec.radio.amateur.* heirarchy, this (*.qrp) was one of the proposed groups that disappeared because of not enough support though ..., but I would expect more support for the slightly broader *.qrp group than for the badly named *.low-profile (my prior comments about low-profile surface mount components).

Ciao -- Mark

1617. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: mc@shore.net
Message-ID: <3nldue$sbj@shore.shore.net>
Source record: 113313
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

e-mail => dragonsl@scn.org (best address, read daily, forwards to find us)
rlindberg@kpt.nuwc.navy.mil (last resort only)

On Fri, 21 Apr 1995, R lindberg + E Winnie wrote:

>> I never thought I would say this about an amateur newsgroup, but I
>> think this is a BAD idea, too narrow in focus and with too limited a base
>> of users.

And Tony Stalls replied:

>It's getting to the point that in order to live somewhere these days, it's
>necessary to waive all kinds of rights and otherwise regular privileges,
>including those pertaining to antennas that are normally at least
>partially protected by PRB-1. Condo and apartment living is becoming more
>common as single family dwellings are becoming less affordable and an
>increasing number of amateurs are being subjected to these severe
>restrictions.

>The issues that might be addressed go beyond just a type of antenna. A
>rec.radio.amateur.low-profile newsgroup can deal with and provide help
>with both "stealth" antennas and the issues that make them necessary.
>
> +---------------------------------+---------------+------------+
> | Richard A. (Tony) Stalls, K4KYO | Arlington, VA | ras@us.net |
> +---------------------------------+---------------+------------+

And some wisdom from davev@atkc.COM (Dave van De Kerk)

:As an apartment dweller and a radio amateur interested in
:HF CW, this group is exactly what I am looking for. It is
:not just limited to discussion about antennas. Topics I
:forsee include:

* dealing with landlords and covenants
* TVI and RFI to others
* TVI and RFI interference to your operation from
others.
* negotiations with neighbors on operating
* strategies for HF operations to stations out of
your own state on extremely ineffecient antennas
and low power.
* RF safety in extreme proximity.
* operating satellites with low profile equipment.
* Urban emergency operations using rapidly deployed,

improvised installations.
* Care and feeding of the older, less expensive
equipment us "stealth" operators seem to use.
* Installation of the shack in very space challenged
areas that the XYL or other significant other
lets us use.
* How to get a good ground on the 27th story.

:None of those topics are related to antennas. Of course, I
:also would include:

* help with making an HF antenna that is nearly
invisible and gets out.
* invisible commercial HF antennas.
* help with making a VHF or UHF antenna that is nearly
invisible and gets out.
* invisible commercial VHF/UHF antennas.
* antenna modeling
* antenna installation tips and hints

:For those of us who are not rich, never will be rich, and have
:less space to work with all the time, this group looks wonderful.
:Please vote yes.

Low-profile ham radio is an extremely challanging and highly specialized
pursuit of the Hobby. As quoted herein, there are a myriad of subjects
that need to be cussed and discussed. I have been a fan of operating
my HF station under all kinds of conditions, mobile and portable and
I highly endorse this newsgroup. Just because some of us are fortunate
enough to have full-size dipoles and gain antennas NOW, remember that it
wasn't always this way and that there are others who need this exchange of
specialized information to learn and experiment to improve their skills
and talents in this area.

If the Net can support 8,000 + newsgroups, would one more really make a
difference? Next tine you take a trip, try taking along a 40M QRP
transciever and some magnet wire and try to make a contact or two.
This kind of activity can be great therapy after a day full of snake-pit
business meetings. Try working some of your buddies back home from your
Company-paid hotel room. Its a lot of fun! At least if you are not into
trying this, you may find it enjoyable and entertaining to read the experience
of others. Remember, the basis of our Hobby and license is EXPERIMENTATION!
With the proliferation of consumer-grade transcievers and "rice rockets"
which are not generally user-servicable, can any of you tell me any areas
of research and experimentation other than antennas and operating under
low-profile conditions? So, loosen up you detractors, and think before
you condemn! No one's twisting your arm to read or participate in this
proposed newsgroup. You probably wouldn't have much to contribute anyways!

Donning asbestos suit! Fire away! But no replies until after Dayton!

73,

H Michael Crestohl KH6KD/W1
Nahant Massachusetts U.S.A.
mc@shore.net

1618. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: mark@ve6mgs.ampr.org
Message-ID: <1995Apr26.154137.3536@ve6mgs.ampr.org>
Source record: 113314
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

mc@shore.net (Michael Crestohl) writes:

>If the Net can support 8,000 + newsgroups, would one more really make a
>difference?

?

The reason for a group is to be if there will be sustainable discussions. This group is being proposed has a *lot* to do with rec.radio.amateur.antenna with a bit of the inflamatory rec.radio.amateur.policy thrown in to boot. If the existing group structure can support discussions proposed in the group, then one should ask `Why do some people feel the existing group is inappropriate for this discussion'.

>Next tine you take a trip, try taking along a 40M QRP
>transciever and some magnet wire and try to make a contact or two.
>This kind of activity can be great therapy after a day full of snake-pit
>business meetings.

You just described the entire rec.radio.amateur.* hierarchy, minus the previously proposed (and failed) group rec.radio.amateur.qrp ...

Ciao -- Mark

1619. Ultra-miniature Direction-finding Unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: cjg007@email.mot.com
Message-ID: <cjg007-2604951238200001@145.1.90.177>
Source record: 113315
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

Hi,

I've always thought it would be great if one could make a really small direction-finding unit that would be the size of a small calculator, including the antenna (something like James Bond would use). I'm curious if anyone has ever tried making such a unit, and would like to share their experiences with it. I've never gotten beyond the "thinking about it" stage myself. I do think that a ferrite loop, such as the ones found in old AM pocket radios might have a good chance of working. However, that would only probably work at frequencies of several MHz, and the transmitter would have to have a big antenna to get the signal out. Anyway, I'd appreciate any comments.

Jim

--
"I love a good cheeseball!" - Al Borland of TV's Home Improvement.

1620. Re: Dx of lightning strikes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: sbertsch@magnus.acs.ohio-state.edu
Message-ID: <3nlug7$1n4@charm.magnus.acs.ohio-state.edu>
Source record: 113316

In article <3nkbqq$ist@newsbf02.news.aol.com>, Psystat <psystat@aol.com> wrote:
>I understand that lightning strikes can be received worldwide by tuning in
>to the Schuman frequency of 8 Hz. Has anyone heard of this? Are any
>schematics for such a receiver available?
>
>Any info will be greatly appreciated.
>
>Gary Davis

A rather old book, _The_Amateur_Scientist_, is a collection of articles
from the series in _Scientific_American_ magazine. They had a construction
project for a thunderstorm warning receiver that measured the ratio of
static pulses at 2 or 3 frequencies, it also measured the voltage gradient
a few feet above ground. The thing used tubes, but the concepts should
help you out. Good luck in the library!

Steve N8KWV

1621. NOAA RESOLUTION?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-26 00:00:00 UTC
From: steve@hamlab.demon.co.uk
Message-ID: <D7nswL.H60@demon.co.uk>
Source record: 113317

Iv'e been trying to discover what the horizontal resolution of NOAA sattelites is. Is it one or two pixels to one cycle of the 2400hz carrier? Somebody put me out of my mysery!

Cheers Steve.....steve@hamlab.demon.co.uk
From Steve Drury. Email steve@hamlab.demon.co.uk

1622. Re: Ultra-miniature Direction-finding Unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: kinsler@bobcat.ent.ohiou.edu
Message-ID: <D7oDnz.2JC@boss.cs.ohiou.edu>
Source record: 113173
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

>I've always thought it would be great if one could make a really small
>direction-finding unit that would be the size of a small calculator,
>including the antenna (something like James Bond would use). I'm curious
>if anyone has ever tried making such a unit, and would like to share their
>experiences with it. I've never gotten beyond the "thinking about it"
>stage myself.

Am I imagining it, or did I see a very small direction finding unit that
used the GPS satellite in Popular Science or somewhere? I think it cost
about a zillion dollars. Anyone remember?
M Kinsler

1623. Repeater on the NET!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: don@weather.brockport.edu
Message-ID: <3nodke$c8j@starfish.acs.brockport.edu>
Source record: 113174
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Just thought that someone might be interested in this!
I now have a 70cm repeater connected to the Internet! it has a few
functions available, and lost of Info on a homebuilt repeater!
If you would like to see this repeater, the URL is:

http://www.weather.brockport.edu/~don/repeater.html

I am also looking for some other interfacing ideas for the repeater
to the Internet. If you have any Ideas, please E-Mail me.

****
Name: Donald L. Schleede (KB2LZF) Snail-Mail:
Research Associate/Programmer Dept. Earth Sciences
E-mail Addresses: SUNY Brockport
don@weather.brockport.edu Brockport, NY 14420
dschleede@unidata.ucar.edu Twisted Pair:
Planet: Earth (716) 395-5718
****

1624. Re: Ultra-miniature Direction-finding Unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: delaney@j51.com
Message-ID: <3nmun7$f83@tzlink.j51.com>
Source record: 113175
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

Jim G. (cjg007@email.mot.com) in article ve <cjg007-2604951238200001@145.1.90.177> on Wed, 26 Apr 1995 12:38:19 +0100 wrote:
: Hi,

: I've always thought it would be great if one could make a really small
: direction-finding unit that would be the size of a small calculator,
: including the antenna (something like James Bond would use). I'm curious
: if anyone has ever tried making such a unit, and would like to share their
: experiences with it. I've never gotten beyond the "thinking about it"
: stage myself. I do think that a ferrite loop, such as the ones found in
: old AM pocket radios might have a good chance of working. However, that
: would only probably work at frequencies of several MHz, and the
: transmitter would have to have a big antenna to get the signal out.
: Anyway, I'd appreciate any comments.

: Jim

They might have something like that in a (counter) intelegence catalog.
There is a store in NewYorkCity that sells that kind of stuff. When I
find the number (if I can) I'll put it here...

--
Matthew Delaney N2MDB delaney@j51.com ax.25: n2mdb@k2sk.#eny.ny.usa.na
Finger for PGP key http://www.j51.com:80/~delaney
BBS: +1-914-639-6564 TCP/IP Packet BBS: [44.68.64.223] (N2MDB-4)
Hey! You don't like what I say, don't read it anymore. That's all...

1625. Re: Ultra-miniature Direction-finding Unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <799007601snz@lfheller.demon.co.uk>
Source record: 113176
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

In article <cjg007-2604951238200001@145.1.90.177>
cjg007@email.mot.com "Jim G." writes:

> I've always thought it would be great if one could make a really small
> direction-finding unit that would be the size of a small calculator,
> including the antenna (something like James Bond would use). I'm curious
> if anyone has ever tried making such a unit, and would like to share their
> experiences with it. I've never gotten beyond the "thinking about it"
> stage myself. I do think that a ferrite loop, such as the ones found in
> old AM pocket radios might have a good chance of working. However, that
> would only probably work at frequencies of several MHz, and the
> transmitter would have to have a big antenna to get the signal out.
> Anyway, I'd appreciate any comments.

If you want a matching Tx, I've just seen an advert for a Breitling watch
with a built-in beacon on the distress air channel. There is what looks like a
little telescopic antenna that pulls out from next to the winder. Of course,
you shouldn't use this frequency.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

1626. looking for rotor...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: smchenry@freenet.columbus.oh.us
Message-ID: <3nnksl$3f3@acme.freenet.columbus.oh.us>
Source record: 113177

I am in need of a good WORKING used rotor. Something medium duty for
a few VHF/UHF boomers. Need a few extra Bucks to take to Dayton? e-mail
or call (614) 529-8529. Looking in the $35 to $50 range if that's
possible. Thanks, Sean, aka KB8JNE.
--
smchenry@FREENET.COLUMBUS.OH.US In Cyberspace, no one can hear you scream.

1627. Re: HELP WITH RF DIRECTIONAL COUPLER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: agtss@tibalt.ab.ca
Message-ID: <3nnkv0$97t@tibalt.supernet.ab.ca>
Source record: 113178

In article <798541174snz@lfheller.demon.co.uk>, Leon@lfheller.demon.co.uk (Leon Heller) says:
>
>In article <3na765$lhl@tibalt.supernet.ab.ca>
> mwilde@freenet.edmonton.ab.ca "agtss" writes:
>
>> Hi,
>>
>> I'm looking for some information on directional couplers. I've read several
>> articles and texts but am still left with a several questions.
>>
>> 1. What value should a designer pick for Zoe or Zoo and why. I realize they are> related and to the system Zo [Zo = (Zoe *Zoo)**1/2], but I can't find
>> to
>> tell me what values to use and why. Given one has a frequency BW, and degree
>> of coupling in mind it seems to me you still need Zoo or Zoe before you have
>> your coupler?
>>
>> Any ideas?
>>
>> 2. Is there any good literature on very broadband couplers (10 Mhz to 1000 Mhz.)> In the 60's HP designed a coupler (HP778D) which used a tapered line
>> main line to achieve a very broad bandwith. Is there any published information> on this? Or given I only want one, does anyone know where I can pick
>> without a
>> major expense.
>>
>>
>> Any help or suggested references would be deeply appreciated!
>
>The Mini-Circuits RF/IF Designer's Handbook has a lot of info on their
>broad-band directional couplers. They aren't too expensive, and it probably
>isn't worth "rolling your own". For instance, they have a 1 to 1000 MHz
>device for $32.95, one off. They are on (718) 934-4500.
>
>Leon
>--

>> Yes, I've tried to use these but the directivity is poor over the broadband.
>> They are very useful for non critical applications but I would like a
>> broadband directivity of 35 dB. This is only possible for MINI CIRCUITS
>> narrow band couplers. I thought I'd try a stripline version and see if they
>> are any better. Hewlett Packard have some with 46 dB return loss (over a
>> wider bandwidth as well (2 GHz).

>Leon Heller, G1HSM | "Do not adjust your mind, there is
>E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
>Phone: +44 (0)1734 266679 | many years ago in Oxford.

1628. Re: Dx of lightning strikes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: wvanho@infinet.com
Message-ID: <3nnqas$g1t@horus.infinet.com>
Source record: 113179

Psystat (psystat@aol.com) wrote:
: I understand that lightning strikes can be received worldwide by tuning in
: to the Schuman frequency of 8 Hz. Has anyone heard of this? Are any

I presume you meant 8 KILOhertz. A lot of work was done before and during WW2 on long-distance storm detection using radio direction finding at frequencies between about 5- and 20-KHz.

It works fine over oceans, but not well over land. It is true that individual lightning crashes can be detected over distances of several thousands of miles, e.g. storms near Hawaii can be spotted from the Philippines. Propagation over land causes phase distortion that messes up the DFing.

The USAAF Weather Service established several networks of 4 RDF installations, each, in 1944-45. The system was called "Sferics". It worked reasonably well and gave accurate information. I know because I spent a number of months flying on a reconaissance aircraft that covered almost the whole Atlantic, verifying that the thunderstorms were actually where they were supposed to be.

Bill Van Horne
wvanho@infinet.com

I have a spelling checker, it came with my PC.
It plainly marks four my revue mistakes I cannot sea.
I've run this poem threw it, I'm sure your please to no.
Its letter perfect in its weigh; my checker tolled me sew.
(c) THE ROTARIAN

1629. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD7p690.EC2@netcom.com>
Source record: 113180

In article <D7nnvE.Bvx@melpar.esys.com> sjohnson@melpar.esys.com writes:
>
>I am thinking of building a small transmitting loop per Ted Hart's design
>in the ARRL handbook. I have never talked to anyone on the air that
>was using one. Would appreciate if those with on-the-air experience would
>compare these antennas with commonly used ones (such as dipole or vertical)
>for DX use in a restricted space application.

I used one in a dorm room for a couple years when I was a student (before I found out that the bunk beds were almost perfectly tuned to 6M, which is another story altogether). Basically, you can't hope for the performance of a good vertical, but it's still surprisingly effective. In my case there was no possible way for me to put up a more bulky antenna, and the loop served very well considering the effort involved to construct it and the fact that it took no space to speak of. The one I built consisted of 18 AWG magnet wire scrapped from a motor, wound around a hula hoop, with a matching network. It was described in a late 1950s issue of QST somewhere.
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

1630. Re: Homebrewing your own transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: Stuart Hill <stuart.hill@ncl.ac.uk>
Message-ID: <stuart.hill.1.799001806@ncl.ac.uk>
Source record: 113181

In article <3mqhpv$pnm@newsbf02.news.aol.com> bakebaker@aol.com (BAKEBAKER) writes:
>From: bakebaker@aol.com (BAKEBAKER)
>Subject: Re: Homebrewing your own transistors
>Date: 16 Apr 1995 03:42:55 -0400

>I don't have time to do the hombrew on this one, but I wonder how hard it
>would be to extend the idea and construct a pentium! Larry KA7AGV

Don't know about a pentium, but I do recall _many_ years ago when these
things were not so plentiful, making point contact Ge transistors. It needed
a steady arm (!) but quite a few worked. I did get one to oscillate quite
well enough to make a simple transmitter, the odd micro-watt I suppose.
Kind of nostalgic I suppose, but we've come a long way since then...

==========
Stuart Hill E-mail: stuart.hill@newcastle.ac.uk
University of Newcastle upon Tyne Tel: 44 (191) 222 7089
Department of Chemistry FAX: 44 (191) 222 6929
==========

1631. Copper Tape 1", 2", 3"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: Waltk@pica.army.mil
Message-ID: <9504271347.aa22873@COR5.PICA.ARMY.MIL>
Source record: 113182

```
Cu Tape is available from Small Parts Inc., 1-305-557-8222 (FL).

.....................................................................
73 de Walt Kornienko - K2WK Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
Member: The Frankford Radio Club #1 Contest Club In The Universe
---------------------------------------------------------------------
```

1632. Help finding documentation on 800 Mhz Mitrek

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <3nol3h$n3d@crchh327.bnr.ca>
Source record: 113183

I have a 800 Mhz Mitrek (Motorola) unit that I would like to get some
documentation and look into the possibility of moving it up to 900 Mhz.

It is currently tuned for 860-870, and wonder if it will make the 40-50
Mhz swing I need, and if so, how.
--
==========

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 991-4769 email: cnc23a@bnr.ca Ham: N4ZBB Packet: n4zbb@n1gmv.nc
DX PacketCluster (tm) Node : W4DW

All opinions are my own and do not necessarily reflect the views of
my employer or co-workers, family, friends, congress, or president.

1633. Re: 200MHz IF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3nojhr$6jr@nuclear.microserve.net>
Source record: 113184

Ian@newbrain.demon.co.uk (Ian Robert Walker) wrote:

> Crystal filters are obtainable for 10.7 & in the 40-70MHz range.

Don't forget the possibility of using a video IF SAW filter - 45.75 (NTSC)
or 38.9 MHZ (PAL).

I agree - two IF's will be required in this design for good image rejection,
unless the builder has room for resonant cavities the size of trashcans.

Regarding the 1st IF, I think this will require basically discrete circuitry.
maybe with a few MAR's for higher "gain density".

73,

Jack WB3U

1634. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3nok4m$6jr@nuclear.microserve.net>
Source record: 113185

myers@West.Sun.COM (Dana Myers) wrote:
>WB3U <jackl@pinetree.microserve.com> wrote:

>>Did I miss a rule change?

>Yes, you certainly did. Something like 10 years ago or so.

Too bad you didn't include any information I could actually
use in this post. Like, uh, the exact changes to the rules?

1635. Re: Cellular to Amature ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <3noo2j$nlj@crchh327.bnr.ca>
Source record: 113186

In article <3noiut$27j@mksrv1.dseg.ti.com>, cramer@mksol.dseg.ti.com (Norman W Cramer) writes:
|> Has anyone done a conversion from a cell phone to something usefull on a ham
|> band? I have an old cell phone that I will probably never use for cellular
|> again (since they give away free phones with new service), is there an easy
|> way to convert this for amature use?
|>
|> Norm,
|>
|> WD2AEM
|> cramer@dseg.ti.com
|>
|>

Beginning to look at it myself. I recently obtained a RS Cellphone and have the service manual on order. The processor is a simple RCA 1800 series part and the handset is connected via a DB25. The biggest problem I can see so far is most of the RF parts look like they may not move well.

Definately would like to experiment on the 33 cm band (902-928), and this seems the best vehicle so far to do this.

Let me know if you have any success, and I'll do the same.

--
==========

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 991-4769 email: cnc23a@bnr.ca Ham: N4ZBB Packet: n4zbb@n1gmv.nc
DX PacketCluster (tm) Node : W4DW

All opinions are my own and do not necessarily reflect the views of my employer or co-workers, family, friends, congress, or president.

1636. Re: NOAA RESOLUTION?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: steve@hamlab.demon.co.uk
Message-ID: <D7pIqy.7IA@demon.co.uk>
Source record: 113187

gkennedy@helix.net (Geoff L. Kennedy) wrote:

> According to the NOAA manual I have, the APT system puts out 2080
>(yes, 2080 !!) words of data per line, which is subsequently converted
>to analog and used to modulate the 2400 Hz subcarrier. The actual width
>of each *image* is 909 words (2 images per line !). The rest is things
>like the telemetry/grey scale, backscan and minute markers, and sync
>pulses.

> The funny numbers are due to the sampling algorithms used to convert
>the data stream from the AVHRR into the lo-resolution APT format. It's
>pretty bizarre at first glance.... :-)

> Most commercial APT decoders sample at 2400 Hz, probably because it's
>a simple phase-lock to the subcarrier. But I wonder if it distorts the
>geometry of the image in any way. Anyone know ???

I have also sampled the signal at 2400 hz, but i've seen the specs for a
comercial decoder claiming 2-3 miles resolution per pixel. By my
calculations and through observing pictures produced by my decoder
indicate 3-4 miles per pixel. Thanks for your response. Steve.

steve@hamlab.demon.co.uk
From Steve Drury. Email steve@hamlab.demon.co.uk

1637. Need help finding Circuit Cellar

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: cyurk@advtech.uswest.com
Message-ID: <cyurk-2704951501190001@catbert.advtech.uswest.com>
Source record: 113188

Anybody got a phone or address for Circuit Cellar or similar outfit. My beloved Crown D75 audio power amp gave up the ghost so I'm getting it revamped and then plan to use it for something else. However, that would leave my Mac with no way to drive the Bose Roommates :-)

Rather than blow 70 bucks for piece-o-sh** bottom of the line Radio Smack amp, I'd like to order a basic line-in, speaker-out, volume control stereo amplifier kit.

E-mail replies would be preferred. Thanks in advance. I know this really isn't an amateur homebrew related post but I couldn't locate another appropriate homebrew newsgroup.

--
Clark Yurk | Mac/PC/Unix/Voice/Data Support and Repair
cyurk@advtech.uswest.com | Macintosh Systems Administration
Systems Service Center | "Surviving reorganization is like being
U S WEST | on the Titanic. Everyone's scrambling to
Advanced Technologies | get to a higher deck."

1638. Re: Homebrewing your own transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD7poAz.AEF@netcom.com>
Source record: 113189

In article <stuart.hill.1.799001806@ncl.ac.uk> Stuart Hill <stuart.hill@ncl.ac.uk> writes:
>
>Don't know about a pentium, but I do recall _many_ years ago when these
>things were not so plentiful, making point contact Ge transistors. It needed
>a steady arm (!) but quite a few worked. I did get one to oscillate quite
>well enough to make a simple transmitter, the odd micro-watt I suppose.
>Kind of nostalgic I suppose, but we've come a long way since then...

There was an issue of Scientific American, back when C.L. Stong was
still writing the _Amateur Scientist_ column, which detailed how to make
point-contact devices in your kitchen oven. I tried it in the early
seventies and I was getting massive contamination problems and consequently
high noise floors, but I was getting a gain as high as fifty or so. It
was a whole lot of fun.

Hmm.. wonder what it would take to do the Mesa process in your kitchen?
Photoetching is no big deal; you might even manage to use silkscreen resist.
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

1639. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3np0hs$9c7@abyss.West.Sun.COM>
Source record: 113190

In article <3nok4m$6jr@nuclear.microserve.net>,
WB3U <jackl@pinetree.microserve.com> wrote:
>myers@West.Sun.COM (Dana Myers) wrote:
>>WB3U <jackl@pinetree.microserve.com> wrote:
>
>>>Did I miss a rule change?
>
>>Yes, you certainly did. Something like 10 years ago or so.
>
>Too bad you didn't include any information I could actually
>use in this post. Like, uh, the exact changes to the rules?

Like, uh, the rules have undergone significant changes over the
last 10 years. Maybe you ought to go buy a recent copy and
read them, since amateurs *are* supposed to stay current on the
rules, afterall. I don't mean to be snide; if you haven't
noticed this fairly old rule change, what else might you have
missed?

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* "Thou shalt not suck" *

1640. Cellular to Amature ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: cramer@mksol.dseg.ti.com
Message-ID: <3noiut$27j@mksrv1.dseg.ti.com>
Source record: 113191

Has anyone done a conversion from a cell phone to something usefull on a ham band? I have an old cell phone that I will probably never use for cellular again (since they give away free phones with new service), is there an easy way to convert this for amature use?

Norm,

WD2AEM
cramer@dseg.ti.com

1641. Re: Ham-Homebrew Digest V95 #123

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: drted@ix.NETcom.COM
Message-ID: <199504271952.MAA06704@ix5.ix.netcom.com>
Source record: 113192

Howdy guys... Say, Why do you echo the H-H Digest back to the Homebrew Newsgroup??? I am sure I am not alone in not understanding this. Why would any of us want to reread (and sometimes pay extra for) what we have already read?? And, if you are not responsible for these echoes, could you find out who is and ask them to stop?? Thanks...
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

1642. Question re News Group?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: haworth@Direct.CA
Message-ID: <3norp6$mn9@stud.Direct.CA>
Source record: 113193

What are the policies / guidelines for posting articles to
this group ?

Tnx

VE0SAO / VE7 CVL

1643. Re: Wanted: Power GaAs FETs > 2 watts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995Apr27.134756.14375@arrl.org>
Source record: 113194

: kbanke@qualcomm.com (Kerry Banke) wrote:
: >I'm looking for surplus power GaAS FETs capable of >2 watts output at 2.4
: >GHz and above. This is for Amateur radio use & can be devices still in
: >equipment or removed from equipment, mismarked, experimental, etc

I think Steve at Down East Microwave (he bought out the non-antenna
part of the company and moved it to NJ--the antenna part is still in
Maine as Directive Systems) has a quantity of the 5.9 to 6.4 GHz
3 watt Avantek GaAs FETs. IM-5964-3s. These are rated at 3 watts,
but people claim to have gotten 4 or even 5+ watts out of them. Usually,
they run them at 12 volts, as opposed to the recommended 9 volts. 12 V
is under the absolute max rating of 14 volts, so it is probably OK
for typical amateur use (non-continuous operation).

They are impedanced matched for 6 cm with low pass networks, so you
can tune them for lower bands. er=10.5 board works great at 2.3 GHz,
you can use little pieces of tuning foil--just like X band. er=2.2
board may require actual capacitors for tuning.

There may also be some surplus dealers in Texas with them as well--from
what I heard thousands were on the surplus market at one time....
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1644. Re: How to find QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-27 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Apr27.101436.265@nad.com>
Source record: 113195

In article <Pine.HPP.3.91.950424095720.20089D-100000@pmafire.inel.gov>, Jack Mott
<jackm@pmafire.inel.gov> writes:
> I have noticed some references to QEX in this newsgroup. How can I
> cantact this publication? What other publications might be of interest
> to homebrewers? I am just getting started in the hobby.
>
> Charles Mott
>
QEX is published monthly by the ARRL. You can call them at 203-666-1541.
Circulation/Pubs can be reached on the net at kfay@arrl.org.

Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com

1645. Pulse control for flash tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: kaicee@ix.netcom.com
Message-ID: <3nphbr$djr@ixnews4.ix.netcom.com>
Source record: 113196
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

Can anyone help me find a circuit diag or module for controlling a
flash tube (strobe) with a audio (microphone) input? I want to be able
to control the flash rate with the presence or absence of the mike
ouput, not the volume.
Also any source for a strobe bulb other than Edmund Scientific?

Many thanks. Ken

1646. Re: NOAA RESOLUTION?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: pmonta@venice.qualcomm.com
Message-ID: <PMONTA.95Apr27174535@venice.qualcomm.com>
Source record: 113197

gkennedy@helix.net (Geoff L. Kennedy) writes:

> According to the NOAA manual I have, the APT system puts out 2080
> (yes, 2080 !!) words of data per line, which is subsequently converted
> to analog and used to modulate the 2400 Hz subcarrier. The actual width
> of each *image* is 909 words (2 images per line !). The rest is things
> like the telemetry/grey scale, backscan and minute markers, and sync
> pulses.
>
> The funny numbers are due to the sampling algorithms used to convert
> the data stream from the AVHRR into the lo-resolution APT format. It's
> pretty bizarre at first glance.... :-)
>
> Most commercial APT decoders sample at 2400 Hz, probably because it's
> a simple phase-lock to the subcarrier. But I wonder if it distorts the
> geometry of the image in any way. Anyone know ???

I remember seeing somewhere that the APT system does some nonuniform
resampling of the AVHRR output to mitigate the compression near the
horizon. I don't know what the mapping might be.

Peter Monta pmonta@qualcomm.com
Qualcomm, Inc./Globalstar

1647. Re: Mosley says you can't wind coils????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: Dale Botkin N0XAS <dbotkin@probe.net>
Message-ID: <3nph1s$kon@jake.probe.net>
Source record: 113198

Yah... tough to find good help these days! 8-)

--

Dale Botkin, N0XAS | Probe Technology Internet Services
President | 10159 J St., Omaha, NE 68127-1118
| 402.593.9800
| Internet services for the Heartland

1648. Re: S.H.F. Microwave Parts Company.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3npr1r$naf@vixen.cso.uiuc.edu>
Source record: 113199

In a previous article, pbutlalj@ia.net (Allan Butler) says:

> Hello everyone,
>
> I am wondering if there is any information available on the
>company S.H.F. Microwave Parts Compnay. They are located in La Porte IN
>suppposedly. From what I can gather they can supply microwave parts like
>gunn oscillator parts along with some other related hardware for the X
>and K bands.
>
> I have their address but there is not an address listed there. I
>would really like to talk to these people so that I could get a current
>flier from them and see what the prices are and also what is available
>from them.
>
>--
> Al Butler KA0IES
> ajbutler@ia.net
>
>

It has been a couple years since I ordered anything from them. They did NOT have a phone, but the address was:

SHF Microwave Parts Co.
7102 W 500 S
La Porte IN 46350

They were very fast with a catalog and very fast with orders, too! And I wasn't satisfied with something I got, and they made it right.

If anyone has bought anything from them lately, let me know. I may get a couple 24 GHz Gunnplexers.

73, Zack W9SZ

1649. Re: How to find QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3nprgi$ocg@vixen.cso.uiuc.edu>
Source record: 113200

In a previous article, jackm@pmafire.inel.gov (Jack Mott) says:

>I have noticed some references to QEX in this newsgroup. How can I
>cantact this publication? What other publications might be of interest
>to homebrewers? I am just getting started in the hobby.
>
>Charles Mott
>
>

Write to the ARRL! It is an ARRL publication. Subscriptions are $15.00/year in the USA for ARRL members, and $27.00/year for non-ARRL members.

I've been getting it for a few years now and it's worth it. ARRL will also photocopy articles from back issues for a small photocopy fee, if you know what issue the article is in.

Zack W9SZ

1650. Re: Ultra-miniature Direction-finding Unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: jimlynn@ix.netcom.com
Message-ID: <3nq0as$88p@ixnews3.ix.netcom.com>
Source record: 113201
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

In <D7oDnz.2JC@boss.cs.ohiou.edu> kinsler@bobcat.ent.ohiou.edu (Mark Kinsler) writes:
>
>>I've always thought it would be great if one could make a really
>>small direction-finding unit that would be the size of a small
>>calculator, including the antenna ..
>
>Am I imagining it, or did I see a very small direction finding unit
>that used the GPS satellite in Popular Science or somewhere? I think
>it cost about a zillion dollars. Anyone remember?
> M Kinsler
>
Check out one of the Airline mags. There is a credit card version for laptops (~$750.00US) and a hand help (about the size of a large flip-phone for about $700US...

If I can find a copy around here, I'll post the company name and number...

Jim Lynn

1651. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: rwa@cs.athabascau.ca
Message-ID: <rwa.799088205@atha>
Source record: 113202
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

mark@ve6mgs.ampr.ab.ca (Mark Gregory Salyzyn) writes:

>rlindberg@kendaco.telebyte.com (R. Lindberg & E. Winnie) writes:

>>> In article <3nglq0$7ps@wizard.uark.edu> plaws@comp.uark.edu (Peter Laws)
>>> writes:
>>> >How about rec.radio.amateur.qrp? That includes those of us in rental
>>> >[...]

>Gohd, I hate being prototypical, but a `me too' for this one. When we were
>[...]

I also support .qrp rather than .low-profile. For a start, it's shorter :).

regards,
Ross ve6pdq
--
Ross Alexander, ve6pdq -- (403) 675 6311 -- rwa@cs.athabascau.ca

1652. Re: Cheapest 8051 Developer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD7qzKG.91I@netcom.com>
Source record: 113203

In article <1995Apr28.013002.1@eos.bentley.edu> WONG_WAI@eos.bentley.edu writes:
>What is the cheapest, easiest way to develope and burn 8051 code?
>-WaiWong

The cheapest way is to hand-assemble the source on yellow pads of paper.
You can build an EPROM burner with a couple of rows of toggle switches,
a 5V supply, and a 20V supply. Just assert the address you want to program,
assert the data lines, and press a momentary switch to put 20V on the
PROG line. No electronics required other than the power supply stuff.
I did this a lot in the early seventies with the 8035, back when the 8035
was a $200 chip. It is definitely the least expensive development system,
but it is a pain in the neck.

The easiest way is to use the Intel in circuit emulation system... you
can develop in a high level language, drop the emulation pod into your
circuit and run the code, even being able to step through and modify on
the fly. When you have the thing running, you can use the PROM burner
on the ICE box to cut you a PROM that just drops into the circuit. However,
this is very expensive.

Do you want cheapest or do you want easiest?
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

1653. Liquid Crystal Stuff?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: WONG_WAI@eos.bentley.edu
Message-ID: <1995Apr28.012749.1@eos.bentley.edu>
Source record: 113204

Hi:
Where can I get some liquid crystal? I would like to make my own
LCD display. A big custom one. Tim Hunkin showed how on 'The Secret Life
of the Wristwatch' on TLC. It was c00l! Anyone? Thanks...

-WaiWong

1654. Cheapest 8051 Developer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: WONG_WAI@eos.bentley.edu
Message-ID: <1995Apr28.013002.1@eos.bentley.edu>
Source record: 113205

What is the cheapest, easiest way to develope and burn 8051 code?
-WaiWong

1655. Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1930.546@acenet.com>
Source record: 113206

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

SJ>I am thinking of building a small transmitting loop per Ted Hart's design
SJ>in the ARRL handbook. I have never talked to anyone on the air that
SJ>was using one.

Probably because you can't HEAR them Steve <grin!>

73 de AF4K, Brian Carling M.W.
(Master of Wit)

 SLMR 2.1a Remember, you are unique, just like everyone else!

1656. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: tomm@tcet.unt.edu
Message-ID: <3nrdk7$7v7@hermes.unt.edu>
Source record: 113207

sjohnson@melpar.esys.com wrote:

: I am thinking of building a small transmitting loop per Ted Hart's design
: in the ARRL handbook. I have never talked to anyone on the air that
: was using one. Would appreciate if those with on-the-air experience would
: compare these antennas with commonly used ones (such as dipole or vertical)
: for DX use in a restricted space application.

: Steve Johnson,
: N2FT

There have been several articles in QST and CQ magazine on small
transmitting loops. When properly constructed, they can be very efficient. The
key words are "properly constructed". This requires special components and wel;ding of the
assembly due to circulating currents that are very very high.

One of the loops was used during sweepstakes a year or two ago, and the
author won the 150-watt power category using the loop -- his being in Puerto
Rico
didn't hurt either.

Tom, N5EG

: P.S. Also interested in possibility of using a two or three turn loop. Any takers?

1657. DC to DC Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: Paul Swingewood <100572.2151@CompuServe.COM>
Message-ID: <3nrb6i$g9j$1@mhadg.production.compuserve.com>
Source record: 113208

Can anyone help
I require a circuit diagram of a DC 2 DC converter to convert
from 6V to 90 or 120V DC. To operate my 1950's vintage radio.
Valve heaters 1.4v HT 90v at a few mills.

Thanks
Paul for G4CVU John (My DAD)

1658. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: mbrinkho@falcon.inetnebr.com
Message-ID: <3nrc6d$sqb@duck.inetnebr.com>
Source record: 113209

Bryan G. Peterson (peterson@physc1.byu.edu) wrote:
: > Does anyone know how to make a circuit that will cause a beep to be
:
: Wlll, I'm sure this won't help you with your request but the Alinco DJ-F1T
: has the well hidden feature that you can set it to transmit a DTMF "C" when
: the PTT is released. I have never used it but I did have to figure out how

Does anyone know how this is accomplished? I've got a DJF1T and I'd like to
give it a try!

Thanks.
--
Matt C. Brinkhoff (KB0RXC)
mbrinkho@inetnebr.com
Lincoln, Nebraska (EN10PT)

1659. Direct Conversion Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950428093443.18161A@pmafire.inel.gov>
Source record: 113210

I was reading the Rick Campbell article (QST, 8/92) about direct conversion receivers. In it he mentions that the IF noise output of the mixers may be several dB higher within 10 KHz of DC. Is this correct? If so, would it be reasonable to put a bandpass filter at 25 kHz, and then frequency translate and filter the signal with a DSP?

I don't have a license yet, but I am thinking of what sort of hardware I would like to build.

Charles Mott

1660. Re: How to find QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-28 00:00:00 UTC
From: glass@birdie.cv.lexington.ibm.com
Message-ID: <3nqp4aINNpof@afshub.boulder.ibm.com>
Source record: 113211

In <Pine.HPP.3.91.950424095720.20089D-100000@pmafire.inel.gov>, Jack Mott
<jackm@pmafire.inel.gov> writes:
>I have noticed some references to QEX in this newsgroup. How can I
>cantact this publication? What other publications might be of interest
>to homebrewers? I am just getting started in the hobby.
>
>Charles Mott
>
Contact the American Radio Relay League at:

ARRL
225 Main Street
Newington, CT

Dave - WA4QAL

1661. URG: Boost My Cellular Performance!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: ebratcher@aol.com
Message-ID: <3nt569$2av@newsbf02.news.aol.com>
Source record: 113212

I urgently need to boost the performance of my cellular phone for use in remote areas. Can anyone give me info. on "boosters", or "add-ons" that can help me with this?

EBRATCHER@aol.com

1662. URG: Boost My Cellular Performance!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: ebratcher@aol.com
Message-ID: <3nt5f1$2bk@newsbf02.news.aol.com>
Source record: 113213

I urgently need to boost the performance of my cellular phone for use in remote areas. Can anyone give me info. on "boosters", or "add-ons" that can help me with this?

EBRATCHER@aol.com

1663. Back up power source, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: dominick@smartdocs.com
Message-ID: <3ntgeu$4j6@warp10.smartdocs.com>
Source record: 113214

I want to use some lead-calcium batteries for back up/emergency power for my HF and VHF rigs. I was wondering if any of you have a specific way you have your system wired to charge the batteries when your AC-DC power supply is on, whether your using diodes, keep the systems seperate, etc... Just an all around question or things to look out for or some of the BIG No-NOs! Thanks.

Bud KD6NOF

1664. Re: Back up power source, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: cweddle@astro.as.arizona.edu
Message-ID: <3ntjrk$ghi@news.ccit.arizona.edu>
Source record: 113215

dominick@smartdocs.com (BBWB) writes:
>I want to use some lead-calcium batteries for back up/emergency power
>for my HF and VHF rigs. I was wondering if any of you have a specific
>way you have your system wired to charge the batteries when your AC-DC
>power supply is on, whether your using diodes, keep the systems
>seperate, etc... Just an all around question or things to look out for
>or some of the BIG No-NOs! Thanks.
>Bud KD6NOF
>
Howdy!
I'm working on the very same question, having recently received a donation of 20 (used) 800AmpHr 12V Gel Cells for our Search & Rescue mountain-top repeater site. My initial thinking inolves a number of high current 125VAC (coil voltage) relays, a distribution buss, and a fully automatic (complete turn-off) battery charger. Each repeater's power supply would be connected to the battery's buss thru the normally closed contacts of a relay. But the relays are plugged into 125VAC, so the normally open contacts are in use. When the power company goes down, the relays drop out and the battery buss is connected. When AC power returns, the relays energize again, disconnecting the battery buss.

The battery charger detects low battery voltage, so it turns on and brings the batteries back up. These "Fully Automatic - Complete Turn Off" battery chargers are available at places like Walmart.

This is just an idea right now. Would like to hear people's opinions of this plan. Perhaps someone has done this a better way?

Chris N7RME
---
cweddle@as.arizona.edu "I do not speak for the University of Arizona"
Control Operator for the KA7SLW Search & Rescue Repeater System at 9157'
Mount Lemmon in the Santa Catalina Mountains of Southern Arizona.

1665. Digital Scope.FAQ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: john@wd1v.mv.com
Message-ID: <john-2904951618450001@wd1v.mv.com>
Source record: 113216

Digital Scope.FAQ - Version 1.05

Spring, 1995

Dear Technologist:

This Digital Scope.FAQ file contains many of the answers to the "frequently asked questions" regarding digital scopes.

Key Issues reviewed in this file include:

* DSO INDUSTRY TRENDS (1995)
* PRIMARY DSO FUNCTIONS
* APPLICATIONS
* DISPLAYS
* MEASUREMENTS
* BANDWIDTH & TRIGGER
* DIGITAL SIGNAL PROCESSING <DSP>
* ARCHIVAL & MEMORY
* ADCs
* DEMOS & PURCHASING

Feel free to contact me anytime via Internet (john@wd1v.mv.com) if you have comments, questions, or want the latest version of this file sent to you.

*DSO INDUSTRY TRENDS 1995
More DSOs are now sold than analog scopes. Expect most new scope models to be DSOs and expect them to have faster sampling, higher bandwidths, deeper memories, and lower costs than you might expect. Comparable models have fallen in price by about 50% in the last 4 years. The market is very competitive and that is good news for buyers.

DSOs aren't just for transient capture anymore. Modern DSOs can now process multiple sweeps and generate envelopes, measure statistics of how your signals are varying over time, do simple to complex DSP functions, conduct stand alone tests, archive and print data, even FAX scope screens with measurement and test results to/from remote sites.

DSOs now are the highest BW oscilloscopes available. The highest BW analog scope currently in production is 400 MHz. DSO BW specifications exist > 4 GHz from several manufacturers.

Closeness to sources is also good news for buyers. The vast majority of the DSOs that are sold in the United States are manufactured by US Corporations making delivery, service, and support easier and less expensive.

DSOs are getting more and more computation intensive. Deep memory, multiple channels, large high resolution displays, and enhanced DSP routines tax the

fastest CPUs and smartest firmware. Latest designs use multi-processor architectures.

Upgrade paths for firmware and hardware expansions are becoming more common.

DSOs are now available in 5 different distinctive form factors:

1 PC Card - A to D on a card that uses PC's CPU and memory- PCB Style
Interesting due to low cost. Look out for noise problems from some PC's backplanes.

2 Stand Alone Card - DSO on a card for embedded systems - PCB Style
Interesting due to low cost, small size, fewer noise issues.

3 Handheld - Portable capabilities - Portable Style
Battery operated for field measurements

4 Portable - with some amount of upgrade capabilities - Portable Style
Performance approaching mainframes and low cost due to high competition, high volume, and large scale integrations.

5 Mainframe - typically with plug-ins that determine performance - Lab Style
Highest cost but highest performance and greatest versatility.

REAL TIME SAMPLE RATES (Single Shot) > 10 Giga-samples MEMORY DEPTHS are expanding from 1 K samples to > 8M samples per sweep

DSOs are the primary debugging tools for high speed digital circuits since they can now sample so rapidly and trigger on so many different fault conditions.

Some DSO manufacturers are offering COLOR display options. Higher end versions utilize the colors cleverly with COLOR GRADED PERSISTENCE.

While many applications only require a single channel scope, most users are now purchasing 4 channel DSOs with easy justifications. The additional cost is usually small, they appreciate the "what if I need it" capabilities, and the wider trigger and debugging capabilities to look at > 2 inputs.

Some manufacturers INTERLEAVE the CHANNELS of their DSOs so that, for example, in a 2 channel model, twice the sample rate is achieved when using just 1 channel compared with both channels being used.

Some manufacturers are able to CASCADE the MEMORIES of their DSOs so that, for example, in a 2 channel model, twice the memory depth is achieved when using just 1 channel compared with both channels being used. The benefit is twice the recording time at the maximum sample rate.

Some manufacturers are just now able to both INTERLEAVE the channels AND CASCADE their memories.

DSOs are getting smaller in size, smaller in cost, and larger in functionality. This means that while you might be able to afford more DSOs and they will take up less space, it might take you longer to use them to their full potential. Thus, the user interface is gaining increasing importance. Features need to be extracted as needed quickly without a lot of button pushing, knob twisting,

and frequent trips to the user's manual. What is best for you is what feels most intuitive, easy, and convenient.

DSOs with floppy disk drives are the rule vs. the exception. Almost all new units
offer them - either as options or as standard features.

Most DSO manufacturers offer a number of FREE services:
o Full line catalogs and price sheets
o DSOs for evaluation on your signals with a "how to use it" demonstration
o Application Notes that relate how to take specific measurements or tests
o Seminars to teach basic digital scope technology
o Seminars to teach application specific techniques
o Competitive DSO Comparisons
o Training after delivery for most rapid return on investment
o Toll-free telephone applications assistance to support their platforms
o Drivers for third party software used for remote control and analysis.

*PRIMARY DSO FUNCTIONS
o Archival <Save the waveforms, measurements, tests, etc. to storage media or host>
o Auto-Setup <Sets the instrument up automatically on repetitive waveforms>
o Capture Repetitive Waveforms <Trigger on repetitive waveforms>
o Capture Transient Waveforms <Single shot captures>
o Compute Statistics <Compute variation in waveform(s) measurements>
o Data Transfer <Pass data to/from a host for processing, archival, etc.>
o Find Features <Find where specific data values are (e.g. max.) >
o Make Measurements <Compute values contained in the waveform data>
o Make Tests <Compare predicted results with actual measurements>
o Publications <Print/plot to paper, transparency, disk, etc.>
o Trigger <Detect and trigger on EDGES, WIDTHS, INTERVALS, N# of EVENTS, etc.>
o Trigger Delays <Pre or post precise delays from the trigger>
o View the Data <See the waveforms and visually assess its qualities>
o Waveform Digitizing <Acquiring analog signals and creating digital data>

*APPLICATIONS
Due to expanding primary functions and capabilities, DSOs lend themselves to a wider variety of application areas. Like a computer, the more applications you can use an instrument for, the more valuable it is and the easier it is to justify. Here are a few for you to consider:

o The most obvious one is to use a DSO as an Oscilloscope. Typical applications are electronic circuit design and debug and troubleshooting faulty or intermittent circuits.

o Another common application is as the front end of a Data Acquisition System. DSO's cost per channel has become very competitive. Many people find that the triggering flexibility, deep memory, "live" view of waveforms, and fast transfer rates make the DSO a great candidate. If your experiment is short lived, it is nice to have a scope when you are done vs. a black box that gets shelved and forgotten. Typical applications are research experiments, process

monitoring, and flaw detections.

o DSOs lend themselves to being fully integrated into an ATE System. In this example, the DSO is under remote control from a host computer and conducts its business by computer command. Typical applications are incoming Quality Assurance of components, Manufacturing/Production Functional Test, Final Test, and System Test.

o DSOs can be used (card level or portable rack mounted form factors) and can be embedded into systems that require Analog to Digital conversion and data analysis. Here the DSO is used as a SYSTEM COMPONENT and eliminates the need and time of engineering custom devices.

o DSOs displace/replace many dedicated instruments. You'll see DSOs applied today for all sorts of measurements that used to be taken with specific instruments. Some of them are DMMs, Spectrum Analyzers, Impedance Analyzers, Time Interval Analyzers, Frequency Counters, Counters, Power Meters, etc.

o Some of the common DSO Application fields include:
Aerospace
Automotive Electronics
Avionics
Chemistry
Computer Backplanes/Interfaces
ElectricalComponents
Electric Power
EMP/EMI/EMC
LASERS
Lightning Studies
Magnetic Media <Disks>
MATE
Medical
NDT
Networks/Communications <ATM, FDDI, Ethernet, AX.25,etc.>
Noise/Acoustics
Power Supply Design/Manufacturing
Process Control
RADAR
Semiconductor Design/Manufacturing
SONAR
Telecomm (Switches, Cellular,Telemetry)
Ultrasound Vibration/Mechanical Analysis

*DISPLAYS
Not all DSOs are created equally - especially their displays. The best compact an entire sweep of acquisition memory onto a single screen with a min/max algorithm. The benefit is that you don't have to page thru screens to see the interesting details in your data. Min/max compaction makes faults obvious.

Ideally, the screen will be large enough so that you can see the waveforms AND measurements clearly at the same time. Look out for small diagonal measurement

displays that put measurements on top of the waveform data.

DSO displays are typically specified in terms of resolution and diagonal size. The higher the resolution, the easier it will be to see fine details and the better your publications that have imported DSO screens will appear. The larger the diagonal size, the greater the chance of being able to see critical information on screen all at the same time vs. pages of menus.

Ideally, you should have all the information on screen that you want in your report. Consider things like trigger parameters, ICONS, measurements, input and timebase settings for each trace, sample rate, cursors and their measurements for each trace, clock/calendar. That is a lot of information on screen. How does it look?

Ideally, you should have the ability to EXPAND or ZOOM in on DIFFERENT PARTS of your waveforms to see details more clearly and to limit your measurements to within a given region of data. This means MULTIPLE EXPANSION WINDOWS are best.

Ideally, the graticule <grid> should be done in software and allow multiple traces to be displayed, each within their own grid. This preserves the full scale voltage input ranges for best accuracy.

Ideally, the DSO display should have a report of what the front panel status is so that the entire setup of the front panel can be observed, verified, and potentially printed.

*MEASUREMENTS
No more fingerprints on the screen from counting grid squares! Modern scopes display precise measurements of any waveform you capture. The "classic" scope measurements are either made with cursors or automatically in a modern DSO.

ABSOLUTE AMPLITUDE at a given point

ABSOLUTE TIME <from trigger> at a given point

RELATIVE AMPLITUDE <difference in amplitude between any 2 points>

RELATIVE TIME <difference in time between any 2 points>

Ideally, EACH TRACE should have its own set of cursors for SIMULTANEOUS measurements on all displayed traces.

You should be able to make measurements automatically on all displayed traces.

Pay close attention to the DSO's ability to detect and measure signals that are changing. This is often overlooked and yet it is often the most needed capability.

Ideally, the measurements should include STATISTICS so you can see and measure how much your waveforms are changing with every new trigger.

*BANDWIDTH & TRIGGER
Bandwidth – BW is the amount your signal will be attenuated by the DSOs front end amplifier - specified at the -3dB point - as a function of input frequency. Remember that BW ratings are at the input to the amplifier and that your PROBES

might also attenuate your signals.

Remember that -3dB is down in amplitude by almost 30%. You probably don't want a 30% error in your amplitude measurements. Consider the higher BW DSOs practical so your measurements are back up the BW response curve where you can be certain of accurate measurements.

Look out for DSOs that have BW ratings that reflect their best performance but only in certain voltage ranges. Make sure the actual rating matches your real requirement.

Look out for DSOs that reduce sample rates by the number of channels activated. This could cause aliasing by changing the relationship of how fast the DSO is sampling vs. the BW of the signals you are digitizing. Most DSOs today report the sample rate on screen. Pay attention to it as you change the number of active channels and/or sweep speed settings.

Many scopes have analog BW specifications far greater than their single-shot sample rates nyquist (.5 sample rate) frequency. This is so when repetitive waveforms are viewed, the maximum BW signals can be seen. BE CERTAIN YOU CAN SAMPLE FAST ENOUGH IN REAL TIME (SINGLE SHOT) MODE ON ALL CHANNELS SO AS NOT TO ALIAS!

TRIGGER
If you can't TRIGGER on the waveforms you need to see, you have a real problem! This should be center stage for your demo if you are looking at a new scope. There are various trigger capabilities and a combination of them that are easy to use that capture your waveforms is the most desirable.

Know how frequently you need to trigger. The maximum trigger rate is a key specification that isn't often published in manufacturer's specifications as there can be many variables. Evaluate and compare!

Some DSOs have a MEMORY SEGMENTATION feature that lets you trigger very rapidly and fill just a portion (1 segment out of n number of segments) per trigger.

Most DSOs will let you trigger on the width of pulses <GLITCH>, the INTERVALS between pulses, the LOGICAL or PATTERN conditions between inputs, after specific delays by events or time, drop out conditions, etc. Compare!

Look for TRIGGER ICONS that relate how the current trigger selection is working. This is very helpful if you are looking at a screen dump later and trying to reacquire with the same trigger conditions.

DSOs are valuable tools for looking at video signals but not all DSOs offer a video trigger as a standard feature. Compare!

DSOs can almost always capture single shot events but not always with the amount of pre or post trigger delay you might need. If your application requires capturing a lot of transient waveforms, look into the span of trigger delay as an important spec.

*DIGITAL SIGNAL PROCESSING <DSP>
By doing math on the waveforms, additional information can be obtained. Some

instruments really slow down when DSP is being performed. Ask for benchmark specifications on the key functions you need. Don't waste your time looking at DSOs that just aren't fast enough.

Another DSP concern is that you may wish to do a SERIES of functions. How many functions can be chained varies from model to model. Compare!

Consider these potential DSP functions:

Arithmetic (Add, Subtract, Multiply, Divide any traces)
Averaging (Get rid of random noise, improve resolution)
Enhanced Resolution (Smoothing, improves resolution at reduced BW)
Functions (Integrate, Differentiate, Envelope, etc.)
FFT (Spectral analysis of any trace)
Histograms (Distributions of measured values)
Pass/Fail Testing (Comparisons of live waveforms to masks or measurements)
Trending (Time series of measured values)

*ARCHIVAL & MEMORY
ARCHIVAL
Floppy Disks - They are nice - should be MS-DOS and should come with file formatter so you can convert to ASCII and back then back to binary. Macintosh can read MS-DOS disks so both popular platforms can be used. Make sure you can print to disk so that you can import the scope screens into your documentation.

Hard Disks - They are becoming available and offer the same kind of convenience that is realized in PCs.

Memory Cards - They are expensive but they are fast - up to 200 times faster than a floppy. Require reader at PC to use the data.

Printers/Plotters - They are the best way of showing the world your waveforms and your measurements. Plotters are great for elegant color - most impressive for overheads.

ARCHIVAL DATA FILE TYPES:
Waveform files - Binary but with conversions to ASCII for import into other programs and from ASCII to scope's binary format.

Set Up Files - Most scopes have front panel setups that you can recall and store either in nonvolatile memory in scope or to disk.

Screen Plots - "Print to disk" graphics files that are screen dump imports into your word processor.

MEMORY
Tricky! Manufactures specify their largest numbers. Look out for some DSO's acquisition memory values that divide by the number of active channels.

The acquisition memory depth on any channel x the sample rate maximum recording time at the maximum sample rate. Turning the time per division control towards longer acquisition times will slow the sample rate and change the banner specification of the DSO. This is why deep memory can be so important. Know what you need for maximum sample rate recording time and keep

a sharp eye on the sample rate as you use the instrument.

Don't confuse acquisition memory with reference memory specifications. Reference memory is used for copies of waveforms recorded earlier and made available for comparison either by viewing or by mathematics. Some scopes have longer acquisition memories than storage memory. Compare!

Not all DSOs have the same number of reference memories. More are better. Make sure they have the width to contain your processed data. You can't store 12 bit averaged waveform data in 8 bit reference memory. Compare.

Not all DSOs have the same number of memories for front panel set-up/storage and recall. Compare.

Some manufacturers offer MEMORY CARDS for additional reference memory.

Some scopes allow for MEMORY SEGMENTATION where you can acquire multiple trigger events in a single sweep display. A few models will also record the time of each trigger event that occurred.

*ADCs
ADCs - SPEED:
This is tricky. Manufactures specify their fastest ADC numbers. Lookout for SAMPLE RATE banner spec. values that divide by the number of channels that are turned on. Look out also for short record length DSOs that can only sample at maximum rates for short periods of time. Ideally, the sample rate value should be seen on screen all the time.

Check to make certain what the SAMPLE RATE speeds relate to - either REAL TIME <Single Shot> or RIS <Random Interleaved Sampling (same as EQUIVALENT TIME) rates.

REAL TIME is used for transient capture and should be > 2 times your highest frequency observed. Random Interleaved Sampling <RIS> or EQUIVALENT TIME <ET> is used for repetitive waveforms.

ADCS - RESOLUTION:
This refers to full scale resolution. An 8 bit digitizer will divide full scale input voltages by 255 counts. Thus the minimum discernible sampled value on a 1 volt full scale 8 bit scope would be 1 / 256 .00390 volts.

Some DSOs display amplitude and timing values along the interpretive line that connects the samples. This increases the resolution of your measurements and potentially the accuracy.

If you have repetitive waveforms, you can increase your vertical resolution with AVERAGING.

If you have transient waveforms, you can increase your vertical resolution by low-pass filtering each sweep <FIR> for ENHANCED RESOLUTION.

ADCS - ACCURACY:
Not all ADCs are created equally. The most common figure of merit is EFFECTIVE BITS that basically relate the number of correct bits of a given ADC's actual

measurements vs.ideal.

*DEMOS & PURCHASING
You can contact these manufacturers directly. They will send you their full-line catalog and application notes that pertain to DSOs and current pricing. ☐
The primary American manufacturers of DSOs are:

o Hewlett-Packard 800 452-4844 in Palo Alto, CA

o LeCroy Corporation 800 553-2769 in Chestnut Ridge, NY

o Tektronix Corporation 800 426-2200 in Beaverton, OR

If you live outside of the United States, you should contact each manufacturer's local sales office in your area. ☐

BEFORE THE DEMO:
Be in touch with your business needs as they relate to your DSO needs. Are you going to faster designs soon that might impact the banner specs you'll need? Is this DSO the tool for that design or some problem you have now? Future requirements might impact how long "the perfect scope" looks perfect. Will the DSO effect your ability to finish a project on time? Costs to own vs. costs to wait are good values to calculate and put in your justification. Plan right for the future.

Let your S I G N A L S determine the primary specifications of the instrument you choose.

Let your A P P L I C A T I O N determine your secondary specifications.

Make your "Wish List". Write down exactly what you expect the target DSO to do. Try to find out what the most popular DSO is for your application. Talk to some people that use it and find out what they like/dislike. See if they would buy the same model again.

Get a sense of how solid your budget is and how soon you can place an order once you make a decision. If it is more than 6 months away and your short term needs are critical, consider rental or lease.

Plan several different demos with different manufacturers. Let them know it is a "competitive situation" and you want the best DSO you can get that meets your needs. Relate that you expect to place an order within a week after all the evaluations are completed. You'll get a lot of attention and the best of services.

Schedule the demos in your lab instead of your conference room. You'll be closer to your signals and the real environment <what noise?> where the DSO will have to work. If more than one (1) person is to use the DSO, make sure the demo occurs when everyone can see it. If your group is scattered and tough to catch, try EMAIL or a poster by the coffee pot. That will shorten everyone's learning curve and produce the best questions.

You should plan to see a demo of the exact model DSO you are thinking of using - with all the options you believe you'll need - conducted by a Sales Engineer that knows the instrument and what you need it to do extremely well. Some manufacturers use distributors or reps that won't know DSO technology or applications very well. It is usually best if you can get a factory's Sales Engineer to conduct your demo and review your application.

The DSO Manufacturer's Sales Engineer should be a GREAT RESOURCE to you. By reviewing your application and assisting you with a model selection that is technically correct, your demo will be much less likely to disappoint you or anyone else.

If you have never met the Sales Engineer, plan to start with a quick tour of your facility and dove tail into why you need the DSO showing him the area that it will be used in and what you expect it to do. The Sales Engineer's tour may let him see things that will help you that you hadn't thought about.

DURING THE DEMO:
A quick overview of the DSO's banner specifications and key features is a good place to start the demo. Focus quickly on how to drive the front panel and how to extract the various functions. If it looks complex, save front panels you'll need to recall. Ask questions.

You should see your signals on screen EARLY into the demo and plan to borrow the DSO for at least a few days to evaluate it if the demo goes well.

The demo should prove that the DSO model being demoed can do your specific application(s). If the demo can't do that, you are probably wasting time by evaluating it further AFTER the demo. If the DSO has to do a specific task, see it happen at the demo and learn how to replicate the settings so you can do it after the Sales Engineer leaves. If the DSO is for general purpose use, see it doing the most difficult task you can imagine before the Sales Engineer leaves.

Pay attention to the NUMBER OF BUTTONS that have to get pushed to go from one operation to the next. If the demo is really canned, force some hopping around so you see typical vs. streamlined operation. Remember, you are supposed to do this AND engineer something. If it takes major brain power just to drive the scope, be cautious.

If this is your first demo, ask why this DSO model is a superior choice for you. Build a list of advantages that allow you to compare and make a good choice. Add these items to your Wish List of what you expect the DSO to do.

Find out how long the DSO model you are looking at has been on the market. Ask for MTBF figures <Mean Time Between Failures>. Find out where the closest service center is and how long a typical repair or calibration turnaround might take. See what their policy is for loaner units should emergency service be required.

If you are a LARGE company, find out who else in your company is using the same/similar DSO from the Sales Engineer. Chat with the other users and get their opinions after the demo but during the evaluation. They might be a good source for overcoming common measurement problems that you will have as well as a potential source for remote control software.

If you are a SMALL company, find out who else in your industry within your area is using the same/similar DSO from the Sales Engineer. Call them and get their opinions after the demo during your evaluation.

Take as much time as you like. Don't rush it. Ask questions. Record answers. Enjoy the process. If you get saturated, take a break and return.

Check the demo DSO that will be left for evaluation to make sure:
o That it will accept your full scale voltages
o That it samples fast enough to capture your waveforms with high fidelity
o That it is not affected by other signals in your environment
o That it has the options necessary to take your measurements
o That it has a manual covering operations o That you have the applications engineering telephone number for support during your evaluation period

DURING THE EVALUATION:
Make notes of the questions you have and record the answers. It will keep you focused.

Call the factory's application's group and test them to see how well they answer your questions. Get application notes sent to you that address your areas of interest and see how soon they arrive. Is there ever a telephone or service charge for contacting them?

Don't believe there is one DSO that does EVERYTHING. Most labs have a variety of scopes for various functions. Don't be discouraged if the model you are looking at doesn't do EVERYTHING. But don't accept a model that doesn't do what you need.

Try this experiment with the DSO you are considering. Connect a signal source up to the DSO where you can vary the amplitude of the signal by very small amounts. The waveform should have at least 3 or 4 complete cycles on screen and be 90% of full scale. Once you have a stable trigger, store a copy of the waveform into a reference memory. Then activate math so that all new waveforms are being subtracted from the waveform in reference memory. See how little you can change the amplitude level on the generator to see and measure the difference with the scope. Remember: A large part of the utility of a scope is verifying that things are exactly as they should be and seeing when they aren't.

AFTER THE EVALUATION:
If the DSO met your expectations perfectly and you have decided to purchase it, you might try to see if you can keep the evaluation unit until your new unit arrives.

If the DSO met your expectations and you have decided to keep evaluating, make sure you know what your likes/dislikes are for comparing with the next unit. Many people make a chart for grading and comparison. The more units you look at, the greater the chance for confusion and frustration. Stay focused on what you need!

If the DSO didn't meet your expectations, make sure you know why and include the new things you've discovered in your Wish List that you've learned.

PURCHASING
Get a list of ALL OPTIONS available for the DSO so that you can order the exact configuration that really addresses your needs. Make sure you and your Sales Engineer determine issues that might include:
o Memory Expansion Options
o Waveform Processing Options
o Disk Drive Options
o Printer Options
o Hardware Options <External clock, video trigger, I/O, iso amps, etc.>
o Active Probes
o Probes with different attenuations than those supplied with the DSO
o Scope Cart
o Rack Mount
o Hard Shell Transit Case for safe and convenient shipping your DSO to remote sites
o Probes for all channels <Not all DSOs come with a probe/channel!>

You should also explore the manufacturer's policies and costs regarding:
o Applications Assistance
o Calibrations- NIST, MIL, Performance Checks, At-Site Service
o Capabilities for Training Users
o DSO System Software/Firmware Upgrades
o Warranty Period - Extensions

You should get a written quotation that relates the model, specifications, options, all costs, delivery, and any discounts available. Most manufacturers offer Educational, GSA, Quantity, and Demo discounts if you qualify.

You might also consider rental or leasing options. Some rental companies offer equity rentals where rental/lease fees apply towards purchase.

--
john d. seney |_|_|_|_| john@wd1v.mv.com
144 pepperidge dr. |_| |_| jseney@aol.com
manchester, nh 03103-6150 |_|_ _|_| wd1v%wd1v.ampr.org
v 603 668-1096 f 627-1627 | | | | | wd1v@wb1dsw.nh.usa.na

1666. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: terry@news.edge.net
Message-ID: <3nu98n$fvt@excalibur.edge.net>
Source record: 113217

Matt C. Brinkhoff (mbrinkho@falcon.inetnebr.com) wrote:
: Bryan G. Peterson (peterson@physc1.byu.edu) wrote:
: : > Does anyone know how to make a circuit that will cause a beep to be
: :
73 Magazine had a "NASA BEEP" ckt in the late 70s that gave a beep when the
mike PTT was first activated and after the PTT was released. I don't
remember much about the ckt (I did build one), but it used a 555 as the tone
generator, and "regenerated" the PTT signal to add the required delay
after PTT release during the Beep. I might still have the article
somewhere if you can't find it. I seem to also recall that the giant ckt books have a ckt like this
as another reference source.

--
/*
**
** Terry Bartholomew NQ4Y Programmer/Analyst
** -->> Edge Internet Services <<--
** http://www.edge.net/~terry
**
*/

1667. Re: Reversing a transverter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995Apr29.205923.15141@arrl.org>
Source record: 113218

G0SYA David Tock (dit@dylan.isltd.insignia.com) wrote:
: I have been looking at a circuit for a transverter (2m transceiver
: transverted to 6m). I have a 6m multimode rig, and was wondering
: about doing it the other way round.

: As far as I can see, the circuit is basically a 94MHz LO, a
: mixer, appropriate filters and the necessary switching...

: If I redesign the filters for the appropriate frequencies, is there
: much else I need to do to make it work 'the other way round' ?

Unfortunately, its not quite reciprocol, if you work out where the
spurious products end up. For instance, the 3rd harmonic of the
source is around 150 MHz, not all that far from 144 MHz. In the
USA, 60 dB of spurious rejection is needed for a 25 watt transmitter.
Perhaps more if it falls on a popular frequency :-(. This isn't
trivial for most people. However, if you only needed 30 dB of
spurious rejection, the filtering wouldn't be that difficult.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1668. Schematic/Printed Circuit Board Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: w7zrc@micron.net
Message-ID: <3nudd5$cc7@mis02.micron.net>
Source record: 113219

What are the recommended shareware programs (Windows or DOS) for doing Electronic Circuits and/or Printed Circuit Boards?

Thanks, Rod w7zrc@micron.net

1669. Re: HELP WITH RF DIRECTIONAL COUPLER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3ntm48$747@hpscit.sc.hp.com>
Source record: 113220

In article <3nj51q$a3t@tierra.santafe.edu>,
Jim Potter <jpawi@roadrunner.com> wrote:
>Actually the degree of coupling determines the difference between Zoo
>and Zoe. For very weak coupiing Zoo and Zoe are close to Zo. Extreme
>example, imagine no coupling at all. Then both lines are Zo and Zoo=Zoe=Zo.
>3 dB coupling is non-trivial, but you can buy them readily. They are
>called 3-dB hybrid couplers. The principle use is power splitting/combining
>whereas the weaker couplers are used for power measurement and impedance
>measurement(VSWR).
>Broadband couplers are indeed an art if you want constant coupling factor
>over a wide bandwidth.
>
>James M. Potter, President Internet: jpawi@roadrunner.com

A correction to the above:

For no coupling at all, Zoo (that is, the differential mode
impedance) is infinity, not Zo. You are correct that Zoe would be the
same as Zo.

As far as broadband couplers being an art, I would disagree and
claim that E.G. Cristal and his associates pretty much made this
into a science 30 years ago (see IEEE trans. MTT of that era).
Since then, others have extrapolated his work from stepped
couplers to tapered couplers. The thing that is difficult about
these devices is making them manufacturable. You can always
build a single prototype and get excellent results.
I would concede that there is some artfulness in getting maximum
directivity. This is mainly of function of keeping everything as
a TEM wave of constant velocity inside the coupler. Avoid
dielectrics as much as possible, or fill the whole inside with a
uniform dielectric. Don't try to use a non-TEM transmission line
like microstrip and expect to get 45 dB. directivity. For ham
work, SSS construction is probably your best bet if you don't
have a Bridgeport mill in your garage.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

1670. Conversion of Motorola MX 360

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: pmn@tharp.demon.co.uk
Message-ID: <pmn-2904950009240001@tharp.demon.co.uk>
Source record: 113221

I hope this is the correct group to put this question. I'm not sure if anyone can help but I an trying to find out whether it was at all possible to convert these walkie-talkies to the 70cm band. I brought a MX 360 out of curiosity. It is the UHF model but I can't tell if it is high or low band. I think that this particular one was designed for some special use. The guy who sold it seemed to have a lot of them going for dirt cheap and said that the conversion was possible with little difficulty. Though I must say he has lead me on a bit. When I tried to get any specifics from him he tried to avoid a direct answer. Any help or info would be really appreciated. PLS. email

Thanks,
Ronald Newell (N2YSV)

1671. MOD. FOR SPORTCAT SCANNER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: seang900@aol.com
Message-ID: <3nsfe6$sin@newsbf02.news.aol.com>
Source record: 113222

Would anybody have a MOD. for the new sportcat by Uniden?
I am trying to pick up cellulars. It only picks up "branching"
which means parts of conversaions.
thanks.

1672. Re: Cheapest 8051 Developer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-29 00:00:00 UTC
From: "Dale Botkin, N0XAS" <dbotkin@probe.net>
Message-ID: <3nuejj$vo5@jake.probe.net>
Source record: 113223

There are LOTS ofShareware and PD 8051 cross-assemblers for the PC available. Try calling the
Circuit Cellar BBS at (203) 871-1988. I use A51 and TASM mostly. There are also 8051 disassemblers available for the PC, which can come in handy. You may also want to look for BAS051, which lets you write BASIC code and aconvert it to '51 assembler code..

--

Dale Botkin, N0XAS | Probe Technology Internet Services
President | 10159 J St., Omaha, NE 68127-1118
| 402.593.9800
| Internet services for the Heartland

1673. Re: Pulse control for flash tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: kinsler@bobcat.ent.ohiou.edu
Message-ID: <D7uBLI.6nH@boss.cs.ohiou.edu>
Source record: 113224
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

>Can anyone help me find a circuit diag or module for controlling a
>flash tube (strobe) with a audio (microphone) input? I want to be able
>to control the flash rate with the presence or absence of the mike
>ouput, not the volume.
>Also any source for a strobe bulb other than Edmund Scientific?

Radio Shack has them, but I'd recommend All Electronics: 800 826 5432.
They've got a bunch of strobe stuff, usually.
M Kinsler

1674. Where to get ferrite core DATA.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: WONG_WAI@eos.bentley.edu
Message-ID: <1995Apr30.054136.1@eos.bentley.edu>
Source record: 113225

Where does one get ferrite core data? Is there some in the ARRL Handbook? I've been needing an excuse to get one.

-W

1675. Help w/ plans for a simple VOX switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: RAINS@NKU.EDU
Message-ID: <01HPXZIPF27MBWAF5U@NKU.EDU>
Source record: 113226

I was just wondering if anyone has plans for a simple VOX switch that can be added to a micriphone? Thanks in advance.

Justin, AA9KM
rains@nku.edu

1676. Cellular to Amature ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.1962.546@acenet.com>
Source record: 113227

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

NWC>Has anyone done a conversion from a cell phone to something usefull on a ha
NWC>band? I have an old cell phone that I will probably never use for cellular
NWC>again (since they give away free phones with new service), is there an easy
NWC>way to convert this for amature use?

NWC>Norm,
NWC>WD2AEM
NWC>cramer@dseg.ti.com

Norm, cellular phones do not have an armature.
Try using an electric motor if you need an armature.

&#65533; SLMR 2.1a &#65533; Remember, you are unique, just like everyone else!

1677. Line loss during call forwarding

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: hydro@albany.net
Message-ID: <3o09dc$k02@apollo.albany.net>
Source record: 113228

Anybody have any info on how to overcome line loss when using call forwarding to connect 2 modems? I am using call forwrding to
dial into an area that would normally be long distance, but the connection is not reliable. The telco tech people tell me there is a 9db
loss in doing this (Ibelieve my modem can't always detect the host modem). Does anyone know of a way to boost the signal (send
and recieve) at my phone?

Thanks for any help!

1678. Re: Where to get ferrite core DATA.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: dnewkirk@nai.net
Message-ID: <3o0hl6$nee@a3bsrv.radnet.com>
Source record: 113229

WONG_WAI@eos.bentley.edu wrote:

>Where does one get ferrite core data? Is there some in the ARRL Handbook? I've
>been needing an excuse to get one.

Yes, data for RF-suitable powdered-iron and ferrite cores has been in
the *Handbook* for something like a decade.

Regards,

David Newkirk (WJ1Z)
email: dnewkirk@nai.net

1679. Re: Cheapest 8051 Developer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3o128u$o9k@vixen.cso.uiuc.edu>
Source record: 113230

In a previous article, kludge@netcom.com (Scott Dorsey) says:

>
>The cheapest way is to hand-assemble the source on yellow pads of paper.
>You can build an EPROM burner with a couple of rows of toggle switches,
>a 5V supply, and a 20V supply. Just assert the address you want to program,
>assert the data lines, and press a momentary switch to put 20V on the
>PROG line. No electronics required other than the power supply stuff.
>I did this a lot in the early seventies with the 8035, back when the 8035
>was a $200 chip. It is definitely the least expensive development system,
>but it is a pain in the neck.
>
I have done this too, it IS the cheapest but IS a pain in the neck and
other parts of the anatomy.

I got A51 from the Walnut Creek CD software. It is called PS51A123.ZIP
there. I have had good luck with it once I got the hang of its language
nuances.

Good Luck!

de Zack W9SZ

1680. Help needed with modulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: bernard@twain.oit.umass.edu
Message-ID: <3o12ba$2gd@nic.umass.edu>
Source record: 113231

hi... i'm trying to build an am radio, and i need some help with the
modulator. it needs to vary the "vcc" on my rf amp (already built) from 0
to plus 15 with 1v pp going into the modulator. i've been trying a common
emitter followed by a common collector amp to give me a gain of 15 and a
dc offset of 7.5 volts. any elp would be greatly appreciated
(resistor/cap values to try, a new topology... anything)
thanks... bern

1681. Help-PLL VCO Minicircuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: mfranks@eagle
Message-ID: <3o13jd$fm6@news.ais.net>
Source record: 113232

Need info on desisigning PLL to cover 47-77 Mhz. Would like to use
minicircuits new VCO which covers 37-75 Mhz. I am new at PLL techniques
and would like rudimentary info on designing a simple PLL that would
do the job...Tnx
Please respond via Email mfranks@ais.net 73 de WB9EZB

1682. looking for rotor...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: smchenry@freenet.columbus.oh.us
Message-ID: <3o160v$o2o@acme.freenet.columbus.oh.us>
Source record: 113233

Looking for a used WORKING rotor. a TV type will do fine. Looking to spend about $30 - $50. Please call (614) 529-8529 or e-mail the address below. Thanks, Sean, aka KB8JNE.

--
smchenry@FREENET.COLUMBUS.OH.US In Cyberspace, no one can hear you scream.

1683. Intermod filters for 2m

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: chris.smart@canrem.com
Message-ID: <60.5665.3290.0N1DEE62@canrem.com>
Source record: 113234

Hi! I love my Kenwood 251-A, except for the fact that local pagers in my area wipe out some frequencies, and make some fairly local repeaters unusable. Can I get some sort of filter to get rid of some of this intermod? I don't need to get rid of it all, just cut it down significantly to let the repeaters through on a couple frequencies.

Thanks,
73
Chris.

... ARRRRRGGGHHH!!!! ... Tension breaker, had to be done.
___ Blue Wave/QWK v2.12

1684. Re: Reversing a transverter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-04-30 00:00:00 UTC
From: hduff@humnet.westonia.com
Message-ID: <7838251362501@humnet.westonia.com>
Source record: 113235

>
> David Tock (dit@dylan.isltd.insignia.com) wrote:
> : I have been looking at a circuit for a transverter (2m transceiver
> : transverted to 6m). I have a 6m multimode rig, and was wondering
> : about doing it the other way round.
>
> : As far as I can see, the circuit is basically a 94MHz LO, a
> : mixer, appropriate filters and the necessary switching...
>
> : If I redesign the filters for the appropriate frequencies, is there
> : much else I need to do to make it work 'the other way round' ?
>
>
> : Any advice, suggestions or comments welcomed.

Aside from redesigning the filters, you will need to replace the 6 meter preamplifier for RX and power amp stage for TX with respective 2 meter stages.
The core of the transverter is L.O. and the mixer which can remain the same. On TX, the lo power 6 meter signal will get mixed with the L.O. and the filter on the output of the mixer will need to pass the sum (2 meter signal) then get amplified.
On RX, the incoming signal from the antenna should go thru a bandpass filter, get some pre-amplification, get mixed with the L.O., and the filter should pass the difference (6 meter signal) with possibly some small signal amplification then on to the 6M RX.
Transverters are fun, simple and relatively inexpensive (compared to having to buy another all mode VHF rig). Give it a try !

Regards...Hugh VA3TO Toronto

• NFX v1.3 [000]

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HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/

1685. Re: BA-244 diodes in HW9

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: "Bill Heishman", Dallas
Message-ID: <3o1h0c$b0s@news.computek.net>
Source record: 113236

> Rick Zabrodski <zabrodsk@med.ucalgary.ca> writes:
> Scrounging parts for WARC bands on my recently (yes, recently) built HW9.
> What is a BA-244 diode? Is there an equivilant? Tried substituting a
> IN914 which does not work! Before I order 16 of them from Heathkit at 43
> cents each (plus shipping) I thought I might ask if there is a substitute
> that would work.
> Thanks!

I think what you are referring to is a PIN diode. This part is effective for switching rf paths on and
off. They have a very slow switching speed >100khz and will not rectify r.f. frequencies. I have
used generic 2.5 amp power diodes for the same purpose in several projects. They work fine as
long as you don't need a high degree of I/O isolation.

Bill N5HNN

1686. Anybody use PMP (Poor Man's Packet)?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: bkirk@ix.netcom.com
Message-ID: <3o1qfb$eqj@ixnews4.ix.netcom.com>
Source record: 113237

Does anybody out there use PMP or Poor Man's Packet? It's a home
brewed TNC using the Parallel port and Andrew Payne's (N8KEI) software.
I'm would like to find a software upgrade if one exist.

If you have information or a FTP site that might have it, please e-mail
me at BKIRK @ ix.netcom.com.

Thanks,
Brian Kirkwood
KB5TDJ, Dallas, TX

1687. Re: Where to get ferrite core DATA.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: faunt@netcom7.netcom.com
Message-ID: <FAUNT.95Apr30221249@netcom7.netcom.com>
Source record: 113238

Amidon is currently at 3122 Alpine Ave., Santa Ana CA 92704
714-850-4660 FAX 714-850-1163

You have an old address.
The previous one is a PO Box in Torrance.
73, doug

1688. Re: Where to get ferrite core DATA.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3o1n71$829@nuclear.microserve.net>
Source record: 113239

WONG_WAI@eos.bentley.edu wrote:
>Where does one get ferrite core data? Is there some in the ARRL Handbook? I've
>been needing an excuse to get one.

You can also try "Iron-Powder and Ferrite Coil Forms" by Amidon Associates.
I don't know if this pamphlet is still in print, but is has tons of technical data
on many types and styles of cores. Don't have their number, but I believe
Amidon is located at 12033 Otsego St., North Hollywood, CA 91607.

73,

Jack WB3U

1689. CAT interface?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: at738@FreeNet.Carleton.CA
Message-ID: <D7w00n.FKM@freenet.carleton.ca>
Source record: 113240

Anyone know where I can get plans for a CAT circuit? I have found a simple RS232-TTL, but doesn't seem to work. I have only found one program that would work with it. I've tried to write a simple BASIC program and that doesn't do it either.

I'm tring to control the yaesu FRG-100 sw radio. Anyone ?

--
David Toste [VE3TOS] Internet - aa521@freenet.toronto.on.ca
Don Mills, Ontario. SWLOGit - The Ultimate Shortwave Listeners
ftp.virginia.edu /pub/swlogit/ Software. (Fidonet: 1:250/930)
http://itre.uncecs.edu/radio/software/SWLogit.html (SWLOGit Web Page)

1690. Re: Ultra-miniature Direction-finding Unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: Martin Landeros <landeros@u.washington.edu>
Message-ID: <Pine.PTX.3.91a.950501125620.1900A-100000@carson.u.washington.edu>
Source record: 113241
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

On Thu, 27 Apr 1995, Mark Kinsler wrote:

> >I've always thought it would be great if one could make a really small
> >direction-finding unit that would be the size of a small calculator,
> >including the antenna (something like James Bond would use). I'm curious
> >if anyone has ever tried making such a unit, and would like to share their
> >experiences with it. I've never gotten beyond the "thinking about it"
> >stage myself.
>
> Am I imagining it, or did I see a very small direction finding unit that
> used the GPS satellite in Popular Science or somewhere? I think it cost
> about a zillion dollars. Anyone remember?
> M Kinsler
>
>
I just sow one last week on one of those catalogs found on Alaska
Airlines, I think it was around 500.00 US $$.

Martin.

1691. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-0105952002290001@nb-dyna82.interaccess.com>
Source record: 113242
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

In article <rwa.799088205@atha>, rwa@cs.athabascau.ca (Ross Alexander) wrote:

> I also support .qrp rather than .low-profile. For a start, it's shorter :).

How about .qrp/low profile so everyone would know what the newsgroup
is about?

Dave, K9SW

1692. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: s2202629@np.ac.sg
Message-ID: <3o2k0e$hdn@nova.np.ac.sg>
Source record: 113243
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

In article <dmoorman-2204952104340001@nb-dyna71.interaccess.com>,
Dave Moorman <dmoorman@interaccess.com> wrote:

>As a condo-dwelling ham, I can see a use for this group. It would be
>handy to be able to exchange information about invisible antennas and
>RFI/TVI type problems, etc., in a focused group. I couldn't say how many
>people woudlpost to it, though. Anyone else interested?

Due to it's (very) small scope, I would also say that this isn't a good
idea. Perhaps a maillist could better serve this focus.

1693. Re: Help needed with modulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: Joe Rocci <rocci@netaxs.com>
Message-ID: <3o3p1i$cqp@netaxs.com>
Source record: 113244

> hi... i'm trying to build an am radio, and i need some help with the
> modulator. it needs to vary the "vcc" on my rf amp (already built) from 0
> to plus 15 with 1v pp going into the modulator. i've been trying a common
> emitter followed by a common collector amp to give me a gain of 15 and a
> dc offset of 7.5 volts. any elp would be greatly appreciated
> (resistor/cap values to try, a new topology... anything)
> thanks... bern
>

Bern:
Build your voltage amplifier as you outlined, but DC couple an emitter follower to the collector of the gain stage. Drive the modulated stage from the emitter follower. This will give you the current drive you'll need to supply the modulated Vcc. The CE gain stage won't quite get down to 0 volts on the negative peaks, and the emitter follower will add another 0.7 volts to the minimum swing, but this should still be plenty of swing to modulate the stage nicely.

Good luck,
Joe
WA3CMQ

1694. A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: jmhill@duck.WPI.EDU
Message-ID: <3o3rn3$87t@bigboote.WPI.EDU>
Source record: 113245

Hello all;
I am a member of the ham radio club at Worcester Polytechnic Institute
in Massachusetts. Sorry, I am not offering a transceiver, actually
I am looking for information regarding a transceiver.

Recently I heard of a fellow who was building low power
microwave transceivers by using parts from old radar detectors.
A local ham radio clubs had a speaker who presented one of the
transceivers he had build. I'm not sure but I believe that the
transceiver operated in the 10 GHz band, with extremely low power.

The story goes that, for a few bucks you buy an old radar detecter, then
gut the detector for parts to make your transceiver. I guess all radar
detectors incorporate a gunn-plexer. With some kind of modification the
gunn-plexer will transmit, as well as down convert received signals.
Beleive it or not, the fellow who presented his transceiver used a
Ra*io Sh*ck portable radio as the IF demodulator.

We are looking for a simple, low cost project so that a number of people
can each build their own. The idea of using parts from a radar detecter
appears to have sparked our imagination. At this point, as far as microwaves
are concerned, most of our club members are ``newbies'' but think that such
a project would be a fun way to get our ``feet wet'', so to speak. Who knows,
this could lead us to bigger and better things....

So in summary, I'd like to ask if there is anyone out there who has
constructed such a transceiver from radar detector parts? Does anyone have
information that you think might be useful?

Jonathan Hill/N1QOL

WPI Ham Radio Club, W1YK since 1913.

1695. Re: Info on Micromega brick?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <3o3fog$en3@newsbf02.news.aol.com>
Source record: 113246

Hello Joe, I just picked up one myself. I am told they will take like -17 to -21 volts or so but stick to -19. You will blow a transistor if you got t0 -23. I put a meter on the phase pin and a spectrum analyzer on the output. When it is not locked the voltage was -4 volts or so. When locked it went to -13 or so. Also when it is locked it will stop sweeping. Mine outputs around 10.7 ghz. I have not got as far as returning yet but I was talking to WB1FKF this weekend. I will check that call again I am taking it from memory. If it is wrong I will send you another msg. He is really the guy to talk to he has successfully retuned them to 10 ghz. I have his number home and I am at work. They start off drawing like 700ma I measured but I am told when the oven warms up they drop to 500ma or so. I asked him the same question about schematics and he has none. But he says you can figure it out it's not that bad. Keep me posted if you find anything new out please. 73's Viny N1VC

1696. adjustable coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: Robert Angelo Pleshar <rp16+@andrew.cmu.edu>
Message-ID: <sjdl_Nq00iV648Vn5D@andrew.cmu.edu>
Source record: 113247

Hi-

I'm in need of some adjustable coils (that go from 30-500 micro Henrys) and a Ham friend of mine told me that someone here might know where to get them or how to make them. If you have any leads, please send me mail at rp16@andrew.cmu.edu

Thanks in advance!

1697. Phase Lock Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199505012027.UAA25135@chaos.magibox.net>
Source record: 113248

When mixing frequencies is there a minimum or desired difference
between the two sources? For example, if mixing for 10MHz, the sources
could be .5MHZ + 9.5MHz or 4.95MHz + 5.05MHz. Would there be more
harmonics or noise using one or the other?

Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

1698. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: kdh@cimtek.on.CA
Message-ID: <199505011305.JAA18073@apollo.cimtek.on.ca>
Source record: 113249

```
subscribe
```

1699. Re: 2m parametric amplifier.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.799335545@melpar>
Source record: 113250

davek@medphys.ucl.ac.uk (Dave Kirkby) writes:

>I'm thinking of making a 2m parametric amp, for the intellectual challange rather than
>any serious belief it will be better than a decent FET.

>Has anyone tried it, or aware of any references?

>davek G8WRB

I'll be happy to send you photocopies of the old ARRL VHF Manual whicjh
has an article on how to build a 2-meter paramp. Just e-mail me your
snail-mail address.

73,

Paul, K4MSG

1700. Re: Intermod filters for 2m

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <799351909snz@lfheller.demon.co.uk>
Source record: 113251

In article <60.5665.3290.0N1DEE62@canrem.com>
chris.smart@canrem.com "Chris Smart" writes:

> Hi! I love my Kenwood 251-A, except for the fact that local pagers in my
> area wipe out some frequencies, and make some fairly local repeaters
> unusable. Can I get some sort of filter to get rid of some of this
> intermod? I don't need to get rid of it all, just cut it down
> significantly to let the repeaters through on a couple frequencies.

Toko make a range of helical filters that might help. The 271MT1008
has a centre frequency of 145 MHz and a BW of 2 MHz. The I/O impedance
is 50 ohms. They cost just over 5 pounds here in the UK.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

1701. Re: 2m parametric amplifier.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <799309421snz@lfheller.demon.co.uk>
Source record: 113252

In article <1995May1.085933.40057@ucl.ac.uk>
davek@medphys.ucl.ac.uk "Dave Kirkby" writes:

> I'm thinking of making a 2m parametric amp, for the intellectual challange
> rather than
> any serious belief it will be better than a decent FET.
>
> Has anyone tried it, or aware of any references?
>
> davek G8WRB

Pat Hawker, in his Technical Topics column in RadCom, discusses parametric *mixers* in the current issue. I remember him saying many years ago, when discussing the same thing, that parametric mixers and amplifiers can handle several signals of a volt or more if they are pumped at a suitable high level (several volts). Quite a lot of work was published on parametric amps when I was at college, in 1963 or thereabouts. I remember one design that used the collector-base junction capacitance (I think) of an HF transistor as the non-linear element of a parametric mixer, combined with the standard RF amplification of the transistor. I tried building a similar circuit, but couldn't get it to work.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

1702. Conversion of Motorola MX 360

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: Radiogeorge@usa.pipeline.com
Message-ID: <3o3iq4$n2h@news1.usa.pipeline.com>
Source record: 113253

Hello Ron,
It does not sound like you are afraid to open one of those puppies
up, so you are in luck. Find out the part number of the power amplifier, it
will be the module nearest the top of the radio. I can tell you from that
what band it is in, and then will tell you the particulars of how to move
it into the amateur band.
If the radio is 16 or more channels, or has an a/b zone switch on top,
(also should be marked on top escutcheon as MX300-S, it will make a fine
ham Transceiver... will tell you more as you ask

--
George G. Smith

1703. Re: Where to get ferrite c

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <799333183.AA01495@hamlink.mn.org>
Source record: 113254

WW>From: WONG_WAI@eos.bentley.edu
WW>Newsgroups: rec.radio.amateur.homebrew
WW>Subject: Where to get ferrite core DATA.
WW>Organization: Bentley College, Waltham MA
WW>Message-ID: <1995Apr30.054136.1@eos.bentley.edu>
WW>Date: 30 Apr 95 05:41:36 EDT
WW>
WW>Where does one get ferrite core data? Is there some in the ARRL
WW>Handbook? I've
WW>been needing an excuse to get one.
WW>
WW>-W
WW>
WW>---
WW> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
WW>(1:282/100.0)Hi,
I got it straight form the horse's mouth: Amidon Associates, P.O. Box
956, Torrance, CA. 90508 (310) 763-5770
or Micrometals Inc. 1190 N. Hawk Circle, Anaheim, CA. 92807 (800)
356-5977
Bob WB0POQ

1704. Identifying Toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950501130824.7812B-100000@pmafire.inel.gov>
Source record: 113255

Is there any standard the colors which toroids are painted? I am slowly amassing parts for experimentation and would like to stay organized.

Charles Mott

1705. GE Master II as 6mtr repeater?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-01 00:00:00 UTC
From: paulot@cais.com
Message-ID: <paulot-0105950858380001@paulot.cais.com>
Source record: 113256

Could someone give me some pointers on how to convert a low band GE Master II radio into a 6 mtr repeater?All I know so far is that one can change the xtals on the ICOM to ham band ones and that the radio has excellent separation between transmit and receive sections.Does that mean that one wouldnt need tunning cavities to separate the signals?
Any advice or info would be much apreciated...

1706. Re: A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3o5m0q$nnu@info4.rus.uni-stuttgart.de>
Source record: 113118

In article <3o3rn3$87t@bigboote.WPI.EDU>,
Jonathan M Hill <jmhill@duck.WPI.EDU> wrote:
> We are looking for a simple, low cost project so that a number of people
>can each build their own.

Jonathan,

The gunnplexers you have in mind are a nice thing, (I built one about 12
years ago), but there are a few catches, you want to be aware of:

This wide band FM communication was done many years ago, when
the components cost hundreds of $, and allowed direct sight
communication over 100+ miles, between hill tops. Then they were the only
way to be QRV on microwaves.

Now days everyone has turned to low noise narrow band systems,
which offer a vastly enhanced range, and the gunnplexers are not
really used anymore with the exception of fast data links.

So If you want to build a few of these TRX in a group, you are fine,
but do not expect to have many QSO-partners in the rest of the world.
Also, if you want more than a few miles range, you need good antennas, which
envolve quite a bit of metal work, and you also need waveguide and flanges.
BTW, some gunnplexers (side-by-side units) cannot be connected to a proper
antenna.

73, Moritz DL5UH

1707. Re: Cheapest 8051 Developer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: acl@cray.com
Message-ID: <1995May2.113151.29044@ned.cray.com>
Source record: 113119

I went through this same debate a little while ago. With the cost of hardware and software tools totaling $2k or better for a medocre system, I stopped and started looking for other (less costly and maybe even easier to use) options. Ed Nisley from CCS mag (and BBS) did a series on IBM type PCs. You can get both hardware and software FAR cheaper than 8051 stuff (unless you have good sources - and you probably wouldnt be asking these questions). I have seen dirt cheap 8086 and better hardware at hamfests and computer shows. Quick or turbo C cost $100. buy / build an EPROM programmer or just load compiled code from a floppy (they cost $15 these days used or surplus). You can buy / build interface boards to plug into 8bit slots or build a "parallel controlled" interface.

I know its overkill on hardware, but its an example of "economy of scale". They build so much of this stuff that its easy to come by. I suggest that if the goal is to control something - go PC (80x86). If the goal is to use an 8051/8032 - go for it! (good luck).

Archie (KX5X)

In article 180879901@humnet.westonia.com, hduff@humnet.westonia.com () writes:
>
> >
> > In article <1995Apr28.013002.1@eos.bentley.edu> WONG_WAI@eos.bentley.edu
> > writes:
> > >What is the cheapest, easiest way to develope and burn 8051 code?
> > >-WaiWong
> >
> > The cheapest way is to hand-assemble the source on yellow pads of paper.
> > You can build an EPROM burner with a couple of rows of toggle switches,
> > a 5V supply, and a 20V supply. Just assert the address you want to program,
> > assert the data lines, and press a momentary switch to put 20V on the
> > PROG line. No electronics required other than the power supply stuff.
> > I did this a lot in the early seventies with the 8035, back when the 8035
> > was a $200 chip. It is definitely the least expensive development system,
> > but it is a pain in the neck.
> >
> > The easiest way is to use the Intel in circuit emulation system... you
> > can develop in a high level language, drop the emulation pod into your
> > circuit and run the code, even being able to step through and modify on
> > the fly. When you have the thing running, you can use the PROM burner
> > on the ICE box to cut you a PROM that just drops into the circuit. However,
> > this is very expensive.
> >
> > Do you want cheapest or do you want easiest?
> > --scott

> > --
> > "C'est un Nagra. C'est suisse, et tres, tres precis."
>
>
> There are many cheap and easy ways to "develop and burn" MCS51 (8051)
> code. There are several cross assembler programs available on BBS'
> or from Circuit Cellar FTP site. There are also many (MANY) single
> board microcontrollers that are cheap and easy to develop code on. They
> connect to your PC serial port and with the use of a built in monitor
> (in ROM), you can write, assemble, upload to the board and execute your
> program (test) in RAM. You can get such boards for under $100 along
> with a freebee assembler...you're away to the races ! A look in the
> back of Circuit Cellar magazine will supply you with a selection of such
> products.
> GL ! Hugh Duff VA3TO Toronto
>
>
>
>
>
> ---
> NFX v1.3 [000]
>
>
> --
> ---
> HumberNet LSS (Learning Support System) - Humber College, Toronto
> "Tomorrow's communication and learning environment, today"
> Visit our Website at http://humnet.humberc.on.ca/
>

1708. Motorola HEP S3001 replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: gd@RCINET.res.utc.com
Message-ID: <1995May2.125026.6947@cronkite.res.utc.com>
Source record: 113120

My old homebrew QRP transmitter blew its final amp. I can't find my old schematics and notes. The blown transistor is a Motorola HEP S3001. I'm sure this is obsolete. Can someone help me find a replacement device number or send me the vital statistics on the old S3001.

1709. Re: Phase Lock Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3o5pqd$ln2@hpscit.sc.hp.com>
Source record: 113121

In article <199505012027.UAA25135@chaos.magibox.net>,
C. Nathan Sykes <CNS@chaos.magibox.net> wrote:
>When mixing frequencies is there a minimum or desired difference
>between the two sources? For example, if mixing for 10MHz, the sources
>could be .5MHZ + 9.5MHz or 4.95MHz + 5.05MHz. Would there be more
>harmonics or noise using one or the other?
>---
>Nathan Sykes email: cns@psimemphis.com
>Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
>Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM
>---

The .5 and 9.5 is definitely the cleaner mix.

The other one will have incurable problems with harmonics of the
input signals falling into the output band.

Rick N6RK

1710. programmable power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: pff@bfs.uwm.edu
Message-ID: <pff.9.00187BAC@bfs.uwm.edu>
Source record: 113122

I am looking for help understanding how i may use a power supply i just came upon. It is an "electronic measurements" company supply. it has terminals in front marked load witha resistor symbol above it. there are many terminals in the back. when turned on there is no output. I believe you must proved the unit with input in the form of voltages and resistances in order to obtain output. here is my problem. how do i do this. any help will be appreciated.

1711. Re: Phase Lock Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: she@victor.hiof.no
Message-ID: <she.5.00441809@victor.hiof.no>
Source record: 113123

In article <199505012027.UAA25135@chaos.magibox.net> CNS@psimemphis.COM (C. Nathan Sykes) writes:
>From: CNS@psimemphis.COM (C. Nathan Sykes)
>Subject: Phase Lock Loops
>Date: 1 May 95 15:24:48 GMT

>When mixing frequencies is there a minimum or desired difference
>between the two sources? For example, if mixing for 10MHz, the sources
>could be .5MHZ + 9.5MHz or 4.95MHz + 5.05MHz. Would there be more
>harmonics or noise using one or the other?

Just be sure that your filter manages to get rid of the signals you don't want. If you use 0.5MHz and 9.5MHz you get 10MHz and 9MHz plus harmonics and the two input signals. The filter has to be able to isolate the 10MHz signal from the the other signals. The closer the unwanted signals are to the 10MHz signal, the more selevtive the filter has to be.

(There are also other considerations to take.)

1712. T1 Modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: pbutlalj@ia.net
Message-ID: <3o6aum$m6g@allanon.ia.net>
Source record: 113124

Hello everyone,

There was mention here on the Internet the other day of a T1 rf
modem being built or designed. Like a dolt I did not save the file and
am not able to locate it at this time either. If anyone has information
on the T1 modem could you please forward it to me? Thanks.
--
Al Butler KA0IES
ajbutler@ia.net

1713. Re: Cellular to Amature ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: c21rag@mail.delcoelect.com
Message-ID: <3o65kg$cr5@kocrsv08.delcoelect.com>
Source record: 113125

In article <2a6.1962.546@acenet.com>, brian.carling@acenet.com (Brian Carling) writes:
> Newsgroups: rec.radio.amateur.homebrew
> From: brian.carling@acenet.com
>
> NWC>Has anyone done a conversion from a cell phone to something usefull on a ha
> NWC>band? I have an old cell phone that I will probably never use for cellular
> NWC>again (since they give away free phones with new service), is there an easy
> NWC>way to convert this for amature use?
>
> NWC>Norm,
> NWC>WD2AEM
> NWC>cramer@dseg.ti.com
>
> Norm, cellular phones do not have an armature.
****
Brian, neither does Norm's post. It does have a couple AMATURE's.

Roger Grady K9OPO c21rag@kocrsv01.delcoelect.com
Delco Electronics Corp. Kokomo, IN
"All information and opinions are strictly personal."

1714. Announce: ACS (Al's Circuit Simulator) version 0.17 available

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: al@atd.rochester.ny.us
Message-ID: <1995May2.153107.13597@atd.rochester.ny.us>
Source record: 113126
Cross-posted to: comp.lsi,comp.lsi.cad,sci.electronics.cad,sci.electronics,rec.radio.amateur.homebrew

A new release of ACS has been posted to alt.sources and is available
by ftp from cs.rit.edu in pub/acs.

ACS is a general purpose circuit simulator. It performs nonlinear
dc and transient analyses, fourier analysis, and ac analysis
linearized at an operating point. It is fully interactive and
command driven. It can also be run in batch mode or as a server.
The output is produced as it simulates. Spice compatible models
for the MOSFET (level 1 and 2) and diode are included in this
release.

This version (0.17) is a transitional release in C++. There are
a few bug fixes.

Since it is fully interactive, it is possible to make changes and
re-simulate quickly. The interactive design makes it well suited
to the typical iterative design process used it optimizing a circuit
design. It is also well suited to undergraduate teaching where
Spice in batch mode can be quite intimidating. This version, while
still officially in beta test, should be stable enough for basic
undergraduate teaching and courses in MOS design, but not for
bipolar design.

In batch mode it is mostly Spice compatible, so it is often possible
to use the same file for both ACS and Spice.

The analog simulation is based on traditional nodal analysis with
iteration by Newton's method and LU decomposition. An event queue
and incremental matrix update speed up the solution for large
circuits.

It also has digital devices for mixed signal simulation. The
digital devices may be implemented as either analog subcircuits or
as true digital models. The simulator will automatically determine
which to use. Networks of digital devices are simulated as digital,
with no conversions to analog between gates. This results in
digital circuits being simulated faster than on a typical analog
simulator, even with behavioral models. The digital mode is
experimental and needs work. There will be substantial improvements
in future releases.

ACS also has a simple behavioral modeling language that allows
simple behavioral descriptions of most components including capacitors
and inductors. Unfortunately, it is not well documented.

ACS uses an object oriented approach to modeling. Complex models like MOSFETS are made of simpler ones like resistors, capacitors, diodes, and any other models that may already exist. The model designer does not need to worry about details like convergence checking, bypass checking, integration, or how the new device plugs into the solution matrix because these are already taken care of by the basic models. This results in a dramatic improvement in the time it takes a researcher or model designer to install a new model, compared to Spice.

The source and documentation can be obtained by anonymous ftp from ee.rochester.edu or cs.rit.edu in /pub/acs. It can also be obtained by dial-up (USA) 716-272-1645 in /pub/acs. It may be distributed under the terms of the GNU general public license. The dial-up also has some test circuits, pre-compiled executables for Linux, Sun4, MSDOS and possibly others, and documentation in latex, dvi and postscript.

If you are tired of Spice and want a second opinion, you want to play with the circuit and want a simulator that is interactive, or you want to study the source code and want something easier to follow than Spice, try ACS.

ACS is an ongoing research project. It is being released in a preliminary phase in hopes that it will be useful and that others will use it as a thrust or base for their research. I also hope for some comments that may help me direct my research.

Albert Davis, 136 Doncaster Rd., Rochester, NY 14623.
email: al@atd.rochester.ny.us, atd@cs.rit.edu, or davis@ee.rochester.edu
fax: 716-272-1645
--

1715. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3o6v2j$c3u@newsbf02.news.aol.com>
Source record: 113127

The primary problems are insuring a low resistance path for the high circulating currents. The use of ANY dielectric in the capacitor other than air or vacuum is a no no. Never use a braided conductor, try to use a smooth large diameter round conductor. Don't use pressure connections in the loop, like the wipers or bearings in an air variable. Use a welded butterfly type or flapper plate tuning cap.

If you do all this you will approach a full size dipole with a small loop. One word of caution, people are saying to use TFE piston caps in the loop, but TFE is as lossy as Polyethelyne for RF. I removed some TFE piston caps from a medical loop and installed flapper caps with air insulation and direct connections. The eff went up dramatically (several times).

1716. Re: Ultra-miniature Direction-finding Unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: nagle@netcom.com
Message-ID: <nagleD7xMKy.JHB@netcom.com>
Source record: 113257
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

Martin Landeros <landeros@u.washington.edu> writes:
>On Thu, 27 Apr 1995, Mark Kinsler wrote:
>> >I've always thought it would be great if one could make a really small
>> >direction-finding unit that would be the size of a small calculator,
>> >including the antenna (something like James Bond would use).
> I just sow one last week on one of those catalogs found on Alaska
>Airlines, I think it was around 500.00 US $$.

Handheld GPS units are becoming widely available for around $500 to
$1000. Brands are Sony, Pixis, and Trimble Navigation. Visit any
boat-accessory store.

John Nagle

1717. My List of Mail Order Electronics Companies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: jfw@proteon.com
Message-ID: <D7yF6C.9py@proteon.com>
Source record: 113258
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.info

It has been a while since I posted this, and some parts may be seriously out of date. I hope to be able to find time to verify more of this list soon and post any needed corrections. Note that updated copies are available via WWW and FTP from my home system, funhouse.com.

[$Revision: 2.18 $; last updated May 2, 1995]
[Author: John Woods, WB7EEL, jfw@jfwhome.funhouse.com]

Here is my list of companies which will sell electronic components in small quantities. Many of these places I have bought from, several I haven't. Being a ham radio operator, I am most interested in RF components, and in particular, air variable capacitors, which tend to be scarce (and tend to be used or surplus even if I've otherwise labelled the seller as "NEW").

Categories are:
NEW COMPONENTS Distributors and sellers of new components, or "new and some used" in a couple of cases.
SURPLUS ELECTRONICS Usually overstocks, occasionally used equipment. Ideal for stocking the junkbox, usually have dependable stock lines of resistors, capacitors, and some semiconductors, but won't have those LCD modules forever... An invaluable resource, don't shy away from them.
SPECIALTY COMPONENTS In particular, crystals and toroidal cores.
KITS Ham radio kits, random electronic kits, whatever they have.
LITTLE GUYS Separated out because of some twisted sentimentality, I suppose. Intended to honor one or two ham spare-bedroom operations. Note that sending $1 along with catalog requests is a big help for these folks.
PUBLICATIONS A small selection of publications dealing with electronics, especially RF electronics.
QRP CLUB PUBLICATIONS Clubs for low-power amateur radio enthusiasts; frequently have publications with quite a bit of technical content (which is why I'm a member of QRP clubs headquartered thousands of miles from where I live :-). Note, this is generally practical technical content (how to build it) rather than theoretical technical content (why it works), but definitely more than Contester's Quarterly.

Note on shipping costs: I don't always update these frequently enough, and they're generally for continental US unless otherwise mentioned.

NEW COMPONENTS:

Digi-Key
701 Brooks Ave. South

P.O.Box 677
Thief River Falls, MN 56701-0677
+1-800-DIGI-KEY (344-4539)
+1-218-681-3380 (FAX)
No minimum, $5 handling under $25, free and very complete catalog, very nice indeed. Prices aren't always the best, but rarely excessive. Weak on RF specialty parts (though they now have the ever-popular NE602AN), but they do have blue LEDs.

Mouser Electronics Mouser Electronics Mouser Electronics
11433 Woodside Ave. 2401 Highway 287 North 12 Emery Ave.
Santee CA 92071 Mansfield TX 76063 Randolf NJ 07869
Mouser Electronics
370 Tomkins Court
Gilroy CA 95020
Catalog Subscriptions: (800) 992-9943 (Continental US only)
Sales & Service: (800) 34-MOUSER (800-346-6873) (US, Puerto R., Canada)
Very complete catalog of brand-new components (though no air variables). Usually quick service, $20 "minimum" ($5 charge under $20). When ordering, you may want to be sure to ask about availability and shipping locations; they have several warehouses, and frequently orders will get sent from several warehouses (which drives up the shipping costs). Export orders have a $100 minimum, except for Canada and Mexico.

Ocean State Electronics
P.O. Box 1458
Westerly RI 02891
+1-800-866-6626 (orders)
+1-401-596-3080
+1-401-596-3590 (FAX)
Minimum $5, S&H $4, $2 for catalog. Wide array of RF parts, especially air variables and B&W coils. Reportedly getting a bit slow filling orders.

Radiokit (store is located at:)
P.O.Box 973 169 Jeremy Hill Rd.
Pelham NH 03076 Pelham NH 03076
+1-603-635-2235
+1-603-635-2943 (FAX)
No minimum ($3 service charge if under $20), many kits, lots of J. W. Miller chokes & coils, B&W coils, RF switches, Millen variable capacitors, lots of parts in general. As of 24-Feb-94, they are again STILL out of catalogs, and just barely might have one by Dayton this year. They do accept mail orders, but you'll have to call for prices and availability. A classified ad in 3/94 QST says "Call/SASE", I guess they may have fliers.

Circuit Specialists Inc
P. O. Box 3047
Scottsdale AZ 85271-3047
+1-800-528-1417
No minimum with check or money order, $15 otherwise. $3 S&H.
New electronics, good RF assortment, increasing infestation of computers.

Active Electronics
11 Cummings Park 237 Hymus Blvd
Woburn MA 01801 Pointe Claire, Quebec, H9R 5C7
+1-800-677-8899 (Main number for US and Canada)
+1-514-630-7410 (International)
+1-514-697-8112 (FAX)
$25 minimum, $5 S&H UPS, catalog has a "$10 Suggested retail price" but they sent mine for free. They have 7(?) stores in the US (Chicago IL; Baltimore MD; Woburn MA; Detroit MI; Mt. Laurel NJ; Long Island NY; Seattle WA) and 10 stores in Canada (Quebec City; Montreal (2); Ottawa; Mississuaga; Winnipeg; Calgary; Toronto; Edmonton; Vancouver BC). Each store has its own 800 number and FAX number, call the main number(s). International orders are to be mailed to the Canadian address, but they want payment in US funds! Lots of stuff, oriented more toward supplying last-minute requirements of companies than hobbyists, but perfectly happy to take your money in small doses (stores have no minimum order). The $25 minimum for certain items is no longer explicit, but they note that some items will "ship in factory minimum package quantities", which might be worse.

Maplin Electronics Ltd.,
P.O. Box 3,
Rayleigh,
Essex,
SS6 8LR
U.K.
Phone numbers: your international code +44 702 554161 for sales
+44 702 553935 Fax
+44 702 556001 Tech enquiries(2-4pmGMT)
"Over here [in the United Kingdom] the main hobbyist electronics supplier is Maplin Electronics who stock a wide variety of equipment. They have a catalogue which can be shipped for 10.65 pounds sterling by air or 5.50 pounds sterling by surface mail. They accept Mastercard, American Express and International Reply Coupons. They have at least one type of air-filled variable capacitor!" (Thanks to Kev White at Cambridge University).

Newark Electronics
Send catalog requests to:
Newark Electronics
ATTENTION CATALOG DEPARTMENT
4801 N. Ravenswood Ave.
Chicago IL 60640-4496
+1-312-784-5100
They don't have a single mail address or phone; instead, one is supposed to call the closest of three pages worth of branch offices. I don't feel like typing in the entire list (it's copyrighted, anyway :-), so send email for your "local" distributor, or call their administrative offices at the number above. They have a $25 minimum order; they are a Real Distributor, but accept small orders (over the minimum, of course). Their catalog currently 1488 pages; they are very complete (except, of course, for my favorite scarce item, the air-variable capacitor). Note that the catalog prices tend not to match reality all that often, so order by phone rather than by mail; prices tend to be higher than other places, but they have a lot

of things that are hard to find from other outlets. Also note that they have six Canadian offices, and one UK office, and will take international orders at 500 N. Pulaski St., Chicago IL 60624-1019, +1-312-784-5100 (FAX +1-312-638-7652, TLX 6718690 NEWARK U).

Arrow Electronics, Inc. Catalog requests to:
Catalog Division Catalog Division
1860 Smithtown Ave. 25 Hub Drive
Ronkonkoma NY 11779 Melville NY 11747-9828
+1-800-93-ARROW
Minimum $25; they no longer have a catalog. They are a Real Distributor, but also didn't mind my placing a personal order (a couple of years ago).

MCM Electronics
650 Congress Park Drive
Centerville OH 45459-4072
+1-800-543-4330
+1-800-824-TECH (product questions)
+1-513-434-6959 (FAX)
Minimum $20 ($25 for charge cards, and they don't take personal checks), handling $1.95 + shipping. Oriented toward repair technicians, really heavy on VCR parts and somewhat overpriced doodads, lots of useful stuff not easily found elsewhere.

Fordham Radio Supply
260 Motor Parkway
Hauppauge NY 11788-5134
+1-800-695-4848
Tools for technicians. One or two items are not outrageously overpriced.

Jameco
1355 Shoreway Road
Belmost CA 94002
+1-800-831-4242
+1-800-237-6948 (FAX)
+1-415-592-8097
No longer have a minimum order, reasonable selection of parts again (in addition to computer components).

JDR Microdevices Just moved!
1850 South 10th Street
San Jose CA 95122-4108
Orders: +1-800-538-5000
+1-408-494-1400
FAX: +1-800-538-5005
+1-408-494-1420
Cust. Service: +1-800-538-5001
Tech Support: +1-800-538-5002
BBS: +1-408-494-1430
No minimum, $5+ shipping. Mostly computers now, but they haven't yet decided to abandon components; indeed, they recently dropped their minimum order requirement entirely.

Johnson Shop Products
P.O.Box 160113
Cupertino CA 95016
+1-408-257-8614
+1-408-253-6288 (FAX)
Catalog $1. No minimum. Shipping charge is based on UPS; very small orders that can be sensibly shipped in a first-class letter, include money for first-class postage. New and some used electronic parts.

DC Electronics
P. O. Box 3203
Scottsdale AZ 85271-3203
+1-800-423-0070 (orders)
+1-602-945-7736 (stock/price checks)
+1-602-994-1707 (FAX)
$15 minimum charge order, no minimum for checks, $3 min. shipping&handling.
Wide array of ICs, good assortment of electronic components.

Communications Specialists, Inc.
426 West Taft Ave.
Orange CA 92665-4296
+1-800-854-0547
+1-714-998-3021
+1-714-974-3420 (FAX)
Surface mount chip component prototyping kits, $49.95.
Call for free detailed brochure.

Kelvin Electronics
7 Fairchild Ave.
Plainview NY 11803
+1-800-645-9212
+1-516-349-7620
+1-516-349-7830 (FAX)
Minimum order $20; S&H 5% of order ($5 minimum, extra for large stuff, overnight, export (like to Hawaii :-), and etchant; based on UPS charges).
Lots of electronic parts & tools, some robotics supplies, model rockets.

H & R Company (Herbach and Rademan)
18 Canal Street, P.O.Box 122
Bristol PA 19007-0122
+1-800-848-8001 (Orders)
+1-215-788-5583
+1-215-788-9577 (FAX)
Minimum order $25 ($5 processing charge under $25), shipping $4.75 under $30;
Most items are new overstocks, much regularly stocked stuff as well. Tools, electrical supplies, motors, mechanical components, robotic components.

John Birkitt
1, The Strait, Lincoln
+44 522 520767
Lots of stuff for the practical enthusiast. Many bargains to be had if you've the patience to sort through the extensive heaps of assorted electronic miscellany. Good stocks of new components, tools and books,

masses of RF gear and very competetive prices.
Two shops side by side cater for the "consumer" type goods and the
"electronics" type. Does mail order, takes visa/access etc. Mail order
list contains lots of unusual goodies that you'll possibly never see on
offer anywhere else. (thanks to Dave Walster @ lincoln.gpsemi.com)

N R Bardwell
Abbeydale Road, Sheffield
+44 742 552886
Possibly the busiest electronics emporium I've ever visited. Specialises in
radio gear and alarm equipment but many of the obligatory bags of "unmarked,
untested" goodies makes Bardwell's *the* place to go. Friendly, efficient
and knowledgeable staff. Cheap. Very cheap. Thriving mail order business
with some good bargains in IC's and discrete's. Write/phone for a price
list. (thanks to Dave Walster @ lincoln.gpsemi.com)

International Components Corporation
1803 NW Lincoln Way
Toledo OR 97391-1014
+1-800-325-0101 (US & Canada)
+1-503-336-4400 (FAX)
Cabinets&Enclosures; Capacitors; Diodes; ICs; Potentiometers; Resistors;
Sockets; Transistors; Books. No minimum order, $2 handling under $25.

SURPLUS ELECTRONICS:

All Electronics Corp.
P. O. Box 567
Van Nuys CA 91408-0567
+1-800-826-5432
+1-818-904-0524
+1-828-781-2653 (FAX)
NO minimum, $5.00 S&H. New and surplus electronics.

Alltronics
2300 Zanker Road
San Jose CA 95131
+1-408-943-9773
+1-408-943-9776 FAX
Surplus electronics. $12 minimum, shipping per UPS.

American Science and Surplus (formerly JerryCo)
3605 Howard Street
Skokie IL 60076
+1-708-982-0870
+1-800-934-0722 FAX
Surplus. *The* surplus place. Lots and lots of surplus. WWII gun cameras,
velcro, laser disk chassis, 6 volt VW wipers motors, LEDs, rubber brains,
you name it, they've had it. Catalogs are a really good time.
$12.50 minimum order (which includes the $4 shipping charge).

BCD Electro ### Out of the mail order business!
P. O. Box 450207
Garland TX 75045-0207
+1-214-343-1770
According to Barrie Britton (24 Feb 94), BCD has gone out of the mail order business.

Fair Radio Sales
P. O. Box 1105
1016 E Eureka St.
Lima OH 45802
+1-419-227-6573
Surplus electronics. Heavy on parts for old Collins gear.

Hosfelt Electronics
2700 Sunset Blvd.
Steubenville OH 43952
+1-800-524-6464
+1-614-264-5414 (FAX)
No minimum, $3.75 S&H. Surplus electronics.

HSC Electronic Supply (Halted Specialties Co.)
3500 Ryder Street
Santa Clara, CA 95051
+1-800-4-HALTED Orders only
+1-408-732-1573 inside California and outside US
Surplus (new) electronics; new and used test equipment. Minimum order $10 ($2 handling charge under $20), plus UPS shipping cost. Has three stores, of which 3500 Ryder Street is one.

Marlin P. Jones & Assoc.
P.O. Box 12685
Lake Park FL 33403-0685
+1-407-848-8236
+1-407-844-8764 (FAX)
+1-800-4-FAX-YES (FAX)
Minimum order $15, shipping per UPS. Surplus electronics.

R&D Electronics
5363 Broadway Ave
Cleveland OH 44127
orders: +1-800-642-1123 (tues - fri 9am-4pm sat. 9am-3pm EST)
info: +1-216-441-8500
fax: +1-216-441-8503
$10 minimum. Surplus electronics.
"Also known to stock many components, but this is not discussed in the catalog. Local store, a cleveland institution, is called Electronic Surplus, Inc., and has been there since '48. Third generation now runs it." -- wb8foz
7/13/94: Dave Lesher (wb8foz) updates their hours as M,W,F 0900-1900; T,R 0900-1600; S 0900-1500; but wasn't sure if that was the store hours or the order line hours (but likely both).

Surplus Sales of Nebraska
1502 Jones Street
Omaha, Nebraska 68102
+1-402-346-4750
+1-402-346-2939 (FAX)
New and surplus radio electronics. Wide selection: air variables.
Catalog $3 (free with order, refundable with $25 catalog purchase).

Tucker Surplus Store
1717 Reserve St.
Garland TX 75042
+1-800-527-4642 extension 135
Surplus electronic gear; oscilloscopes and signal generators from the days
when dinosaurs with vacuum tubes roamed the earth (some solid state gear, but
all well used). Prices seem relatively high, and you'll be shocked to learn
how much it costs to ship a 75 pound oscilloscope by motor freight...
[Steve Brown, N8HFI:
In defense of Tucker, the have a broad selection, repair facilities, and
they certify the used equipment to meet the original specification and
warranty it for 90 days. Not every source does this:]

Davilyn Corp.
13406 Saticoy St.
North Hollywood, CA 91605-3475
+1-800-235-6222 (Ex. CA)
+1-818-787-3334 (CA)
+1-818-787-4732 (FAX)
Surplus electronic gear.
[has much better prices [than Tucker], but sells used equipment as-is. -N8HFI]

SPECIALTY COMPONENTS:

JAN Crystals
2341 Crystal Drive
P.O. Box 06017
Fort Myers FL 33906-6017
+1-800-JAN-XTAL (Monday through Thursday)
+1-813-936-3750 (FAX)
+1-813-936-2397 (plant)
They make crystals. Minimum order is $10, which might be one crystal, or
might be two.

Crystek Corporation
2351/2371 Crystal Drive
P.O. Box 06135
Fort Myers FL 33906-6135
+1-800-237-3061 (M-F) (US and Canada but not Alaska and Hawaii)
+1-813-936-2109
+1-813-939-4226 (FAX)
They make crystals too. They were the cheapest last time I ordered, but
I don't have an up-to-date price list. It took about 4 weeks, and they
had said it would take 6.

ICM (International Crystal Manufacturing Co., Inc.)
701 W. Sheridan
PO Box 26330
Oklahoma City OK 73126-0330
+1-800-426-9825
More crystals. They were more expensive, but they have lots of pre-made crystals for various rigs, so they would probably be faster.

Amidon Associates
3122 Alpine Way
Santa Ana, Calif. 92074
+1-714-850-4660
Toroid cores and related things. Very fast service. Now takes MC/Visa and phone orders. I *think* this is their current address, they seem to move a lot.

Palomar Engineers
Box 462222
Escondido CA 92046
+1-619-747-3343
+1-619-747-3346 (FAX)
Toroid cores and shielding beads, baluns, frequency meters, etc.
Call for free catalog.

RF PARTS
435 South Pacific Street
San Marcos CA 92069
+1-800-RF-PARTS (Orders only)
+1-619-744-0700 (main order line & delivery info)
+1-619-744-0750 (customer service, warranty, tech & applications, 10AM-4PM)
+1-619-744-1943 (FAX)
Tubes and transistors. $2 handling below $20 for US orders; $5.50 minimum handling for Canada orders; they take foreign orders (but no handling info was given in the QST ad).

K2AW's Silicon Alley
175 Friends Lane
Westbury NY 11590
+1-516-334-7024
Free catalog, $10 minimum order. Semiconductors, in particular high-voltage diodes.

Small Parts, Inc. [New address and phone, 23 Dec 91]
13980 NW 58th Court
P.O. Box 4650
Miami Lakes, FL 33014-0650
+1-305-557-8222 Order department
+1-305-557-7955 Customer Service (ask for Mirta)
+1-305-558-1255 Catalog (ask for Elizabeth)
+1-305-557-8004 Custom-made Parts (ask for Ziggy)
+1-305-557-8005 Non-standard Sizes
of catalog parts (ask for Eric)
+1-800-423-9009 Toll free FAX line

$12 minimum. Mechanical parts, metal stock, Teflon(R) sheets, tools,
wire-size drill bits (as in #61 size for PC board holes).

KITS:
(The terse "Note:" descriptions are from the ARRL Kit List courteously
supplied by Ed Hare and Mike Gruber at the ARRL. For a much more complete
list of kit suppliers, use the ARRL email server; send the following as
the text of a mail message:

help
index
quit

to the address info@arrl.org)

624 Kits
171 Springlake Drive
Spartanburg SC 29302
QRP kits (including some designs from W1FB's books) and some parts.

A&A Engineering
2521 W. LaPalma, Unit K
Anaheim CA 92801
+1-714-952-2114
Kits, some components, some books. S&H $4.50, catalog is free with SASE (2 oz
postage).

Antique Electronic Supply
6221 S. Maple Ave.
Tempe, AZ 85283
+1-602-820-5411
Note: Broadcast receiver kits

Cirkit
Park Lane
Broxbourne, Herts EN10 7NQ, ENGLAND
+44-0992-448899 Sales
+44-0992-441306 Info
+44-0992-471314 Fax
Half-inch-thick catalog is UK#1.9. "Components - kits - test equipment."

C.M. Howes Communications
Eydon, Daventry,
Northants NN11 6PT
England
Phone: +44 327 60178
QRP, transmitters, receivers, misc. "The Heathkit of England", though
with assembly manuals not as detailed, also without the intricate mechanicals
of Heathkits.

Communications Concepts Inc.
508 Millstone Drive
Beaver Creek, OH 45434

+1-513-426-8600
+1-513-429-3811 (FAX)
kits for Motorola Applications Notes (amplifiers and the like), small assortment of components (chip capacitors, transistors). $4 Shipping&Handling.

Down East Microwave
Box 2310, RR#1
Troy, ME 04987
+1-207-948-3741
+1-207-948-5157 (FAX)
(Bill Olson, W3HQT) Microwave antennas and equipment, including kits for transverters and amplifiers. Free catalog available.

FAR Circuits
18N640 Field Court
Dundee IL 60118
(Fred Reimers, KF9GX) Printed circuit boards for articles in the usual ham magazines. SASE for list. $1.50 shipping and handling per four boards.

Hamtronics, Inc.
65 Moul Road
Hilton, NY 14468-9535
+1-716-392-9430
Note: Amateur, general interest

Kanga Products # See also Kanga US below
Seaview House, Crete Road East
Folkestone CT18 7EG UNITED KINGDOM
Tel/Fax 0303-891106 9AM - 7PM, closed Mondays.
QRP Kits, components. SAE (6"x9") for catalog.

John Langner WB2OSZ
115 Stedman St.
Chelmsford, MA 01824-1823
+1-508-256 6907
Slow Scan Television for IBM PC.

Lake Electronics
7 Middleton Close
Nuthall
Nottingham NG16 1BX
England
Note: Amateur

Mercury Systems
15 Lakeside Dr.
Marlton, NJ 08053
+1-609-596-3304
Note: the ARRL Kit list didn't say what they carry; I don't (yet) know either.

Oak Hills Research
20879 Madison St.

Big Rapids, MI 49307
+1-800-842-3748
+1-616-796-0920
+1-616-796-6633 (FAX)
Send $1 for a flyer. QST article kits, transceiver kits, QRP stuff in general. They no longer sell parts.

Penntek Electronics
14 Peace Dr.
Lewistown, PA 17044
+1-717-248-2507
Note: The Neophyte Receiver, QST

Ramsey Electronics
793 Canning Parkway
Victor NY 14564
+1-716-924-4560
Amateur radio and hobby kits. The ham kits are all pretty simple and pretty inexpensive, and you get about what you pay for. Their new VHF transceiver kits (144, 220, 440) look pretty interesting. Many have complained about the quality of their kits, though.

Tejas RF Technology
P.O.Box 720331
Houston TX 77272-0331
+1-713-879-9300
+1-713-879-9494 (FAX)
Tejas Backpacker-II QRP kit and other things.

T*Kit (A division of TEN-TEC, Inc.)
1185 Dolly Parton Parkway
Sevierville TN 37862-3710
+1-615-453-7172 (Information)
+1-615-428-4483 (FAX)
+1-800-833-7373 (Credit card orders only)
TenTec, well known manufacturer of amateur and commercial radios, is now selling kits, and apparently have been astonished by the demand. Help astonish them, call them up and get a catalog :-). The only components they sell are TenTec cases (naturally enough) and a kit for, believe it or not, a high-power variable capacitor (40-500pF, 3.5KV).

{See also RadioKit)

LITTLE GUYS:

Dan's Small Parts And Kits (Formerly KA7QJY Components)
<He's moved again, and
has suspended the business
for a while. Let's hope
he picks it up again soon.>
Send a business-size SASE (2 stamps) for a current list of parts. RF parts, including vernier drives and air variables; now also offers kits.

$3.75 shipping, no minimum. Fast service, lots of satisfied customers.

Kanga US
Bill Kelsey
3521 Spring Lake Dr.
Findlay, OH 45840
+1-419-423-5643
call between 7 - 11 pm eastern time please. stamp for a catalog.
"I import kits from Kanga in the UK - most of them come from
SPRAT - the journal of the G-QRP Club. I also have the Super Tee Antenna
Tuner, and a range of kits from Elktronics that are based on the DDS
articles in 73 Magazine."

R&R Associates
3106 Glendon Avenue
Los Angeles, CA 90034
+1-213-474-1315 (res)
[Richard Rathburn, KB6NQ] "I mainly sell pc boards from QST, Radio
Electronics, etc., and a few of in-house design. I also sell IC's, etc."
Send a SASE every now and then for his most recent flyer. He also has boards
for some Motorola Application Notes. (Jan 94 -- a member of the QRP mailing
list reports some dissatisfaction with R&R.)

CW Technology
7328 Timbercreek Court
Reynoldsburg, OH 43068-1181
COD Orders at 800-547-7479
"I have a small (just me) mail order company through which I sell kits.
My starter products were kits for computer<->transceiver interfaces to go
along with my 2/93 QST article. Since, I have added a programmer kit for
the MC68HC705K1 microcontroller and an optoisolated stepper motor controller
kit. I also sell the PCBs and difficult parts for these projects."
- Wally Blackburn AA8DX

GNP Sales
POB 77011
San Francisco, CA 94107.
"Business size SASE for our current list.
We are very small, all three of us have "real" jobs. We buy and sell
vacuum caps, vacuum relays, various high voltage parts, coax relays,
mostly radio stuff." - Peter Gerba, pgerba@crl.com

MANUALS:
Eico Electronic Instruments Co., Inc.
363 Merrick Rd
Lynbrook NY 11563
Note: No current kits, EICO manuals and schematics only

PUBLICATIONS:

NUTS & VOLTS MAGAZINE
430 Princeland Court

Corona CA 91719-9938
+1-800-783-4624 (subscriptions)
+1-714-371-3052 (subscribe by FAX)
All advertisements magazine (though they're now publishing small projects). Issues are $2.00 (at least, that's the price on the cover), subscriptions are (third class mail, USA:) $17/1 year, $31/2 years, (first class mail USA) $34/1 year, (Canada/Mexico) US$35, (other foreign, air mail) US$70, (other foreign, surface) US$39. A subscription also entitles you to one free classified ad of 40 words.

Ham Trader Yellow Sheets
PO Box 15142
Seattle WA 98115
"SUBSCRIPTIONS: U.S.: 24 Issues(1 yr) $16.50 50 Issues(2 yrs + 2 issues) $32. 75(3 Yrs + 3) $48. CANADA & MEXICO: 24/$20. 50/$39. 75/$58. FOREIGN: $38 a year sent Airmail. Published 2 ISSUES A MONTH sent 1st Class Mail... NO LONG WAIT FOR AD CIRCULATE! NOTE: A $4/4 issue MINI-SUBSCRIPTION may be ordered by potential subscribers, or WITH AN AD to qualify for the Special Subscriber Ad Rates given below:" Non-subscriber ads $1/{word,number,group} per insertion; subscribers: businesses or other for-profit sales $0.75 per word; ads involving items solely from or for your own use $0.35 a word; hamfest ads $0.35. Ads and ads with subscriptions should be sent to POB 10253 Sarasota FL 34278 during the winter; spring through fall they go to POBox 2057, Glen Ellyn IL 60138.

Howard W. Sams & Company
P.O. Box 7092
Indianapolis, IN 26207-7092
+1-800-428-SAMS
Publishers of SAMS PHOTOFACTS and many other electronics books. There is an Annual Index of SAMS PHOTOFACTS whose cost I have forgotten. In-print Photofacts run between $14.95 to $39.95 (for computer Photofacts); they will photocopy out-of-print Photofacts for $11.95 + $2.50S&H for one page, plus $.55 per page thereafter.

RF Design Magazine
P O Box 1077
Skokie IL 60076-9931
+1-312-762-2193
A magazine for professional RF designers. Subscriptions are $38 per year in the US, $48 in Mexico and Canada, $51 elsewhere, unless you appear to be a "qualified subscriber" (i.e. are in serious danger of convincing your company to buy a $12,000 spectum analyzer based on an ad) in which case it's free. Heavy on theory, and even the advertisement articles are educational.

Electronics Now (formerly Radio Electronics)
Subscription Service
P.O. Box 51866
Boulder CO 80321-1866
+1-800-999-7139
A magazine for thumb-fingered electronics hobbyists. Subscription rate on the

bingo card in the November issue (the latest I was able to dig up) was $19.97 per year.

Popular Electronics
Subscription Department
P.O.Box 338
Mt. Morris, IL 61054-9935
+1-800-827-0383
Like Electronics Now. $18.95 according to the latest bingo card I see.

The Computer Applications Journal (Circuit Cellar INK)
P. O. Box 3050
Southeastern, PA 19398-9932
+1-203-872-2204 (FAX)
This magazine is what Steve Ciarcia wanted BYTE to be when it grew up. It focuses on microcontroller applications and other digital projects. $21.95 per year (12 issues, now) (Canada, Mexico: add $10 surface mail, $20 air mail; other countries: add $28.)

The Radio Craftsman
P.O. Box 3682
Lawrence, KS 66046-0682
Bi-monthly newsletter for homebrewers of amateur radio gear. Information about electronics construction techniques, components, book reviews, beginning electronics theory, and the occasional construction project. Oriented toward the beginner/intermediate level. Price, $10/year (six issues), $15 outside the U.S. Published by Doug Heacock, AA0MS. Send large SASE for free sample issue. [Info supplied by Doug Heacock.]

Hambrew
+1-303-989-5642
Amateur radio homebrewer newsletter published by George De Grazio, WF0K. $10 per year (4 issues).

QRP CLUB PUBLICATIONS

G-QRP Club Memberships to:
Rev. George Dobbs, G3RJV (make cheques payable to "G QRP CLUB"):
St. Aidans Vicarage John Leak, G0BXO
498 2 Manchester Rd. Flat 7, 56 Heath Crescent
Rochdale, Lancs, OL11 3HE, ENGLAND Halifax HX1 2PW, ENGLAND
Tel 0422 365025
Publication is SPRAT, a quarterly.
Subscriptions/membership is UK#5.00 per year in the UK, US$12 (cash) or US$14 (check) for foreign members (cheaper direct payment options are available in the US, Germany, The Netherlands, and Austria). (US payments of $12 can be sent to Mike Kilgore KG5F, 2046 Ash Hill Road, Carrollton TX 75007; make checks payable to G QRP Club, and include your callsign and membership number (if any)).

QRP Amateur Radio Club, International (QRP-ARCI)
Info packets ($2) Subscriptions to (payable to QRP ARCI):
Mike Bryce, WB8VGE Mike Kilgore, KB5F
2225 Mayflower NW 2046 Ash Hill Road
Massilon, OH 44647 Carrolton TX 75007
Publication is the QRP Quarterly.
Subscription is $12 ($14 non-US, UK#7) for new members, $10 ($12/#6) for renewals.

QRP Club of New England
Name: QRP Club of New England
Date Founded: 1991
Number of Members: 206
Cost to Join: $10
Annual Dues: $7
Publication Name and Frequency: 72 - quarterly
Net(s): QRP-NE SSB Net, 0200Z Tuesdays 3.855MHz
Mailing Address:
Jack Frake, NG1G
P.O. Box 1153
Barnard, VT 05031

Name: Michigan QRP Club
Date Founded: 1978
Number of Members: 1,200
Cost to Join: $7 US, $12 DX
Annual Dues: $5 US, $10 DX
Publication Name and Frequency: The Five Watter - quarterly (a.k.a. T5W)
Net(s): MI-QRP Net, 0200Z Wednesdays 3.535MHz
Mailing Address:
Michigan QRP Club
654 Georgia
Marysville, MI 48040

Name: NorCal (Northern California) QRP Club
Date Founded: 1993
Number of Members: 200
Cost to Join: $10
Annual Dues: $10
Publication Name and Frequency: QRPp - quarterly
Net(s): None
Mailing Address:
Jim Cates, WA6GER
3241 Eastwood Road
Sacramento, CA 95821
This is the club that has had a succession of incredibly popular kits, ranging from the Norcal 40 (and now its successor, the 40a), the Sierra, and soon a QRP SSB kit.

North Texas QRP Club -- GONE (as a publication, anyway)
Chuck Adams had to give up publishing his newsletter after two fine issues.

NOTES:

This file, and many others, are available for anonymous ftp from
ftp.cs.buffalo.edu, in /pub/ham-radio (this article is "mail_order"
in that directory). It is also available from my WWW server at
<URL:http://www.funhouse.com/jfw/RF_PARTS.txt>, and via ftp at
<URL:ftp://ftp.funhouse.com/pub/RF_PARTS.txt>. The WWW copy is
the one I edit, the ftp copy gets updated sporadically.

CHANGES FOR $Revision: 2.18 $

Ocean State is still in business, despite recent rumors!
Add Hambrew, delete North Texas QRP Club.
Townsend Electronics gave up.
Amidon moved.
Dan's Small Parts is suspended after a move.

1718. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: R lindberg + E Winnie <rlindber@kendaco.telebyte.com>
Message-ID: <Pine.LNX.3.91.950502075241.32690A-100000@kendaco.telebyte.com>
Source record: 113259
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

On Mon, 1 May 1995, Dave Moorman wrote:

> In article <rwa.799088205@atha>, rwa@cs.athabascau.ca (Ross Alexander) wrote:
>
>
> > I also support .qrp rather than .low-profile. For a start, it's shorter :).
>
> How about .qrp/low profile so everyone would know what the newsgroup

Sorry Dave, but low_profile still makes me think of small, short radios.
Not low impact operating. There is also the '/', I'm not certain it's
allowed in group names, at least I couldn't find any current use of it.
I still think that qrp or qrp_something_else would work better. Let's see

rec.radio.amateur.qrp I think this has been voted down
before, but I don't understand why
.low_profile I don't think it tells the 'story'
.qrp_low_profile As above
.qrp_hidden Just thought of this one
don't know how good it would
really be, but it could cover
qrp, fox-hunts and 'low_profile'

73's Ralph
(trying hard to find a way I could vote for this idea)

Ralph Lindberg N7BSN Ellen Winnie N7PYK
e-mail => dragonsl@scn.org (best address, read daily, forwards to find us)
rlindberg@kpt.nuwc.navy.mil (last resort only)

1719. Re: Back up power source, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: a-rickf@aladdin.tandem.com
Message-ID: <D7xE5I.Av8@ac.tandem.com>
Source record: 113260

In article ghi@news.ccit.arizona.edu, cweddle@astro.as.arizona.edu (Chris Weddle) writes:
> dominick@smartdocs.com (BBWB) writes:
> >I want to use some lead-calcium batteries for back up/emergency power
> >for my HF and VHF rigs. I was wondering if any of you have a specific

> Howdy!
> I'm working on the very same question, having recently received a donation
> of 20 (used) 800AmpHr 12V Gel Cells for our Search & Rescue mountain-top
> repeater site. My initial thinking inolves a number of high current 125VAC
> (coil voltage) relays, a distribution buss, and a fully automatic (complete
> Chris N7RME

I'd think it would be much easier to just run the rigs off the batteries
all the time, with a charger capable of keeping up with the average load on
the batts. This way, the charger doesn't need to hold up the entire output
of the drain of the radio while in transmit, but always keeps the batteries
topped off. Of course, you should provide for a way to monitor whether the
charger is actually on.... A local repeater here has a similar setup, and
the charger failed... It was about 2 weeks before the repeater dropped out
due to the low battery voltage. (Plenty of capacity in an emergency, I'd say)

Say, just how large is an 800AH, 12V Gel Cell? Where Might I get one to
replace the pair of auto batteries I now have for backup purposes?

Thanks - Rick

Rick Frazier at Atalla Corporation, San Jose, CA. a-rickf@ac.tandem.com

1720. Re: Phase Lock Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: Pierre Thomson <mmommsen@mhv.net>
Message-ID: <3o58vs$2pe@over.mhv.net>
Source record: 113261

CNS@psimemphis.COM (C. Nathan Sykes) wrote:
>
> When mixing frequencies is there a minimum or desired difference
> between the two sources? For example, if mixing for 10MHz, the sources
> could be .5MHZ + 9.5MHz or 4.95MHz + 5.05MHz. Would there be more
> harmonics or noise using one or the other?

The main criteria for mixing involves the image frequencies that are created, and how easy they are to filter out. If you mix .5 and 9.5 MHz, you'll get 9.0 and 10.0 MHz, which are a bit close for filtering. On the other hand, 4.95 and 5.05 will theoretically give you .1 and 10.0 MHz, which would be easy to filter. However, if you go too far in this direction it doesn't work (i.e. you can't get 10 MHz by mixing 5 MHz with itself!) A good rule of thumb is to aim for an image frequency about 50% off your desired frequency. That would mean mixing 2.5 and 7.5 MHz, giving resultants of 5.0 and 10.0 MHz.

Pierre Thomson | mmommsen@mhv.net | wcrest!pierre@kd3bj.ampr.org

1721. ARRLCAD Mailing List Now Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: dnewkirk@arrl.org
Message-ID: <1995May2.163839.2352@arrl.org>
Source record: 113262

If you can send and receive Internet email--which I'm betting
you can, since you're reading this newsgroup--you can now share
your questions, answers, ideas and views about ARRL Radio Designer
and other Amateur-Radio-related circuit and antenna design and
simulation tools with other users. Thanks to the generous provision
to ARRL of facilities and volunteer support by TAPR, the Tucson
Amateur Packet Radio Corp, I'm pleased to announce the startup of
ARRL's computer-aided-design email reflector, ARRLCAD.

To subscribe to ARRLCAD, send an email message to

listproc@tapr.org

with text that reads

subscribe arrlcad FirstName LastName

in which FirstName and LastName mean exactly that. The reflector
software will confirm your subscription with a informational welcome
message.

Regards,

David Newkirk (WJ1Z)
American Radio Relay League
email: dnewkirk@arrl.org

1722. Re: Transmitter tube info wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: claude@bauv111.bauv.unibw-muenchen.de
Message-ID: <claude.799418508@bauv111>
Source record: 113263

jackl@pinetree.microserve.com (WB3U) writes:

>>I need info om a transmitter tube. It is old and has the
>>markings "BROWN BOVERI" and "P 300-1".
>>It looks like a pentode.

>I looked for this in a 1947 edition of "The Radio Handbook", which lists a large
>number of older receiving and transmitting tubes. No luck.

>Your tube is either *very* old, very rare, or bears a number unrelated to its
>actual type number.

In the 1976 catalog from a german part supplier (Schuricht), I can find
this tube at a price of approx. DM 1630,-- + tax.
--
Claude F. (claude@bauv106.bauv.unibw-muenchen.de)

This message may contain opinions which are not shared by my employer.
The facts can speak for themselves.

1723. Need pin out for ICOM HM-14 T-T mike

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <3o5ck9$ck6@tetsuo.communique.net>
Source record: 113264

Looking for color/pin out for ICOM HM-14 touch tone mike ...
Got the mike with no plug on it .. and do not have and docs

reply at: tony@gcr1.com

Tnx, 73
N5GPI

1724. ARRL handbook

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: wheeler@cts.com
Message-ID: <wheeler.45.004B47CF@cts.com>
Source record: 113265

Is it still possible to get a prior year ARRL Handbook? Such as '93 or '94? What was the first year that it went on a diet and lost all that weight? My last one was '88 and I want a newer one but the '95 one that I saw did not have anywhere near as much construction articles...

regards
KB7PT

1725. misc homebrew stuff fs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: oderus@tsoft.net
Message-ID: <D7y33E.CKA@tsoft.net>
Source record: 113266

I have some items that may be of interest to
homebrew types.

a couple dozen ten turn pots (2k) with dial counters.
the counters are duodial series 2600 made by Helipot/Beckman.

a couple dozen N fem-fem bulkhead connectors

about 50 bnc crimp style connectors for rg-58

3 open-frame 12v, 1.5a power supplies, still wrapped

a dozen 4" by 6" boards, 22 finger edge connector (per side)
gnd plane on one side, pwr and gnd busses on the other.
Douglas model # 12-DE-6GP

a dozen N connectors, the standard 7 piece types

a dozen bnc male to pl-259 adapters

a couple dozen bnc tees, both _ _ and |-
| "
"
(sorry for the poor ascii art)

75 feet each of 1/2" braid and single aught stranded,
the latter is pick-up only in the San Jose area.

posted for a friend who's news server is down, email
any interest to beavis@io.com, thanks

1726. Re: Intermod filters for 2m

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-02 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199505021345.NAA27828@chaos.magibox.net>
Source record: 113267

>Hi! I love my Kenwood 251-A, except for the fact that local pagers in my
>area wipe out some frequencies, and make some fairly local repeaters
>unusable. Can I get some sort of filter to get rid of some of this
>intermod? I don't need to get rid of it all, just cut it down
>significantly to let the repeaters through on a couple frequencies.

I have the same problem except my interference is from the city's
fire & police communications center (150MHz) located 1/2 mile from
the house, rather than from pagers (152MHz).

Digi-key sells a Helical Filter for 2m -- tested at 145MHz with 2.8
MHz bandwith (+/-6 MHz down 25db) with 8db loss. Would that help if
inserted between the antenna and radio or is the problem in the
radio. (Yes, I do have the wide receive turned on; I know, there's a
price for everything).

Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

1727. Re: Phase Lock Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <3o7j8m$jjh@news1.delphi.com>
Source record: 113128

In article <3o58vs$2pe@over.mhv.net>, Pierre Thomson <mmommsen@mhv.net> wrote:
>CNS@psimemphis.COM (C. Nathan Sykes) wrote:
>>
>> When mixing frequencies is there a minimum or desired difference
>> between the two sources? For example, if mixing for 10MHz, the sources
>> could be .5MHZ + 9.5MHz or 4.95MHz + 5.05MHz. Would there be more
>> harmonics or noise using one or the other?
>
>The main criteria for mixing involves the image frequencies that are
>created, and how easy they are to filter out. If you mix .5 and 9.5
>MHz, you'll get 9.0 and 10.0 MHz, which are a bit close for filtering.
>On the other hand, 4.95 and 5.05 will theoretically give you .1 and
>10.0 MHz, which would be easy to filter. However, if you go too far
>in this direction it doesn't work (i.e. you can't get 10 MHz by
>mixing 5 MHz with itself!) A good rule of thumb is to aim for an
>image frequency about 50% off your desired frequency. That would
>mean mixing 2.5 and 7.5 MHz, giving resultants of 5.0 and 10.0 MHz.
>
>Pierre Thomson | mmommsen@mhv.net | wcrest!pierre@kd3bj.ampr.org

Sigh, .5 is hardly a value you want. It is easy to separate out 5MHz from 2.5MHz and 7.5MHs. But is it at all easy to separate out the second harmonic of 2.5MHz from the 5MHz desired signal? Even in a frequency synthesizer design this kind of spurious will give you problems at some precise frequencies. (How precise depends on the loop bandwidth, sampling frequency, etc etc. For example were the 5MHz to be divided by 100 and used in a PLL and the ACTUAL frequencies were 2.449MHz and 7.5MHz giving 5.051MHz plus a weaker spur at 5.00MHz you'd have a noise spur into the phase comparator at 1KHz. (The divider aliases the 51KHz away spur into a phase noise term in the divider output.)

In designing conversion schemes examine potential mixer spurious from the 0th harmonic on both signals (zero frequency) through about the 13th (depending on just HOW FAR down you insist spurs be) on BOTH signals into the mixer. Then either characterize the mixer yourself or trust manufacturer data sheets if you use Mini-Circuits Labs or the like. Check for all spurs that cross your passband and make sure they are low enough on the spec charts. Otherwise you are in for nasty surprises like that second harmonic of 2.5MHz in the example you gave.

{^_^} Joanne Dow, Amiga Exchange Editor on BIX
jdow@bix.com The Wizardess

1728. Re: GE Master II as 6mtr repeater?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: terry@news.edge.net
Message-ID: <3o7kn7$bbh@excalibur.edge.net>
Source record: 113129

Paulo N3MGA (paulot@cais.com) wrote:
: Could someone give me some pointers on how to convert a low band GE Master
: II radio into a 6 mtr repeater?All I know so far is that one can change
: the xtals on the ICOM to ham band ones and that the radio has excellent
: separation between transmit and receive sections.Does that mean that one
: wouldnt need tunning cavities to separate the signals?
: Any advice or info would be much apreciated...
I'm not sure how much you know, but I have done similiar thing with the highband Mastr II. If you have a low band mobile version of the Mastr II, you will need to remove the transmit switching relay and install an additional RF connector for the TX RF out. You need to enable the rx to recieve when the rig is in TX mode. Check at oak.oakland.edu in pub/hamradio/mods/ge for additional information. There are also files detailing the conversion of micors in motorola directory at oak which might also provide you with hints. My highbank Mastr II has worked excellently. I don't have the UHS preamp, but an outboard preamp is a great improvement and should be considered for your low band Mastr II as well. You might post the group on your progress, I have considered converting a lowband version as well.

As far as separation, unless you have 6m duplexers, your only other options are two antennas with lotsa separation or either separating the Mastr II tx and rx sections or have 2 Mastr IIs, 1 for receive and 1 for tx and have a split site and use rf link between (very common on 10m).
Good Success & 73!

--
/*
**
** Terry Bartholomew NQ4Y Programmer/Analyst
** -->> Edge Internet Services <<--
** http://www.edge.net/~terry
**
*/

1729. Re: Motorola HEP S3001 replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: dunnt@starbase1.caltech.edu
Message-ID: <dunnt-0205951737150001@tom-dunn.caltech.edu>
Source record: 113130

gd@RCINET.res.utc.com wrote:

> My old homebrew QRP transmitter blew its final amp.
> I can't find my old schematics and notes. The blown
> transistor is a Motorola HEP S3001. I'm sure this is
> obsolete. Can someone help me find a replacement
> device number or send me the vital statistics on the
> old S3001.

I knew there was a reason I save all this old stuff!

HEP S3001 NPN RF Power transistor 5W 175mHz 10db gain

collector-emitter voltage 40
collector-base voltage 65
emitter-base voltage 4.0
collector current-continuous 1 amp
output capacitance 8pf (Vce=30, Ie=0, f=100Kg)

Source: Motorola HEP Databook & Selector guide. 1978 edition.

Now I'll never get rid of anything! You can't realize the trouble you've caused. I was really ready to pitch the old stuff. Honest! 73 Tom WB6IQD

dunnt@starbase1.caltech.edu

1730. Fox hunt receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: ghopper@eskimo.com
Message-ID: <D7zn33.6pL@eskimo.com>
Source record: 113131

I am looking for a receiver that is digitally tuned to use for fox hunting. Primarily 2m and 440 but also hoping it would cover the aircraft band for ELT hunting. Also, it needs to be small and battery powered.

The only idea I have had so far was one of the radio shack hand held scanners but, I suspect that they are poorly shielded and expensive.

Any ideas would be appriciated.

Grant Hopper
KB7WSD

1731. hpgl on pc screen

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: robertov@flash.ATC.Olivetti.Com
Message-ID: <3o77i0$rm2@olivea.ATC.Olivetti.Com>
Source record: 113132
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,comp.graphics

A friend of mine want to get the output of a spectrum analyzer from it
hpib interface and instead of feeding them to an hp plotter (hpgl)
drive this output to a DOS PC with an hpib interface and visualize
the output of the instrument on the PC VGA screen buffering the
instrument output into a dos file .

Does anybody know if with the hpib interface there is somebody that
include with it some software , I mean program already written that
capture the output of such interface in a file and then let you display it.

please supply me all the info about hw and sw I need to do that

EMAIL robertov@hqlab.ico.olivetti.com

thank all for your time.

Roberto VALFREDINI

1732. Trouble Tuning up with Ladder Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: ~|Um, "if you really want to know...ask!|~" <X32KB@CUNYVM.CUNY.EDU>
Message-ID: <95123.004820X32KB@CUNYVM.CUNY.EDU>
Source record: 113133

Hi, I'm having trouble tuning up on three bands with my Icom AT500 auto tuner and a double extended zepp for 40 meters fed with ladder line. Is it possible that I need a 9:1 balun instead of a 4:1 that I'm using? Any help appreciated. Please e-mail. 73 de

---

MOSHE C. SATT
E-MAIL ADDRESS: X32KB@CUNYVM.CUNY.EDU
PACKET RADIO ADDRESS: N2ORH @ NY2S.#NLI.NY.USA.NA
AMATEUR RADIO CALLSIGN: N2ORH (ADVANCED CLASS)
TELEPHONE #: (718) 471-9039
SCHOOL: KINGSBOROUGH COMMUNITY COLLEGE (SOPHOMORE)
LOCATION: BROOKLYN, NEW YORK CITY
MAJOR: BIOLOGY
U.S. POST HOME ADDRESS: 1140 SAGE STREET, FAR ROCKAWAY, NY, 11691

1733. ignore thi is a test

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: robertov@hqlab.ico.olivetti.com
Message-ID: <3o77s9$63v@fusaro.ICO.Olivetti.Com>
Source record: 113134

this only a test please ignore

1734. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: jgrubs@voxbox.norden1.com
Message-ID: <u6wJ5c1w165w@voxbox.norden1.com>
Source record: 113135
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.equipment

```
-----BEGIN PGP SIGNED MESSAGE-----

rwa@cs.athabascau.ca (Ross Alexander) writes:

> mark@ve6mgs.ampr.ab.ca (Mark Gregory Salyzyn) writes:
>
> >rlindberg@kendaco.telebyte.com (R. Lindberg & E. Winnie) writes:
>
> >>> In article <3nglq0$7ps@wizard.uark.edu> plaws@comp.uark.edu (Peter Laws)
> >>> writes:
> >>> >How about rec.radio.amateur.qrp? That includes those of us in rental
> >>> >[...]
>
> >Gohd, I hate being prototypical, but a `me too' for this one. When we were
> >[...]
>
> I also support .qrp rather than .low-profile. For a start, it's shorter :).

What do the folks in the qrp maillist think? From what I've seen, they're
happy where they are.

-----BEGIN PGP SIGNATURE-----
Version: 2.6.2
Comment: http://norden1.com/~jim/sylvania.html

iQCVAwUBL6gjZ974r4kaz3mVAQFZxAP+MeDgbTxv2RaLidirPiu68V/i4xDvoxcO
lnHUAlQBAbwpTdNRlXt9JdzLerzKCZ6OF+r0zDKkN8S2cr8TNhuCsZI7sOOI9uzv
FSpm+6zfysP3+Jy1lOGrmDjvmxSXg8rMRsb7vMe1lcinjuzD3HJGraT8gmAauwyk
RokIZPevqxE=
=gvVz
-----END PGP SIGNATURE-----
```

1735. Anyone got a Varian catalog?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995May3.130943.272@nad.com>
Source record: 113136
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Does anyone have access to a Varian tube catalog? I need some info on a microwave tube.

TIA, Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com

1736. The Zapper

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: lawrence@combdyn.com
Message-ID: <1995May3.202303.12542@combdyn.com>
Source record: 113137

Okay, I bought one of these kits.....

The question is how do I tune one of these suckers up? I don't have a
frequency counter that goes up to 10.525GHz, and I don't own a radar detector.

--
WORK: lawrence@combdyn.com | PHONE 403 529 2162 | FAX 529 2516 | VE6LKC
HOME: dreamer@lhaven.uumh.ab.ca | 403 526 6019 | 529 5102 | VE6PAQ

Praxis Society K12 BBS - 403 529 1610 | Lunatic Haven BBS - 403 526 6957
---
disclamer = (working_for && !representing) + (Combustion Dynamics Ltd.);

1737. FS: 1994 IC master $100

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: anis@axil.com
Message-ID: <3o6lj8$8lt@nntp.axil.com>
Source record: 113138

I have a 3 volume IC master 1994 edition for sale. For those who dont know its the bible of IC's with ICs listed by functions and category and and has all the relevant data for those parts.

willing to do a swap if you have some interesting piece of electronics or music related SW.

email me anis@axil.com

1738. Re: hpgl on pc screen

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995May3.124250.28062@ucl.ac.uk>
Source record: 113139

In article rm2@olivea.ATC.Olivetti.Com, robertov@flash.ATC.Olivetti.Com (Roberto Valfredini) writes:

>
>
> A friend of mine want to get the output of a spectrum analyzer from it
> hpib interface and instead of feeding them to an hp plotter (hpgl)
> drive this output to a DOS PC with an hpib interface and visualize
> the output of the instrument on the PC VGA screen buffering the
> instrument output into a dos file .
>
> Does anybody know if with the hpib interface there is somebody that
> include with it some software , I mean program already written that
> capture the output of such interface in a file and then let you display it.
>
> please supply me all the info about hw and sw I need to do that
>
> EMAIL robertov@hqlab.ico.olivetti.com
>
> thank all for your time.
>
> Roberto VALFREDINI

Its quite feasable, but you will need the appropiate software. Since not all spectrum analysers are the same, it must be written for the analyser. I doubt software written for an HP would control a Techtronix instrument.

If anyone has software that would control an Anritsu analyser, I too would like it.

davek

1739. Re: Cellular to Amature ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: cramer@mksol.dseg.ti.com
Message-ID: <3o7v0s$e09@mksrv1.dseg.ti.com>
Source record: 113140

Roger Grady (c21rag@mail.delcoelect.com) wrote:

: In article <2a6.1962.546@acenet.com>, brian.carling@acenet.com (Brian Carling) writes:
: > Newsgroups: rec.radio.amateur.homebrew
: > From: brian.carling@acenet.com
: >
: >
: > Norm, cellular phones do not have an armature.
: ********
: Brian, neither does Norm's post. It does have a couple AMATURE's.

OK OK so my fingers slippppppped doesn't this ever happen to you? I noticed
it right after I posted it but figured no one with techinical ability can
spell (Thats why we have spell checkers) so I didn't waste the bandwidth
to repost.

Norm

1740. Re: Cheapest 8051 Developer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3o816g$sam@vixen.cso.uiuc.edu>
Source record: 113141

In a previous article, acl@cray.com (Archie Lamb {x68483 CF/ENG}) says:

>I went through this same debate a little while ago. With the cost of hardware
>and software tools totaling $2k or better for a medocre system, I stopped and
>started looking for other (less costly and maybe even easier to use) options. Ed Nisley
>from CCS mag (and BBS) did a series on IBM type PCs. You can get both hardware
>and software FAR cheaper than 8051 stuff (unless you have good sources - and
>you probably wouldnt be asking these questions). I have seen dirt cheap 8086 and
>better hardware at hamfests and computer shows. Quick or turbo C cost $100. buy /
>build an EPROM programmer or just load compiled code from a floppy (they cost $15
>these days used or surplus). You can buy / build interface boards to plug into
>8bit slots or build a "parallel controlled" interface.
>
>I know its overkill on hardware, but its an example of "economy of scale". They
>build so much of this stuff that its easy to come by. I suggest that if the goal
>is to control something - go PC (80x86). If the goal is to use an 8051/8032 -
>go for it! (good luck).
>
>Archie (KX5X)
>

Yes, but there is a lot of hardware built onto that little 8031 chip, and
several places have them on sale occasionally; they aren't that expensive.

Since it has the serial port, parallel port, timer etc. all on one chip,
it really saves space. I built a darkroom timer a while back that was on
a 3"X3" board. And a controller for the Fred Williams direct digital
synthesizer that was on a smaller board than the original Z80 version,
and had a few more features. Both with the 8031. That's why they called
it a "microcontroller".

Both have their advantages and disadvantages. Probably one disadvantage
with the 8031/8051 is the TIME you have to put into it. I don't think any
project I've built with it has cost more that $30. But radio amateurs are
supposed to be inventive and good at making a $300 device cost $30 !

73, Zack W9SZ

1741. WANTED: Design for Oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: Bill <Bill@survival.demon.co.uk>
Message-ID: <194849074wnr@survival.demon.co.uk>
Source record: 113142

I am looking for a design for an oscillator with a variable mark space ratio and ajustable freqency from 1 to 20 Meg. Absolute frequency stability is not over important.

The output I seek is very fast, thin square wave pulses with ajustable space ratio.

Many thanks for any help given.

Bill

Bill Wright
London
England E-Mail bill@survival.demon.co.uk

1742. Re: T1 Modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3o8c7g$1mu@hpscit.sc.hp.com>
Source record: 113143

I'm also interested in getting information on T1 modems.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

1743. Re: CAT interface?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: mckee@fc.hp.com
Message-ID: <3o8e6h$5k9@tadpole.fc.hp.com>
Source record: 113144

David Toste (at738@FreeNet.Carleton.CA) wrote:

: Anyone know where I can get plans for a CAT circuit? I have found a simple
: RS232-TTL, but doesn't seem to work. I have only found one program that
: would work with it. I've tried to write a simple BASIC program and that
: doesn't do it either.

I'm going down the same path. I have not had any luck yet either. I ordered the service manual for my FT747 on monday and hope it has more data. A couple of people responded to my query suggesting I might need to invert one or both of the TTL signals.

Good luck es 73,

Bret

1744. Looking for core source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: mckee@fc.hp.com
Message-ID: <3o8eer$5k9@tadpole.fc.hp.com>
Source record: 113145

I am trying to find a source for reasonable priced cores. I would like to build a switching power supply and need a 4229 sized core for 3C8 and a bobbin. The article I have suggested Dexter Magnetics, but they wanted $32 for a core, which makes the whole project not worth the effort.

Or am I all wet and $32 is a good price ??

Thanks in advance,

Bret

1745. Re: Looking for core source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3o8ji1$78u@hpscit.sc.hp.com>
Source record: 113146

In article <3o8eer$5k9@tadpole.fc.hp.com>, Bret McKee <mckee@fc.hp.com> wrote:
>I am trying to find a source for reasonable priced cores. I would like
>to build a switching power supply and need a 4229 sized core for 3C8 and
>a bobbin. The article I have suggested Dexter Magnetics, but they
>wanted $32 for a core, which makes the whole project not worth the
>effort.
>
>Or am I all wet and $32 is a good price ??
>
>Thanks in advance,
>
>Bret

The task of buying cores seems to partition into two paradigms:.

You can buy one for $32.

Or you can buy a million for 32 cents each.

There seems to be no middle ground. Yes, indeed, you will find everything
at Dexter expensive in small quantities (they have to make money).
Here at HP, we tried to buy quantities of 100 and 1000 cores from TDK's
distributor in NJ and got laughed out of their order processing department.
Let alone try to go directly to TDK. At least with Dexter you can place
an order at some price.

It's a lot more cost effective to cruise your local surplus store or
catalog and buy a switcher. Unless you want to learn how to build
one, in which case $32 is part of your "tuition".

Rick Karlquist N6RK
rkarlqu@scd.hp.com

1746. Re: hpgl on pc screen

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: ddilat@ix.netcom.com
Message-ID: <3o8sr4$8ps@ixnews3.ix.netcom.com>
Source record: 113147
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,comp.graphics

In <3o77i0$rm2@olivea.ATC.Olivetti.Com> robertov@flash.ATC.Olivetti.Com (Roberto Valfredini) writes:

>
>A friend of mine want to get the output of a spectrum analyzer from it
>hpib interface and instead of feeding them to an hp plotter (hpgl)
>drive this output to a DOS PC with an hpib interface and visualize
>the output of the instrument on the PC VGA screen buffering the
>instrument output into a dos file .
>
>Does anybody know if with the hpib interface there is somebody that
>include with it some software , I mean program already written that
>capture the output of such interface in a file and then let you
display it.
>

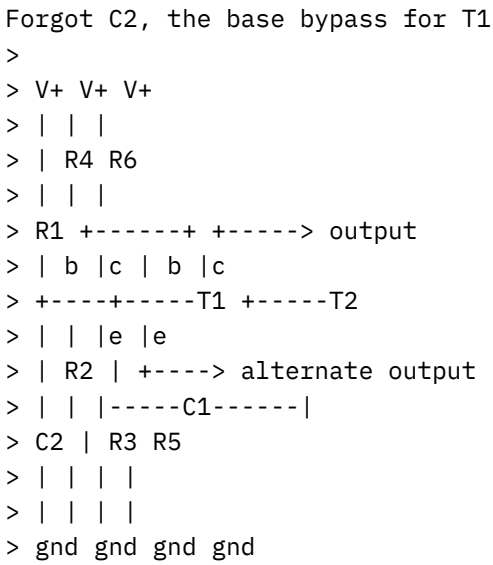
I don't know anything about capturing HPIB output on a PC (I assume this this part is straightforward if you've got an IEEE-488 interface card), but there is an EXCELLENT shareware HPGL viewer/printer program available from Ravitz Software, Inc. called PRINTGL. It can be found on many BBS's in amongst the graphics software. It is also on the Dr. Graphics CD-ROM from Accurate Research, Inc. PRINTGL is outstanding.

Dave Dilatush

1747. Re: WANTED: Design for Oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <19950503150855OSYSMAS@MVS.OAC.UCLA.EDU>
Source record: 113148

Forgot C2, the base bypass for T1:



This circuit is just a grounded base stage driving an emitter follower..

1748. quantity sourcing through homebrew clubs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: hankc@cirrus.com
Message-ID: <3o8vf0$fqg@yahoo.cirrus.com>
Source record: 113149

I've been following some of these threads on purchasing parts
from manufacturers and am now wondering if there are any
"homebrew clubs" where people get together and order
medium quantities of a variety of components at volume discounts.

Sounds like it could be a good idea. And if there are organizations
like this in the San Jose area, I would be interested in joining.

--Hank
KE6MPQ

1749. Re: Identifying Toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199505031418.OAA03463@chaos.magibox.net>
Source record: 113150

>Is there any standard the colors which toroids are painted? I am slowly
>amassing parts for experimentation and would like to stay organized.

The ARRL Handbook has a good section on toroids. It tells what the
colors mean and how to calculate the number of turns needed.

If you dont have a Handbook, check with your local library. Ours
has several copies. (And for those of you with older copies,
consider donating them to you local library system -- or better yet,
get your club to donate a new one!)

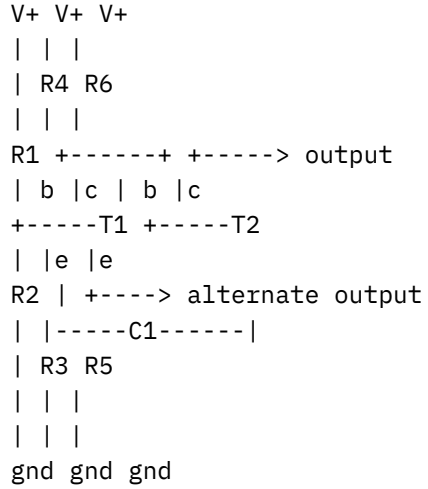
Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

1750. Re: WANTED: Design for Oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <19950503092935OSYSMAS@MVS.OAC.UCLA.EDU>
Source record: 113151

>I am looking for a design for an oscillator with a variable mark space
>ratio and ajustable freqency from 1 to 20 Meg. Absolute frequency
>stability is not over important.
>
>The output I seek is very fast, thin square wave pulses with ajustable
>space ratio.

I once read about something like this and played with it a little:



T1 & T2 something like 2N3904 should work for 20 Mhz (drawn for
NPN transistors, depending on the frequency you want almost
anything might work..)

Try something like R3 & R5 = 1K, use R1 & R2 to set the bias on
T1 (1 to 10 mA?), then select R4 to set bias on T2 to about the
same collector current.

You can use the output or omit R6 and use the alternate output
from T2's emitter.

The frequency is controlled by C1 (and R3 & R5). You can vary
the weight (mark/space) by varying R3 and R5.

Note that none of the transistors should saturate. If you want
to run higher in frequency, build it on a ground plane, use
higher frequency transistors (2N5179?) and lower resistors for R3
and R5.

1751. Re: URG: Boost My Cellular Performance!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <3o8v0mINN7fh@sepia.wv.tek.com>
Source record: 113152

In article <3nt569$2av@newsbf02.news.aol.com> ebratcher@aol.com (EBRATCHER) writes:
>I urgently need to boost the performance of my
>cellular phone for use in remote areas. Can anyone
>give me info. on "boosters", or "add-ons" that can
>help me with this?
>
>EBRATCHER@aol.com

I don't know of any legal "boosters" or "add-ons" other than a variety of antennas for mobile use. Boosting the power would only give you barely noticeable performance over getting a clear line-of-sight view of the cell phone tower. I've found that in our area (Oregon, Willamette valley) that in the outlying areas where cell phones will not reach, that most of the time I can call up a local HAM repeater and either use the phone patch, or ask someone to make a collect call to let my wife know that I will be camping for an extra day, etc.

Without trying to sound like one of those "net police types" I would caution against trying to modify a cell phone for more power on the cell phone band. It is not only illegal, but probably won't help tremendously since that would only give you one-way performance.

Good luck,
Ed Burress
KC7GFX

1752. Automatic Antenna Tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950503112406.6550B-100000@pmafire.inel.gov>
Source record: 113153

I have seen several products advertised to include automatic antenna tuners. I imagine that these products have some sort of solid state mechanization, rather than a servo-controlled variable capacitor. I would appreciate any explanations of how these devices work.

Charles Mott (no call sign yet)

1753. Homebrewing your own cabinet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-03 00:00:00 UTC
From: billhar@spaceworks.com
Message-ID: <D80vzu.7up@spaceworks.com>
Source record: 113154

Forgot to put a subject line on the first posting.

In a earlier posting we learned how to homebrew a transistor. Now here is a novel new material to build the cabinet for your new rig using those homebrew transistors.

Radio News - February, 1925
PICTURE: Young man with a radio receiver, approximately 18 inches long 5 inches high and maybe 5 inches deep. Five dials on the front panel. The finish on the radio has a marbled effect.
CAPTION WITH PICTURE: Sour Milk was the material employed by Mr. L. Abrams of New York City in building the novel set shown above. He constructed the cabinet and the dials from sour milk, coloring it with dyes before it hardened. Mr. Abrams will gladly pass the formula along to any other radio fan.

And I bet he made his condensers out of "condensed" milk, pilot lamps out of flower "bulbs", and he used "spaghetti" over his wiring.

I can hear Mommy now, "Sorry honey, we haven't any milk, Daddy is building a new radio". And Daddy, "Hey kids! Keep that cat away from the radio!"

And I hope that next hombrew project doesn't call for a 1 farad air variable condenser. Have any idea how big it would be? The values we are used to dealing with in radio are in the micro, micro-micro, and pico farads, one microfarad equaling 1/1,000,000 of a farad. According to Radio News for October, 1925, a 1 farad condenser would stand 792 feet tall, with 117,300 plates spaced 1/25 of an inch apart, 1/25 inch thick, and the area of each plate would nearly equal the ground area covered by the famous Woolworth Building.

Just think of the size of the knob you would need. Try getting that into your sour milk cabinet.

73, de K5MIL

1754. 68705K1P - What's a good price?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: WONG_WAI@eos.bentley.edu
Message-ID: <1995May4.034001.1@eos.bentley.edu>
Source record: 113068
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

I bought a couple of 68HC705K1P's (OTPROM) from JDR for around
$6. I'm sure I paid too much. Does anyone have a better price?

-W

1755. Re: Superhet receiver question. Why a triple conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: ignacy@misz.animal.uiuc.edu
Message-ID: <3oba20$dgv@vixen.cso.uiuc.edu>
Source record: 113069

In <D82GxK.32H@proteon.com>, jfw@proteon.com (John Woods) writes:
>davek@medphys.ucl.ac.uk (Dave Kirkby) writes:
>>I've heard it said that you should *not* change the frequency in a mixer
>> by more than about 10:1, so mixing the 100MHz IF with a crystal oscillator
>> at 100.5MHz, to get a 500kHz second IF would not be sensible. Its more
>> common to introduce a third conversion stage with a first IF of say 100MHz,
>> a second of 10MHz and a third of about 500KHz.
>
>>Clearly a double superhet would be cheaper/easier than a triple, so what is
>> the reason for not changing from 100MHz to 500kHz in one go? Why convert to
>> 10MHz first?
>
>That's one problem, which can be avoided by good balanced mixers. Much harder
>to avoid is failing to receive the 99.5MHz image frequency. LC circuits with
>60dB of suppression outside a 1% width just aren't physically practical.
>And in a typical HF rig that converts up to 100MHz, the first IF is 30MHz
>wide, meaning your image frequency is guaranteed to show up in the passband.

Crystal filters at 70MHz could be quite narrow (15KHz), and then the
image poses no problem. I have a feeling that one company (perhaps
JRC) uses a direct 70MHz to 455 KHz conversion.

Perhaps one reason for unpopularity of that conversion is that 455KHz
filters are more expensive than those at 9MHz. Also, an extra
conversion allows for passband tuning and cheaper RF speech
processing. Many top rigs have yet another conversion to 100 KHz,
most likely to make the notch filter effective.

Ignacy Misztal Ham radio: NO9E, SP8FWB
E-mail: ignacy@uiuc.edu
University Of Illinois 1207 W. Gregory Dr., Urbana, IL 61801, USA
tel. (217) 244-3164 Fax: (217) 333-8286

1756. series-shunt pair amplifier topology

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-0405951329340001@brainiac.hi.com>
Source record: 113070
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

I'm looking for a reference to a book or paper that has a tutorial
treatment of the series-shunt pair amplifier topology described in
Horowitz and Hill's "Art of Electronics". I don't see how to rationally
choose the open loop gains of the two stages and the closed loops gains of
the two feedback loops.

Thanks,
-Steve

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

1757. Re: series-shunt pair amplifier topology

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: ddilat@ix.netcom.com
Message-ID: <3obe39$giv@ixnews4.ix.netcom.com>
Source record: 113071
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In <steve-0405951329340001@brainiac.hi.com> steve@hi.com (Steve Byan) writes:
>
>I'm looking for a reference to a book or paper that has a tutorial
>treatment of the series-shunt pair amplifier topology described in
>Horowitz and Hill's "Art of Electronics". I don't see how to rationally
>choose the open loop gains of the two stages and the closed loops gains of
>the two feedback loops.

You noticed that omission, too, huh? I remember reading that section of H&H and wishing those guys had given the subject a little more in-depth treatment.

Unless someone out in sci.electronics-land can supply the answer, the only thing I can think of doing would be to start writing equations (sigh...). Either that or SPICEing it to get an approximately optimal distribution of feedback ratios among the two paths...

Dave Dilatush

1758. cb to 10 meter conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: parkerbk@sd2.af.mil
Message-ID: <3obesv$58t@blackbird.afit.af.mil>
Source record: 113072

I have an old Dak mark 9 and would like to convert it to
10 meters can anyone give me info of where to start or
what to do?

Thanks,

Keith
parkerbk@msrc.wpafb.af.mil

1759. WTB Roller Inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: pgerba@crl.com
Message-ID: <3oboio$nso@crl10.crl.com>
Source record: 113073

Hi;

I'm looking for a roller 15uh or greater; 1500 Watts or greater. Not to
big please. I've a 10KW roller here that won't fit in the proposed space.

thanks.
pete
pgerba@crl.com

1760. Superhet receiver question. Why a triple conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995May4.161009.40092@ucl.ac.uk>
Source record: 113074

In a double conversion superhet, one gets the advantage of decent image rejection and good selectivity. In order to get the best image rejection, it seems sensible to run the 1st IF at a very high frequency (say 100MHz) and for best selectivity run the 2nd IF at a very low frequency like (say 500kHz).

I've heard it said that you should *not* change the frequency in a mixer by more than about 10:1, so mixing the 100MHz IF with a crystal oscillator at 100.5MHz, to get a 500kHz second IF would not be sensible. Its more common to introduce a third conversion stage with a first IF of say 100MHz, a second of 10MHz and a third of about 500KHz.

Clearly a double superhet would be cheaper/easier than a triple, so what is the reason for not changing from 100MHz to 500kHz in one go? Why convert to 10MHz first?

Perhaps its because the 100.5MHz oscillator could leak into the 100MHz IF chain. That my best guess, but would appreciate any comments.

In a research project that is occuring in my university department (nothing to do with superhet receivers), a colleague mixes 200.000MHz and 200.010MHz to produce an IF of 10KHz. I'm not aware of any problems wth this.

In an HF receiver (2-30MHz) with the typical IF's of 10.7MHz and 455KHz, the conversion from 10.7 to 455 requires an oscillator at 10.225MHz, which falls in the coverage range of the receiver, I doubt its possible to receive anything other than the internal oscillator on 10.225MHz. If however the first IF was at 100MHz, and the second at 455kHz this problem would not exist. I must be missing something.

dave kirkby G8WRB.

1761. Wide Band, 2 Meter to VHF Marine Band Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: James_R._Jaeschke@CORDN3_NOTES.MKE.ETN.COM
Message-ID: <9FD4516A_287FDBF5_74C564_862561B2@CORDN1.CORDN3_NOTES.MKE.ETN.COM>
Source record: 113075

Hi:

I am looking for an antenna that will have low SWR over the 2 meter and VHF marine band. I have a sail boat and would like to use
the antenna mounted on the mast for both bands. The Shakespeare antenna that I now have has a SWR of 1.2 on the 155-157 MHz band
and 1.8 to 2 on 2 meters at the end of approximately 50 feet of cable. Is there anything better?

73's from KE9WC, Jim

1762. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: peterson@physc1.byu.edu
Message-ID: <1995May4.161529.2216@physc1.byu.edu>
Source record: 113076

In article <3nrc6d$sqb@duck.inetnebr.com>, mbrinkho@falcon.inetnebr.com (Matt C. Brinkhoff) writes:
> Bryan G. Peterson (peterson@physc1.byu.edu) wrote:
> : > Does anyone know how to make a circuit that will cause a beep to be
> :
> : Wlll, I'm sure this won't help you with your request but the Alinco DJ-F1T
> : has the well hidden feature that you can set it to transmit a DTMF "C" when
> : the PTT is released. I have never used it but I did have to figure out how
>
> Does anyone know how this is accomplished? I've got a DJF1T and I'd like to
> give it a try!
>
> Thanks.
> --
> Matt C. Brinkhoff (KB0RXC)
> mbrinkho@inetnebr.com
> Lincoln, Nebraska (EN10PT)

I didn't notice any replies to this yet (I'm rather erratic at reading news) so here is the way to do it:

press F+SET to get into SET mode
press 3 (the numeric 3 key)
press V/M to get out of SET mode

just repeat the same sequence to turn it off.

Bryan Peterson, KI7TD
ki7td@byu.edu

1763. Re: How do DTMF decode chips work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: jgramsey@aol.com
Message-ID: <3oc5ee$jft@newsbf02.news.aol.com>
Source record: 113077

Low cost DTMF decoders simply count frequency. When the count is within a certain window, it is considered a valid decode. No fancy DSP, zillion pole BPF or anything else.
73 John Ramsey

1764. SL6700

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: tdrumm@sparc.isl.net
Message-ID: <3oc69p$591@news.isl.net>
Source record: 113078

Has anyone built anything using the SL6700? (And, anyone know who the manufacturer is - would like to get some data?) This is a combination double conversion IF, AGC, diode detector, double-balanced modulator, and noise blanker. Seems like a nice start for a nice project.

Has anyone else built any projects around something similar? It would be nice to try using some of the more modern circuits-on-a-chip!

Tony - AA0SM

1765. Repeater on the NET!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: bill.dunn@channel1.com
Message-ID: <40.2216.2425@channel1.com>
Source record: 113079

DS> Just thought that someone might be interested in this!
DS>I now have a 70cm repeater connected to the Internet! it has a few
DS>functions available, and lost of Info on a homebuilt repeater!
DS>If you would like to see this repeater, the URL is:

DS> http://www.weather.brockport.edu/~don/repeater.html

Can you explain, connected to the net???

N1KUG
---
* SLMR 2.1a * Official Scanner Guides 603-432-2615 of New England

1766. Re: A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995May4.080057.273@nad.com>
Source record: 113080

In article <3o3rn3$87t@bigboote.WPI.EDU>, jmhill@duck.WPI.EDU (Jonathan M Hill) writes:
> Hello all;
> I am a member of the ham radio club at Worcester Polytechnic Institute
> in Massachusetts. Sorry, I am not offering a transceiver, actually
> I am looking for information regarding a transceiver.
>
> Recently I heard of a fellow who was building low power
> microwave transceivers by using parts from old radar detectors.
> A local ham radio clubs had a speaker who presented one of the
> transceivers he had build. I'm not sure but I believe that the
> transceiver operated in the 10 GHz band, with extremely low power.
>
> The story goes that, for a few bucks you buy an old radar detecter, then
> gut the detector for parts to make your transceiver. I guess all radar
> detectors incorporate a gunn-plexer. With some kind of modification the
> gunn-plexer will transmit, as well as down convert received signals.
> Beleive it or not, the fellow who presented his transceiver used a
> Ra*io Sh*ck portable radio as the IF demodulator.
>
> We are looking for a simple, low cost project so that a number of people
> can each build their own. The idea of using parts from a radar detecter
> appears to have sparked our imagination. At this point, as far as microwaves
> are concerned, most of our club members are ``newbies'' but think that such
> a project would be a fun way to get our ``feet wet'', so to speak. Who knows,
> this could lead us to bigger and better things....
>
> So in summary, I'd like to ask if there is anyone out there who has
> constructed such a transceiver from radar detector parts? Does anyone have
> information that you think might be useful?
>
> Jonathan Hill/N1QOL

Hi, not sure about radar detectors, I guess you may be able to use them.
Another inexpensive way to get into 10Ghz is using surplus Alpha Microwave type
Gunn diode assys from commercial motion sensors and door opener systems. You
can usually find these at hamfests for $10 or so. You modulate the Gunn P/S to
generate wide band FM. They include a mixer diode, which you can couple to your
FM reciever as an IF. It's a good idea to shield the FM recvr, and use a
preamp of some sort. Without AFC, you'll need the fast tuning of a broadcast
reciever to find and track the signal. It will drift a lot! I have tried using
a 2M IF and it is tough.

You'll need to tune these down a bit - they're usually at about 10.525Ghz. They
can be course tuned by a screw protruding into the cavity, and fine tuned by
varying the Gunn diode voltage. Using a system like this at both ends, you can

run full duplex. But the transmit freqs need to be offset by the amount of the IF. There have been many articles written up in the magazines over the years on how to do this. In older versions of the ARRL handbook, there were some, including a nice one by Glenn Elmore on a 2Mb/s 10Ghz data link. The new handbook dropped these!?!? Also, the RSGB VHF/UHF manual has some good stuff.

There have been some good articles published in QEX lately by Paul Wade - N1BWT(?) on uwave antennas. It's fairly easy to build up, say an 18dbi horn for these using his info.

Oh and another note - these are not Gunnplexers. Gunnplexers contain an additional varactor for a seperate tuning scheme. You run them with a fixed regulated supply and tune using the varactor. With the Alpha's, you do it all by modulating the power supply (LM317's work well).

Have fun!
Joe - AA3GN

--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com

1767. Re: Identifying toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <799582347.AA01546@hamlink.mn.org>
Source record: 113081

CC>From: CNS@psimemphis.COM (C. Nathan Sykes)
CC>Newsgroups: rec.radio.amateur.homebrew
CC>Subject: Identifying Toroids
CC>Organization: PSI Process Systems, Inc.
CC>Reply-To: CNS@chaos.magibox.net
CC>Message-ID: <199505031418.OAA03463@chaos.magibox.net>
CC>Date: 3 May 95 09:15:17 GMT
CC>
CC>>Is there any standard the colors which toroids are painted? I am
CC>>slowly amassing parts for experimentation and would like to stay
CC>>organized.
CC>The ARRL Handbook has a good section on toroids. It tells what the
CC>colors mean and how to calculate the number of turns needed.
CC>
CC>If you dont have a Handbook, check with your local library. Ours
CC>has several copies. (And for those of you with older copies,
CC>consider donating them to you local library system -- or better yet,
CC>get your club to donate a new one!)
CC>---
CC>Nathan Sykes email: cns@psimemphis.com
CC>Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
CC>Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM
CC>---
CC>
CC>---
CC> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
CC>(1:282/100.0)
Be advised that color is not a definitive descriptor of cores. That is
just because it is red does not mean it must be a -6 type.
72 Bob WB0POQ

1768. Re: A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: beltrani@aloha.com
Message-ID: <3ocdd3$2o5@opihi.aloha.com>
Source record: 113082

jmhill@duck.WPI.EDU (Jonathan M Hill) wrote:
>Hello all;
> I am a member of the ham radio club at Worcester Polytechnic Institute
>in Massachusetts. Sorry, I am not offering a transceiver, actually
>I am looking for information regarding a transceiver.
>
> .....
> So in summary, I'd like to ask if there is anyone out there who has
>constructed such a transceiver from radar detector parts? Does anyone have
>information that you think might be useful?

I'm not sure about used RADAR detectors, however there is a gentleman
in CT that sell Gunn oscilators for $25 a pair. Add a few junk box parts
and a cheap FM transistor radio and you can start playing with WBFM.

Those interested can e-mail me for more info.

Paul, AH6NU
beltrani@aloha.com

1769. New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <NEWTNews.799626869.6779.amsoft@amsoft.epix.net>
Source record: 113155
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

The World of Ham Radio CD-ROM MAY 1995 issue is now available.
For more information contact amsoft@epix.net or the new AmSoft
WWW site at: http:/hamster/business.uwo.ca:80/~amsoft/

Pete, KC3TL voice: 717-938-8249 fax: 717-938-6767

1770. Re: Ultra-miniature Direction-finding Unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: jlundgre@news.kn.PacBell.COM
Message-ID: <3oan86$jrb@ohlone.kn.pacbell.com>
Source record: 113156
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

Jim G. (cjg007@email.mot.com) wrote:
: Hi,

: I've always thought it would be great if one could make a really small
: direction-finding unit that would be the size of a small calculator,
: including the antenna (something like James Bond would use). I'm curious
: if anyone has ever tried making such a unit, and would like to share their
: experiences with it. I've never gotten beyond the "thinking about it"
: stage myself. I do think that a ferrite loop, such as the ones found in
: old AM pocket radios might have a good chance of working. However, that
: would only probably work at frequencies of several MHz, and the
: transmitter would have to have a big antenna to get the signal out.
: Anyway, I'd appreciate any comments.
: Jim

Anyone can make a DF unit with a few thou. Just put a small GPS unit in a
box, along with a transmitter. The transmitter continuously gives out its
location, and even elevation. Any small calculator sized box can hold a
receiver that will pick it up. So I lied, it's actually an absolute
position transmitter. GPS units are under a thou, but I don't know if
those will have the interface to put out the info.

: --

--

John Lundgren - Elec Tech - Info Tech Svcs	Standard
Rancho Santiago Community College District	disclaim-
17th St. at Bristol \ Santa Ana, CA 92706	ers apply.
jlundgre@pop.rancho.cc.ca.us\jlundgre@kn.pacbell.com	
"He who toys with the most dies, wins."- Dr Kevorkian?	

1771. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: rwa@cs.athabascau.ca
Message-ID: <rwa.799598069@atha>
Source record: 113157
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

R lindberg + E Winnie <rlindber@kendaco.telebyte.com> writes:

>On Mon, 1 May 1995, Dave Moorman wrote:
>> In article <rwa.799088205@atha>, rwa@cs.athabascau.ca (Ross Alexander) wrote:
>> > I also support .qrp rather than .low-profile. For a start, it's shorter :).
>> How about .qrp/low profile so everyone would know what the newsgroup

> Sorry Dave, but low_profile still makes me think of small, short radios.
>Not low impact operating. There is also the '/', I'm not certain it's
>allowed in group names, at least I couldn't find any current use of it.

It (use of /) is specifically forbidden. The length must be less than 15
characters.

> I still think that qrp or qrp_something_else would work better. Let's see
> rec.radio.amateur.qrp I think this has been voted down
> before, but I don't understand why
> .low_profile I don't think it tells the 'story'
> .qrp_low_profile As above
> .qrp_hidden Just thought of this one
> don't know how good it would
> really be, but it could cover
> qrp, fox-hunts and 'low_profile'

The narrower and more restrictive the group topic is, the less support
it will have. QRP is well understood and has lots of interest. Heck,
even I'm interested in QRP, and I have 75 acres in the country. Let's
keep the name short, sweet and well understood.

> 73's Ralph
> (trying hard to find a way I could vote for this idea)

Me too. rec.radio.amateur.just_us_guys_in_condos isn't going to get
a yes vote from me :).

73,
Ross ve6pdq
--
Ross Alexander, ve6pdq -- (403) 675 6311 -- rwa@cs.athabascau.ca

1772. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: pschleck@gonix.com
Message-ID: <pschleck.799605651@gonix>
Source record: 113158
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

In <dmoorman-0105952002290001@nb-dyna82.interaccess.com> dmoorman@interaccess.com (Dave Moorman) writes:

>In article <rwa.799088205@atha>, rwa@cs.athabascau.ca (Ross Alexander) wrote:

>
>> I also support .qrp rather than .low-profile. For a start, it's shorter :).

>How about .qrp/low profile so everyone would know what the newsgroup
>is about?

>Dave, K9SW

Forward (and backward) slashes are "forbidden" characters in newsgroup names. The reason is that all news server software sooner or later has to access files and directories, and since the usual convention is to map the dot-delimited components of a newsgroup name into subdirectory names, the slashes could possibly be misinterpreted by the operating system as directory-name separators.

--
Paul W. Schleck, KD3FU
pschleck@gonix.com

1773. Re: Cellular to Amature ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.2049.546@acenet.com>
Source record: 113159

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

RG>> NWC>Norm,
RG>> NWC>WD2AEM
RG>>
RG>> Norm, cellular phones do not have an armature.
RG> ********
RG>Brian, neither does Norm's post. It does have a couple AMATURE's.

Fine ROger, well you and Norm fire up your AMATURE radios and I will
fire up my amateur radio station, and we'll see if we can hear each
other even though there might be some minor incompatibilities between
the two services... :-)

&#65533; SLMR 2.1a &#65533; Remember, you are unique, just like everyone else!

1774. Re: Cellular to Amature ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <3oapv9$h8g@crchh327.bnr.ca>
Source record: 113160

I have begun to look at this type of project with a RS Luggable Cell Phone

In article <henniger.799551264@cisco.com>, henniger@cisco.com (Mick Henniger) writes:
|> The phones I have seen have incorporated in their design the assumption
|> that the TX and RX are exactly 45.0 Mhz apart, usually by incorporating
|> it as the second IF. Also, since it is a full duplex design, the
|> off the shelf isolation filters are set at the cellular band.
|>

The RS uses an 82.2 Mhz IF, and yes it has isolation filters.

|> So you are probably looking at a half duplex design.
|>

Definately, it makes things A LOT SIMPLER

|> You will of course need to retune the synthesizers and power amp to lock and
|> give a reasonably power at 33 cm, as well as have some sensitivity on the
|> receiver at it's new frequency.
|>

This will require shortning a tuned coax "coil" shorted on one end.

|> Further, the microcode would have to change since the Tx/Rx changes
|> for a half duplex design.... maybe take it out completely and forget
|> about cellular architecture and just use it as point to point, or
|> on a repeater. (maybe just a transmitter?)
|>

Point-to-point is exactly what my objective, no AMPS incorporated.

|> I can see some neat things you could do with one of those three watt
|> bag phones, and maybe you can just hardwire a bunch of cellphone
|> handsets to a 33cm frequency...
|>
|> I am more interested in the cellular / frequency reuse architecture.
|> I would like to try to add a microprocessor interface to (or have a way
|> from the manufacturer to) modify the frequency under software control.
|> maybe add in a few I/O lines to deal with the AMPS chip or two and
|> have a cellular system built around a 440/144 Mhz design.
|> (instead of the 835 Tx/ 880 Rx design in cellular phones.)
|>

I am more intrested in a simple transceiver design. Besides, the 33 cm
band isn't too crowded ! %^}

|> Any thoughts on how to add AMPS to a dual band HT or mobile rig guys?
|>

|>
|> Mick
|> AC6EU
|>

Probably could pull out the code, look at the algorithm and try to re-apply
it somewhere else. I simply want a 33 cm transceiver that can be made
cheaply and fairly easily.
--
==========

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 991-4769 email: cnc23a@bnr.ca Ham: N4ZBB Packet: n4zbb@n1gmv.nc
DX PacketCluster (tm) Node : W4DW

All opinions are my own and do not necessarily reflect the views of
my employer or co-workers, family, friends, congress, or president.

1775. Where to buy X-band waveguide

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: watsr@essex.ac.uk
Message-ID: <WATSR.95May4175911@ossparc15.essex.ac.uk>
Source record: 113161
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Hi folks,

Anyone know where I can obtain X-band rectangular waveguide in the UK
preferably in small quantitities (ie. I only need about 1m)

Many thanks in advance,

Robert
--

Robert J Watson. "When in a hole... stop digging ..."
University of Essex, Electronic Systems Engineering Dept.
Wivenhoe Park, Internet: watsr@essex.ac.uk
Colchester, Tel : +44 1206 873029 (direct)
CO4 3SQ. Fax : +44 1206 872900

1776. Re: What does bnc stand fo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: willis@cs.tamu.edu
Message-ID: <3ob5d5$o3r@news.tamu.edu>
Source record: 113162

> If memory serve me it "Bayonet Neilman Connector"
Bayonet Neil Concelman

1777. Re: Superhet receiver question. Why a triple conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: jfw@proteon.com
Message-ID: <D82GxK.32H@proteon.com>
Source record: 113163

davek@medphys.ucl.ac.uk (Dave Kirkby) writes:
>I've heard it said that you should *not* change the frequency in a mixer
> by more than about 10:1, so mixing the 100MHz IF with a crystal oscillator
> at 100.5MHz, to get a 500kHz second IF would not be sensible. Its more
> common to introduce a third conversion stage with a first IF of say 100MHz,
> a second of 10MHz and a third of about 500KHz.

>Clearly a double superhet would be cheaper/easier than a triple, so what is
> the reason for not changing from 100MHz to 500kHz in one go? Why convert to
> 10MHz first?

>Perhaps its because the 100.5MHz oscillator could leak into the 100MHz IF
> chain. That my best guess, but would appreciate any comments.

That's one problem, which can be avoided by good balanced mixers. Much harder
to avoid is failing to receive the 99.5MHz image frequency. LC circuits with
60dB of suppression outside a 1% width just aren't physically practical.
And in a typical HF rig that converts up to 100MHz, the first IF is 30MHz
wide, meaning your image frequency is guaranteed to show up in the passband.

>In a research project that is occuring in my university department (nothing
> to do with superhet receivers), a colleague mixes 200.000MHz and 200.010MHz
> to produce an IF of 10KHz. I'm not aware of any problems wth this.

If this gadget is entirely sealed, so that there is no signal whatsoever at
the image frequency (either 199.990MHz or 200.020Mhz, you didn't say which was
LO and which was signal), then this is perfectly fine, because you don't need
image rejection.

>In an HF receiver (2-30MHz) with the typical IF's of 10.7MHz and 455KHz,
> the conversion from 10.7 to 455 requires an oscillator at 10.225MHz, which
> falls in the coverage range of the receiver, I doubt its possible to receive
> anything other than the internal oscillator on 10.225MHz.

If the IF chain is in a sealed box, leakage from the internal oscillator can
be kept to a reasonable level.

> If however the first IF was at 100MHz, and the second at 455kHz this
> problem would not exist.

This would present insurmountable image problems.

1778. Wanted: source for odd voltage transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: mgreen@millenium.tiac.net
Message-ID: <3o9ag9$abg@sundog.tiac.net>
Source record: 113164

Does anyone out here know of a supplier of odd voltage transformers.
I'm looking for something around 1KVA @ 20 v and 500VA @ 10v. Any ideas?

Please respond with e-mail

mgreen@tiac.net

73, Thanx

Mark N1NLR

1779. Re: Cellular to Amature ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: henniger@cisco.com
Message-ID: <henniger.799551264@cisco.com>
Source record: 113165

In <3noiut$27j@mksrv1.dseg.ti.com> cramer@mksol.dseg.ti.com (Norman W Cramer) writes:

>Has anyone done a conversion from a cell phone to something usefull on a ham
>band? I have an old cell phone that I will probably never use for cellular
>again (since they give away free phones with new service), is there an easy
>way to convert this for amature use?

>Norm,

>WD2AEM
>cramer@dseg.ti.com

The phones I have seen have incorporated in their design the assumption
that the TX and RX are exactly 45.0 Mhz apart, usually by incorporating
it as the second IF. Also, since it is a full duplex design, the
off the shelf isolation filters are set at the cellular band.

So you are probably looking at a half duplex design.

You will of course need to retune the synthesizers and power amp to lock and
give a reasonably power at 33 cm, as well as have some sensitivity on the
receiver at it's new frequency.

Further, the microcode would have to change since the Tx/Rx changes
for a half duplex design.... maybe take it out completely and forget
about cellular architecture and just use it as point to point, or
on a repeater. (maybe just a transmitter?)

I can see some neat things you could do with one of those three watt
bag phones, and maybe you can just hardwire a bunch of cellphone
handsets to a 33cm frequency...

I am more interested in the cellular / frequency reuse architecture.
I would like to try to add a microprocessor interface to (or have a way
from the manufacturer to) modify the frequency under software control.
maybe add in a few I/O lines to deal with the AMPS chip or two and
have a cellular system built around a 440/144 Mhz design.
(instead of the 835 Tx/ 880 Rx design in cellular phones.)

Any thoughts on how to add AMPS to a dual band HT or mobile rig guys?

Mick
AC6EU

1780. Re: Ideas on mounting a radio on a bike

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: kmegeff@ix.netcom.com
Message-ID: <3o9t65$rv9@ixnews4.ix.netcom.com>
Source record: 113166

In <3njk7j$sbc@usenetw1.news.prodigy.com> SRWD37A@prodigy.com (Austin
Mccaskill, jr) writes:
>
>I saw a motorcycle with a 2 meter HT mounted on a Radio Shack aluminum

>project box. The project box was bolted to the handlebar, and the
>project box was fitted with a place to catch and hold the HT.
>
>73 de AA0QX Austin -- srwd37a@prodigy.com
>
When I ride I carry my dual bander in a fanny pack with the spkr/mike
attatched to my shirt collar.

Keith KB5PZU
--
= Keith Megeff + Fax (713)890-6773 =
= Internet kmegeff@ix.netcom.com + =
= AMPRnet kb5pzu@sugarland.ampr.org + =
= MCI 5A --- Ask the man that owns one --- Have ladder will travel =

1781. hpgl from plot to file

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-04 00:00:00 UTC
From: robertov@hqlab.ico.olivetti.com
Message-ID: <3o9tr2$cet@fusaro.ICO.Olivetti.Com>
Source record: 113167

Sorry for posting also here but I know that people reading this group
is probably also using these kind of staff.

A friend of mine want to get the output of a spectrum analyzer from it
hpib interface and instead of feeding them to an hp plotter (hpgl)
want to drive this output to a DOS PC with an hpib interface and
visualize the output of the instrument on the PC VGA screen buffering
instrument output into a dos file .

Does anybody know if with the hpib interface there is somebody
including with it some software , I mean program already written that
capture the output of such interface in a file and then let you display
it.

please supply me info about hw and sw I need to do that

EMAIL robertov@hqlab.ico.olivetti.com

thank all for your time.

Roberto VALFREDINI

1782. Re: cb to 10 meter conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: raiar@vulcan.inlink.com
Message-ID: <3obrq3$ii6@news.inlink.com>
Source record: 113083

The first thing is, does the radio you mentioned already have sideband,
if so, a simple main crystal change is usually all that's necessary.

Determining the value of the crystal, that's another matter.....

Gary

1783. GPS Antenna Design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: tsmith@umassd.edu
Message-ID: <D836o1.3x2@umassd.edu>
Source record: 113084

Would like to build external mobile mag moount antenna for portable GPS receiver. Any suggggestions? All specifications in user manual seem to suggest that helix antennas are used. Any other GPS/APRS users out there?

1784. WTB: RF Mixer board for TT Argosy

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: cmwdr01@nt.com
Message-ID: <cmwdr01.194.0007A104@nt.com>
Source record: 113085
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.equipment

Looking for a RF Mixer board (80784) for a Ten-Tec Argosy above serial number 800. Can be complete board, bare board, or a dead Argosy for parts.

==========
Dave Redfearn, SR PC LAN Analyst Northern Telecom RTP, NC.
ph.(919) 992-3925 email: cmwdr01@nt.com qrl? de N4ELM/qrp

All opinions are my own and do not necessarily reflect the views of my employer, co-workers or any other person, real or imaginary.

1785. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <3odnf4$60b@grape.epix.net>
Source record: 113086
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

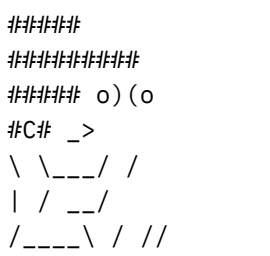
In article <NEWTNews.799626869.6779.amsoft@amsoft.epix.net>,
amsoft@epix.net says...

>WWW site at: http:/hamster/business.uwo.ca:80/~amsoft/

Should read: http:/hamster.business.uwo.ca:80/~amsoft/

Sorry for the typo in the original message.

Pete, KC3TL
amsoft@epix.net



1786. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: doublehop@aol.com
Message-ID: <3oes7o$909@newsbf02.news.aol.com>
Source record: 113087
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

Catch the interest, INDEED. I not (yet) a ham, but intend to get licensed within a year and am earnestly reading everything I can find on antennas. This group will likely maintain itself.

73
Jeff Malone

1787. Re: Anyone got a Varian catalog?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: wombat@indirect.com
Message-ID: <wombat.36.0009F498@indirect.com>
Source record: 113088
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <1995May3.130943.272@nad.com> landisj@nad.com (Joe Landis - Systems & Network Mgr) writes:
>From: landisj@nad.com (Joe Landis - Systems & Network Mgr)
>Subject: Anyone got a Varian catalog?
>Date: 3 May 95 13:09:43 EST

>Does anyone have access to a Varian tube catalog? I need some info on a
>microwave tube.

>TIA, Joe - AA3GN
>--
>Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
>landisj@nad.com

1788. Response to WA3CMQ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: billhar@spaceworks.com
Message-ID: <D84Avo.HAs@spaceworks.com>
Source record: 113089

I tried to respond to your e-mail on this, but it bounced, so I am
responding here on the forum.

You wrote:

>Bill:
>You'll be embarassed to know that 1 Farad capacitors are real,
>commonly available, small, and cheap. Several manufacturers
>make these devices which look for all the world like an ordinary
>electrolytic cap. The are commonly used in consumer electronic
>equipment to hold up the contents of C-MOS memory when there is a
>power outage. They can hold up a backup memory for days, even
>weeks. There are also 2, 3, 5, and 10 Farad versions.

Well, I am not embarrassed as I do know that such capacitors are
available. They did not exist though when the article was written.
Did you notice the date? That was October, 1925. In those days a 2 mfd
paper capacitor was approximately 3/4 inch in diameter and around 3
inches long. The capacitor referred to in the article is an AIR VARIABLE.
A lot of difference there. I don't think you could make a 1 Farad air
variable small or cheap.

>Your cynicism would be humorous if it were accurate.

Therefore I stand by the accuracy as presented in the article.

>Joe
>WA3CMQ

Bill - K5MIL

1789. Re: Identifying Toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3ocfrj$m0u@misc1.microserve.net>
Source record: 113090

CNS@psimemphis.COM (C. Nathan Sykes) wrote:

>>Is there any standard the colors which toroids are painted? I am slowly
>>amassing parts for experimentation and would like to stay organized.

>The ARRL Handbook has a good section on toroids. It tells what the
>colors mean and how to calculate the number of turns needed.

I might be wrong about this, but I think the color charts you're referring
to only apply to certain brands. I've got a number of junk-box toroids
and the colors don't seem to mean anything at all.

Jack WB3U

1790. Re: hpgl on pc screen

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3ocig9$m0u@misc1.microserve.net>
Source record: 113091
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,comp.graphics

robertov@flash.ATC.Olivetti.Com (Roberto Valfredini) wrote:

>A friend of mine want to get the output of a spectrum analyzer from it
>hpib interface and instead of feeding them to an hp plotter (hpgl)
>drive this output to a DOS PC with an hpib interface and visualize
>the output of the instrument on the PC VGA screen buffering the
>instrument output into a dos file .

If your analyzer has the HPIB interface option, there's a program available called "Icapture" that makes this easy. In addition to the progarm, all you need is a simple cable between your analyzer's RS-232 output and your PC.

The program is available free of charge from HP. I believe their number in Santa Rosa, CA, USA is (707) 577-6801.

There is also a text file on the disk which includes an ASCII picture of the interconnect cable - it's simple, but you will have to wire it yourself.

As a final note, this program does not allow you to manipulate data to or from the analyzer. It will, however, save a snapshot of the screen to several different computer graphics formats.

73,

Jack WB3U

1791. Re: Superhet receiver question. Why a triple conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3ocku4$m0u@misc1.microserve.net>
Source record: 113092

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:
>
> In a double conversion superhet, one gets the advantage of decent image rejection
> and good selectivity. In order to get the best image rejection, it seems sensible to run
> the 1st IF at a very high frequency (say 100MHz) and for best selectivity run the 2nd IF
> at a very low frequency like (say 500kHz).

Each conversion generates an image. When the 100 MHz IF is converted to 500 KHz, the image of the 100 MHz signals will be 1 MHz away. For example, if the desired signal is at 100 MHz and the L.O. is 100.500 MHz (100.5 MHz - 100 MHz = 500 KHz), the image will be at 101 MHz (101 MHz - 100.500 MHz = 500 KHz). It is difficult to achieve sufficient selectivity at 100 MHz to reject this image, therefore, the following IF frequency should be higher than 500 KHz. Note that the degree of image rejection has nothing to do with the selectivity of the 500 KHz IF.

>I've heard it said that you should *not* change the frequency in a mixer by more than
>about 10:1, so mixing the 100MHz IF with a crystal oscillator at 100.5MHz, to get a
>500kHz second IF would not be sensible. Its more common to introduce a third
>conversion stage with a first IF of say 100MHz, a second of 10MHz and a third of
>about 500KHz.

Yes, with a second IF of 10 MHz, the image at 100 MHz will be 20 MHz away. In all likelihood, a modern design will then use the 10 MHz IF for some purpose other than finalizing the selectivity of the receiver. For instance, it might be used to provide passband tuning, by using a variable 2nd L.O. that allows moving the 10 MHz IF back and forth across the passband of the final 500 KHz filter.

>In a research project that is occuring in my university department (nothing to do with
>superhet receivers), a colleague mixes 200.000MHz and 200.010MHz to produce an
>IF of 10KHz. I'm not aware of any problems wth this.

So long as there are no signals present at 199.990 MHz (the image), it should work fine.

>In an HF receiver (2-30MHz) with the typical IF's of 10.7MHz and 455KHz, the
>conversion from 10.7 to 455 requires an oscillator at 10.225MHz, which falls in the
>coverage range of the receiver, I doubt its possible to receive anything other than
>the internal oscillator on 10.225MHz. If however the first IF was at 100MHz,
>and the second at 455kHz this problem would not exist. I must be missing something.

So far as I know, image rejection is the only reason for not converting in the manner you've suggested. You're probably correct about "hearing" the oscillator, which is why multiple conversion receivers nearly always have birdies. This is particularly true in general coverage types, because there are no "unused" frequencies.

73,

Jack WB3U

1792. Re: SL6700

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: she@victor.hiof.no
Message-ID: <she.10.005A38D2@victor.hiof.no>
Source record: 113093

In article <3oc69p$591@news.isl.net> tdrumm@sparc.isl.net (Tony Drumm) writes:
>From: tdrumm@sparc.isl.net (Tony Drumm)
>Subject: SL6700
>Date: Thu, 04 May 95 22:23:17 CST

>Has anyone built anything using the SL6700? (And, anyone know who the
>manufacturer is - would like to get some data?)

>Tony - AA0SM

SL6700 sounds like a produkt of GEC PLESSEY SEMICONDUCTORS.

1793. Re: Ideas on mounting a radio on a bike

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: mike_wimble@taligent.com
Message-ID: <mike_wimble-0505951213180001@pip.taligent.com>
Source record: 113094

I didn't see the original to this thread, but FYI I've tried the following:

When I rode the Lewis & Clark trail in the Bitterroots last fall, I had a 5/8 connected via an NMO mount on a rack I put on the back of my mountain bike. I threaded the coax up to the handlebars and into my handlebar bag. In the bag, I had a Kenwood TH78A (I selected it especially for its mountain biking characteristics) with a gel-cell battery (3 amp hours, good for 2+ days of riding) and brought out a speaker mike which just clipped on the bag. I was the relay point for the group, with my big antenna. It worked rather well, given the difficulties of the terrain (i.e. lots of mountains, hills, etc. which hid signals, caused multipath echoes, etc.) Each ham member also carried a roll up J-Pole that we home brewed, in case we got separated too far and needed that extra oomph.

On or lesser trips, I just remove the rack and 5/8 wave, and still the 78A in the outside pocket of the bag and use a 10" rubber duckie. For 1/2 to 1 mile coverage over hilly (not mountainous) terrain, it works fine in the group.

I have a headset, and have carved out my helmet to accept the headset, but have not tried it on a real ride yet.

1794. Re: SL6700

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: "Charles H. Reichert" <reichert>
Message-ID: <3odb4l$lil@newdelph.cig.mot.com>
Source record: 113095

The SL-6700 is made by Plessey. I think I started building a noise blanker using one years ago but never got around to using it. Pretty sure I had a couple of them still around. If you need them and or copy of spec sheet let me know.

Chuck
--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

1795. Re: WTB Roller Inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: garyb@psych.ualberta.ca
Message-ID: <3oddor$820@rover.ucs.ualberta.ca>
Source record: 113096

In article <3oboio$nso@crl10.crl.com>, pgerba@crl.com (Peter Gerba) wrote:
>Hi;
>
>I'm looking for a roller 15uh or greater; 1500 Watts or greater. Not to
>big please. I've a 10KW roller here that won't fit in the proposed space.

According to the ARRL Handbook, 1994, a supplier for a roller inductor for
the SPC Transmatch is Radiokit, NH, at 603 635 2235.
73 Gary VE6BBD

1796. re: cb to 10 meter conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <b5e_9505050530@mba.mba.org>
Source record: 113097

parkerbk@sd2.af.mil (B. KEITH PARKER) wants info on converting a Dak mark 9 to ten meters.

I've never seen anything about this specific rig. Over the years, more around the time when CB was expanded to 40 channels, there were a lot of articles in 73 magazine on converting CB sets to ten meters. They used to have a list of the articles on the subject, that was readily available, maybe only for an SASE. It's worth checking with them for a start. It might also be helpful to get a schematic of your rig, though I have no idea where it can be found. There are the standard places to look, such as in a Sam's Photofact.

A lot of rigs had the same basic circuit and circuit board, put in a different box and with a different name. Get a single schematic, and it just might apply to your particular rig. Likewise, if you can find out what other rigs are like yours, you're more likely to find someone who's already converted it than to find someone who has converted exactly the same rig.

One point about conversion. When CB to ten conversion was in its prime, primarily because the CB sets were available real cheap, the synthesizer IC's used in them allowed for relatively easy conversion. I've read that later rigs used an IC that did not allow for easy conversion, or perhaps did not allow any conversion. The idea, of course, was to keep the rigs on CB instead of someone converting them to some other frequency for illegal operation. The side effect was that it was hard to convert to legal use on ten meters by amateurs.

I found a couple of CB sets in the garbage about a year or so ago. One used a 455 KHz IF, and was crystal controlled. NOt too useful. The other was a forty channel synthesized rig, but it did not use the IC that allowed for easy conversion. I haven't put much effort into reasearching the matter, but from the pinout of the synthesizer IC, it does not look like it is a candidate for conversion.

Too bad it wasn't an SSB CB set; they have plenty of potential that would make conversion worthwhile.

That brings up an important point. Open up your CB set, and look for the synthesizer IC. Either it's the only one, or 1 of a handful of IC's. It's most likely the one with the most pins, too. If you can send out another post with more information, including that IC number, you're more likely to come across someone familiar with what's needed to convert it. You can also look up the IC in a replacement semiconductor guide, and get some information about possible converstion by looking at the pinout of the IC.

I hope this helps you to find some more information.

Michael VE2BVW
--
| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly thier own.

1797. Re: Anyone got a varian ca

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <799682565.AA01571@hamlink.mn.org>
Source record: 113098

What is the tube type? I may be able to help.
Bob WB0POQ

1798. Re: Wanted: source for odd voltage transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: n0dh@comtch.iea.com
Message-ID: <3odlfg$4it@krel.iea.com>
Source record: 113099

Mark Greenlaw (mgreen@millenium.tiac.net) wrote:
: Does anyone out here know of a supplier of odd voltage transformers.
: I'm looking for something around 1KVA @ 20 v and 500VA @ 10v. Any ideas?

: Please respond with e-mail

: mgreen@tiac.net

Mark

If you only need one of these you might want to think about winding your own. Its not as hard as it sounds and there are a number of articles in past radio magazines issues which I could send you a bibliography on once I get back home to check my files (I'm on the road right now). I have done this a couple of times in the past with good success using and older surplus transformer core as the starting point. Its not as hard as you might think.

Dave
N0DH/7

1799. Re: SL6700

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3odcje$1fk3@info4.rus.uni-stuttgart.de>
Source record: 113100

In article <3oc69p$591@news.isl.net>, Tony Drumm <tdrumm@sparc.isl.net> wrote:
>Has anyone built anything using the SL6700?

Tony,

The device is manufactured by GEC Plessey. They are mostly very good devices
however not exactly cheap an at times difficult to get hold of.
Plessey has a nice data book. Try to contact the US- office at:

1500 Green Hills Road
Scotts Valley
CA 95066

Tel. 408 438 2900
Fax: 408 438 5576

73, Moritz DL5UH

1800. Re: WANTED: Design for Oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: Bill <Bill@survival.demon.co.uk>
Message-ID: <177412194wnr@survival.demon.co.uk>
Source record: 113101

In article: <199505031508550SYSMAS@MVS.OAC.UCLA.EDU>
OSYSMAS@MVS.OAC.UCLA.EDU (Michael Stein) writes:

```
>
>
> Forgot C2, the base bypass for T1:
> >
> > V+ V+ V+
> > | | |
> > | R4 R6
> > | | |
> > R1 +------+ +-----> output
> > | b |c | b |c
> > +----+-----T1 +-----T2
> > | | |e |e
> > | R2 | +----> alternate output
> > | | |-----C1------|
> > C2 | R3 R5
> > | | | |
> > | | | |
> > gnd gnd gnd gnd
>
> This circuit is just a grounded base stage driving an emitter follower..
>
>
--
```


Bill Wright
London
England E-Mail bill@survival.demon.co.uk

Many thanks for the circuit Michael.

Best regards,

Bill

1801. Re: Identifying Toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <3odqk0$j85@ixnews3.ix.netcom.com>
Source record: 113102

In <3ocfrj$m0u@misc1.microserve.net> jackl@pinetree.microserve.com (WB3U) writes:
>
>CNS@psimemphis.COM (C. Nathan Sykes) wrote:
>
>>>Is there any standard the colors which toroids are painted? I am slowly
>>>amassing parts for experimentation and would like to stay organized.
>
>>The ARRL Handbook has a good section on toroids. It tells what the
>>colors mean and how to calculate the number of turns needed.
>
>I might be wrong about this, but I think the color charts you're referring
>to only apply to certain brands. I've got a number of junk-box toroids
>and the colors don't seem to mean anything at all.
>
This is correct. If you don't know where the core came from, don't trust the color. Wind 5-10 turns on it and measure it, either with an LCR meter (a great help for anybody who buys strange stuff), a GDO, or just put it in an oscillator with a fixed C and measure the frequency (another use for general coverage receivers).
Mike

1802. Re: Automatic Antenna Tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <799697099snz@lfheller.demon.co.uk>
Source record: 113103

In article <Pine.HPP.3.91.950503112406.6550B-100000@pmafire.inel.gov>
jackm@pmafire.inel.gov "Jack Mott" writes:

> I have seen several products advertised to include automatic antenna
> tuners. I imagine that these products have some sort of solid state
> mechanization, rather than a servo-controlled variable capacitor. I
> would appreciate any explanations of how these devices work.
>
> Charles Mott (no call sign yet)

I saw one of these units opened up on a bench in the lab at work. It
had lots of relays which are switched by a micro-controller. It was a
few months ago, so my memory could be faulty.

--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

1803. Re: Homebrewing your own cabinet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <799697774snz@lfheller.demon.co.uk>
Source record: 113104

In article <D80vzu.7up@spaceworks.com>
billhar@spaceworks.com "bill harris" writes:

> Forgot to put a subject line on the first posting.
>
> In a earlier posting we learned how to homebrew a transistor. Now here
> is a novel new material to build the cabinet for your new rig using those
> homebrew transistors.
>
> Radio News - February, 1925
> PICTURE: Young man with a radio receiver, approximately 18 inches long
> 5 inches high and maybe 5 inches deep. Five dials on the front panel.
> The finish on the radio has a marbled effect.
> CAPTION WITH PICTURE: Sour Milk was the material employed by Mr. L.
> Abrams of New York City in building the novel set shown above. He
> constructed the cabinet and the dials from sour milk, coloring it with
> dyes before it hardened. Mr. Abrams will gladly pass the formula along
> to any other radio fan.

[deleted]

I think the cabinet would have been made from casein, one of the first
plastics. The raw material for casein actually was milk. BTW, I think
germanium was extracted from soot a long time ago.

1 F capacitors have actually been available for some years. They are
made using an electrolytic process, and are used for memory back-up
sometimes, in place of batteries.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

1804. Re: hpgl from plot to file

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: n7ws@aol.com
Message-ID: <3oe80g$2q6@newsbf02.news.aol.com>
Source record: 113105

In article <3o9tr2$cet@fusaro.ICO.Olivetti.Com> Roberto writes:

>Sorry for posting also here but I know that people reading this group
is probably also using these kind of staff.

>A friend of mine want to get the output of a spectrum analyzer from it
hpib interface and instead of feeding them to an hp plotter (hpgl)
want to drive this output to a DOS PC with an hpib interface and
visualize the output of the instrument on the PC VGA screen buffering
instrument output into a dos file .

>Does anybody know if with the hpib interface there is somebody
including with it some software , I mean program already written that
capture the output of such interface in a file and then let you display
it.<

Roberto:

I'm not particularly fluent with DOS machines with HPIB I/O, but I routinely use many HP instruments controlled with HP computers running HPBasic. I usually buffer/modify the HPGL data from HP8566, HP3577, HP3585, HP8510s, etc. by reading it onto the computer rather than directly dumping from the instrument to the plotter. This way, I can rescale, rotate and annotate the plots.

I don't know much about HPIB cards for PCs. I have an old National Instruments card that I haven't used because the documentation is extremely poor (MHO) and not nearly as friendly as HPBasic. If you have an HP computer, you can get a demo copy of HTBasic which will run on a PC and allow you to read (but not write) HP disks (LIF). This would allow you to get the data via the HP computer and import to a PC for whatever purpose.

Hope this helps.
Wes Stewart, N7WS
n7ws@aol.com

1805. Re: Back up power source, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: (unknown)
Message-ID: <3oecqm$mpn@warp10.smartdocs.com>
Source record: 113106

Just trying to keep this article alive. There is a good project for this in May 95 73 magazine. It does lack some things though. I would think using a small amperage power supply could be used to cycle on and off to charge the batteries and also have a second 20 amp power supply turned on when putting out 100 watts on the HF rig. The 20 amper would be turned on manually. Run off the batteries for vhf if you've got a packet station running. just an idea!
Bud

1806. Re: Automatic Antenna Tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <3oeglilNN8j2@sepia.wv.tek.com>
Source record: 113107

In article <Pine.HPP.3.91.950503112406.6550B-100000@pmafire.inel.gov> Jack Mott
<jackm@pmafire.inel.gov> writes:
>I have seen several products advertised to include automatic antenna
>tuners. I imagine that these products have some sort of solid state
>mechanization, rather than a servo-controlled variable capacitor. I
>would appreciate any explanations of how these devices work.
>
>Charles Mott (no call sign yet)
>

Me too........ Anybody know how we could do this at home?
Thanks,
Ed Burress
KC7GFX

1807. Re:Triple Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9504057996.AA799693560@mails.imed.com>
Source record: 113108

Dave Kirby (G8WRB) asked why there are triple conversion recievers.

Dave:

One reason that you won't see a double conversion from 100MHz first IF to a 500KHz second IF is partly what you surmised. The LO can leak into the first IF even though it is out of band.

Typical high IF filters are called "roofing filters". They are very broad (on the order of several hundred KHz wide) crystal or SAW (surface acoustic wave) filters. They also typically only have a few poles, so the skirt selectivity is modest. The image problem comes back when you move the LO so close to the pass band of the filter. This would especially be true for an IF on the order of 10 KHz.

With crystal filters in the 5 to 10 MHz range "easy" and "inexpensive" to make the only reason to go to a REALLY low last IF is to keep the BFO out of the band of interest. It seems to me that you SHOULD be able to build a sufficiently shielded BFO/detector assembly so that leakage is not a problem. Of course, for a manufactured, unit that translates to added expense. It is easier and cheaper to manufacture if your design doesn't have the potential to interfere with itself because you chose non-interfering frequencies.

Again, in my opinion, the reason you see a lot of the selections made in commercial equipment is to make it easy to manufacture ata reasonable price with reasonable performance. You would design a radically different receiver if ultimate performance were the goal.

Perhaps Zack Lau or Ulrich Rohde are listening in and have some other ideas. They both are much more expert in this field. Look for QST and Ham Radio articles by Ulrich. I also believe he has written a book or 2 on the subject.

Ray Mack
WD5IFS
mack@mails.imed.com

1808. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-05 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <D83B43.Mt5@news.hawaii.edu>
Source record: 113109
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

Please stop suggesting rec.radio.amateur.qrp - there's already a very
fine qrp email list with a high S/N ratio. Last count there were
400 subscribers. Now that doesn't sound like enough to warrant
a newsgroup, does it? In the past 3 years every time a suggestion
was made to shift from an email list to a newsgroup the suggestion
was always vehemently voted down.

If the low-profilers want a group, then why not start an email list?
Such lists are very very successful, for they target a select-interest
group and as a result the noise level is quite low (no flame wars).

With well over 7000 newsgroups some sites may have reached the saturation
point and choose not to subscribe to the new rec.radio.amateur.low-profile.

73 from Hawaii,
Jeff NH6IL

1809. Re: Identifying Toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: anthony@cybernetics.net
Message-ID: <3ogm7m$16h@news0.cybernetics.net>
Source record: 113018

In article <3odqk0$j85@ixnews3.ix.netcom.com>,
mjsilva@ix.netcom.com (michael silva) wrote:
>
>This is correct. If you don't know where the core came from, don't
>trust the color. Wind 5-10 turns on it and measure it, either with an
>LCR meter (a great help for anybody who buys strange stuff), a GDO, or
>just put it in an oscillator with a fixed C and measure the frequency
>(another use for general coverage receivers).
>

It is also possible to identify the type of material the core is made from with a little experience, simply by feel and looks. this method is not 100% but I have been able to indentify using this method at about 90% or better. By doing this you would then be able to understand what frequency each colors are recommended for as well as other information.

1810. NEW HAM RADIO WWW PAGE!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: wb6siv@aol.com
Message-ID: <3ogq6l$kc7@newsbf02.news.aol.com>
Source record: 113019

Check out my new ham radio www page: http://www.csz.com/sarrio.html it just came on line, and will soon be expanded to cover many more ham related topics.

1811. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995May6.193625.13671@arrl.org>
Source record: 113020

W8JI Tom (w8jitom@aol.com) wrote:

: If you do all this you will approach a full size dipole with a small loop.
: One word of caution, people are saying to use TFE piston caps in the loop,
: but TFE is as lossy as Polyethelyne for RF. I removed some TFE piston caps
: from a medical loop and installed flapper caps with air insulation and
: direct connections. The eff went up dramatically (several times).

Is it the TFE or the electrical contact construction on the capacitors
causing the loss? I can see how the ones with thin little wires around
a screw has high loss...
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1812. Ramsey 6 meter kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: curt182@aol.com
Message-ID: <3oh851$nsi@newsbf02.news.aol.com>
Source record: 113021

Help, I'm stuck! Your assistance for a newbie would be greatly appreciate.
Reply to curt182@aol.com

I'm assembling the 6 meter FM transceiver and I'm confused about the
installation of the diodes for the RECV, -RPT, +RPT matrix bridges.

(1) On page Assm. 59, H42c, the RECV row is: []8 []64 []256 []512
[]1K []2K []8K
(the assembly sheet also shows this)

the below H42e's diagram shows 16, 64, 256, 2K, 4K, 8K respectively

If you are going by the holes on p. Assm. 58, H41 illustration it is also
16, 64, 256, 2K, 4K, 8K

Which is it? I'm using 16, 64, 256, 2K, 4K, 8K.

(2) Despite scrutinizing for solder bridges, loose connections, making
sure the diodes are in correct, etc., and going over the whole thing 3
times I still have these problems as well:
a. I have the unit programmed for 52.525 MHz simplex for testing
purposes. But when I turn the set on the transmitter diode lights up and a
carrier, but no audio, is present.
b. No squelch.
c. Intermittently my audio could be heard in earlier testing, now it
doesn't. Voltages at test points seem to be what they should be.

Any help would be appreciated! Despite these problems, I'm having a lot of
fun putting this together!

Thank you for your time and attention.

Curt Sanders (N3TLJ)

Curt Sanders

1813. Re: SL6700

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: Pete Mahy <Pete@mahy.demon.co.uk>
Message-ID: <511186659wnr@mahy.demon.co.uk>
Source record: 113022

The Plessey SL6700 is a pretty good AM receiver IC, it can also be used for SSB modulators and other functions. The only pitty is that Plessey in their infinite wisdom, since being taken over by GEC have discontinued it, about 2 months ago. There are now decent AM ICs available at all! If anyone knows otherwise, let me know.

-- Pete Mahy G4NIS

1814. Re: Automatic Antenna Tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <D84x2o.Ao8@eskimo.com>
Source record: 113023

In article <3oegliINN8j2@sepia.wv.tek.com>, edbu@sepia.wv.tek.com says...
>
>In article <Pine.HPP.3.91.950503112406.6550B-100000@pmafire.inel.gov> Jack
Mott <jackm@pmafire.inel.gov> writes:
>>I have seen several products advertised to include automatic antenna
>>tuners. I imagine that these products have some sort of solid state
>>mechanization, rather than a servo-controlled variable capacitor. I
>>would appreciate any explanations of how these devices work.
>>
>>Charles Mott (no call sign yet)
>>
>
>Me too........ Anybody know how we could do this at home?
>Thanks,
>Ed Burress
>KC7GFX
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
Don Johnson, in his book "40 Years of HF Mobiling" describes an automatic
antenna tuner which I built and found it works quite well. Basically it is
just a phase detector which senses current which is out of phase with the
voltage at the base of the antenna. Depending on which way it is out of
phase, a motor is driven to tune the antenna back to resonance. Today's
rigs are a lot more sophisticated, using a microprocessor to remember the
settings for various frequencies and also adjust C as well as L, but the
basic concept is the same.

QST for October, 1982 has a schematic also.

73, Bill W7LZP

1815. Hand-wound coils for ATUs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <193012780wnr@ifwtech.demon.co.uk>
Source record: 113024

Please can anyone help with some hard data on the Qs of hand-wound coils, such as might be used for antenna tuners?

If you can't use B&W Miniductor (not available in Europe), what's your favorite method of winding large coils for ATUs and PA tanks?

Is there any information on Q degradation caused by using plastic drainpipe (probably PVC) as a former?

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1816. Re: Superhet receiver question. Why a triple conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <3of9k8$b0t@news2.delphi.com>
Source record: 113025

In article <3oba20$dgv@vixen.cso.uiuc.edu>, ignacy@uiuc.edu (Ignacy Misztal) wrote:
>In <D82GxK.32H@proteon.com>, jfw@proteon.com (John Woods) writes:
>>davek@medphys.ucl.ac.uk (Dave Kirkby) writes:
>>>I've heard it said that you should *not* change the frequency in a mixer
>>> by more than about 10:1, so mixing the 100MHz IF with a crystal oscillator
>>> at 100.5MHz, to get a 500kHz second IF would not be sensible. Its more
>>> common to introduce a third conversion stage with a first IF of say 100MHz,
>>> a second of 10MHz and a third of about 500KHz.
>>
>>>Clearly a double superhet would be cheaper/easier than a triple, so what is
>>> the reason for not changing from 100MHz to 500kHz in one go? Why convert to
>>> 10MHz first?
>>
>>That's one problem, which can be avoided by good balanced mixers. Much harder
>>to avoid is failing to receive the 99.5MHz image frequency. LC circuits with
>>60dB of suppression outside a 1% width just aren't physically practical.
>>And in a typical HF rig that converts up to 100MHz, the first IF is 30MHz
>>wide, meaning your image frequency is guaranteed to show up in the passband.
>
>Crystal filters at 70MHz could be quite narrow (15KHz), and then the
>image poses no problem. I have a feeling that one company (perhaps
>JRC) uses a direct 70MHz to 455 KHz conversion.
>

Crystal filters at 70MHz and higher are not all that temperature stable. You do
not want to try to generate a 100dB image rejection with such beasties as you'd
need to cascade several. As temperature varied your filter shape would degrade
giving you excessive losses in yuur first IF.

>Ignacy Misztal Ham radio: NO9E, SP8FWB
>E-mail: ignacy@uiuc.edu
>University Of Illinois 1207 W. Gregory Dr., Urbana, IL 61801, USA
>tel. (217) 244-3164 Fax: (217) 333-8286
>
{^_^} Joanne Dow, jdow@bix.com The Wizardess

1817. Re: Superhet receiver question. Why a triple conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <3of9l5$b0t@news2.delphi.com>
Source record: 113026

In article <D82GxK.32H@proteon.com>, jfw@proteon.com (John Woods) wrote:
>davek@medphys.ucl.ac.uk (Dave Kirkby) writes:
>>I've heard it said that you should *not* change the frequency in a mixer
>> by more than about 10:1, so mixing the 100MHz IF with a crystal oscillator
>> at 100.5MHz, to get a 500kHz second IF would not be sensible. Its more
>> common to introduce a third conversion stage with a first IF of say 100MHz,
>> a second of 10MHz and a third of about 500KHz.
>
>>Clearly a double superhet would be cheaper/easier than a triple, so what is
>> the reason for not changing from 100MHz to 500kHz in one go? Why convert to
>> 10MHz first?
>
>>Perhaps its because the 100.5MHz oscillator could leak into the 100MHz IF
>> chain. That my best guess, but would appreciate any comments.
>
>That's one problem, which can be avoided by good balanced mixers. Much harder

Balanced mixers help. They do not solve. Balanced mixers you can generate economically typically have a "balance" of about 40dB. (LO and signal leakages are 40dB down from the converted signal - roughly.) This also does nothing for the image frequency rejection at 1MHz away from your desired signal. Even this is "difficult" to filter to an acceptable degree at 1% away from the desired signal, even with reasonable crystal filters.

>>In a research project that is occuring in my university department (nothing
>> to do with superhet receivers), a colleague mixes 200.000MHz and 200.010MHz
>> to produce an IF of 10KHz. I'm not aware of any problems wth this.

This ought to work "reasonably" well as long as your collegue has considered all aspects of spurious conversions. (Usually you can get away with this if there are only the one signal and one LO frequency, say in a frequency synthesizer loop or a frequency comparator. In the synthesizer case - watch for the image, of course.)

>
>>In an HF receiver (2-30MHz) with the typical IF's of 10.7MHz and 455KHz,
>> the conversion from 10.7 to 455 requires an oscillator at 10.225MHz, which
>> falls in the coverage range of the receiver, I doubt its possible to receive
>> anything other than the internal oscillator on 10.225MHz.
>
>If the IF chain is in a sealed box, leakage from the internal oscillator can
>be kept to a reasonable level.

You DO want to filter the begeezus out of it and place the IFs in a very well shielded sub-enclosure.

>
>> If however the first IF was at 100MHz, and the second at 455kHz this
>> problem would not exist.
>
>This would present insurmountable image problems.

One other advantage a third IF can give comes from lower gains at any given frequency. This makes avoiding regeneration in the IF a lot easier. (However my old "dream receiver" used up-conversion to the 150MHzish range with a mono-lithic crystal filter at the first IF for a "roofing filter." Then I down-converted to 9MHz for the final IF. Since crystal filters at 9MHz are stable enough to be used as the entire receiver selectivity (in two chunks of course) there was no huge reason to go to the trouble of a second conversion. Of course the second IF's output had to be *VERY VERY* well shielded from the rest of the receiver lest there be a humdinger of a birdy at 9MHz. NB: The frequency synthesizer also had to be very well shielded from the rest of the system as some of its internal frequencies and harmonics were within interesting signal ranges. But such shielding is entirely possible, if expensive. (Which reflects on why some of the REALLY good receivers are somewhat "expensive" once you tack on profits and margins and the like for manufacturer, levels of distributor, and sales outfit.)

(Example that the shielding IS possible: There is a box on the GPS satellites. It accepts 10.23+delte Mhz input from any one of N sources. It contains three parallel frequency synthesizers for ultra reliability. The outputs are all in common and feed a pair of buses feeding each module on the satellite with 10.23 + epsilon MHz. In order to meet the specification for phase noise this silly puppy, with step size on the rough order of one part in 10^13th (no fooling) had to have at *LEAST* 100dB input to output isolation at 10.23Mhz. I told the designers to design goal at 120dB and hope for 100dB because at 80dB it was so far out of bed that "fer shure" even the DoD inspectors would see it. To his credit the actual hardware designer took my block diagram and produced such a device. I'd suggested a large (I mean *LARGE*) number of grounding wires. He designed them in. It worked..... Then production tried to "value engineer" the puppy. They took out most of the ground wires. They did not get it working until they very carefully replaced nearly all the ground wires from the substrate to the expensively hogged out cavity in which it was installed. So it CAN be done; but, you REALLY REALLY have to do your grounding and shielding analysis.)

{^_^} Joanne Dow, jdow@bix.com The Wizardess

1818. Re: SL6700

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: tom.alldread@kbsbbs.com
Message-ID: <9505061820434691@kbsbbs.com>
Source record: 113027

Greetings Chuck:

>The SL-6700 is made by Plessey. I think I started building a noise blanker
>using one years ago but never got around to using it. Pretty sure I had a
>couple of them still around. If you need them and or copy of spec sheet let
>know.

I would like to know where one can get some SL-6700s in small
quantities? I am very interested in this chip but I don't know of a
North American supplier that will sell them in small quantities.

73 de VE7TMA

---
* QMPro 1.53 * Very Best Regards, tom.alldread@kbsbbs.com

1819. hamcomm 3.0 interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: rick@coffey.com
Message-ID: <3oeovo$1pr@news.tcd.net>
Source record: 113028

I have been trying to get the hamcomm interface to work, but with not much success.
If anyone has put this thing together and got it working, I would
appreciate some guidance..TNX N7SEH

1820. 1750 m experimenters band

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: ezeran@powergrid.electriciti.com
Message-ID: <3oevsc$bsu@arc.electriciti.com>
Source record: 113029

I saw articles posted on Boatanchors about the 160-190kc experimenters band ,1750m? Do any homebrewers have any info or experience here that could be passed along? Thanks up front ! Ive spent alot of time with wave guide and fiber optics so this would be my 1st shot below 500kc since the Navy.

1821. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: richardm@zeta.org.au
Message-ID: <3oecr5$43c@godzilla.zeta.org.au>
Source record: 113030
Cross-posted to:
news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

How about rec.radio.amateur.covert? :-)

The point of the low-profile argument is that you don't want everyone knowing that you're an Amateur (whether it's because you're contravening apartment regulations, or to avoid drawing the attention of burglars etc.) Mind you, the "covert" also suggests clandestine third-world stations...

73 Richard VK2SKY

PS: I've taken 'space' and 'policy' off the newsgroups line

1822. 4$ale: 18 GHz Wattmeter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: bmork@comtch.iea.com
Message-ID: <3ogvud$kpt@krel.iea.com>
Source record: 113031
Cross-posted to: rec.radio.swap,sci.electronics,rec.radio.amateur.homebrew

!Brand New! Wavetek Model 1034A Microwattmeter, sn #1810024, and
a Model 13780 (1 MHz to 18 GHz) Power Sensor probe, sn#14-1713.

The 1034A has a mirror-backed 4.5" meter, indicating power on three
scales: from below -40 up to +10 on a dBm full scale, -11 to 0 dB, and 0
to 1. Eight switchable decade ranges go from below 10nW (-50dBm) to 10mW
(+10dBm). Front panel zero and +10 dBm calibration outputs are available.
A calibration factor adjustment nulls the meter and adjusts +-1 dB to
account for the sensor probe.

The unit is in a flip-top gasket sealed grey metal case. In the flip top,
the power cable and probe are stored. It runs on built in NiCd batteries
or the power cable. Packed up and ready to go, the unit is 9" x 6" x 8",
and weighs 10 lbs. Batteries and the probe check 100% operational.

Knobs, button, etc include: the meter, a 50/75 ohm selector switch,
115v (50-400 Hz) plug in, fuse, power button, calibration factor, 1.1v fs
output that corresponds to the meter reading, a calibration output, the
probe input, and 10 push button switches.

Frequency ranges and accuracy specs for probes, plus calibration data are
included on a custom printed calibration sheet for this meter/probe combo.
Two brand new Operation and Shop Maintenance Manuals are included.

The military paid $1202.00 for this unit back in 1988, and never used it.
I'm asking for $295, and I'll pay postage. Email or call 509-244-3764.

--
Brian J. Mork, InCrea (TM) - Pacific Northwest, Voice 509-244-3764
bmork@comtch.iea.com / ARO ka9snf@ka7fvv.#ewa.wa.usa
USMail 6006-B Eaker, Fairchild, WA 99011

1823. Re: Flame

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: selin@admaix.sunydutchess.edu
Message-ID: <3oehu2$1p92@admaix.sunydutchess.edu>
Source record: 113110
Cross-posted to: rec.sport.rowing,rec.sport.pro-wrestling,rec.sport.paintball,rec.sport.golf,rec.sport.football.pro,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.music.reggae,rec.music.phish,rec.music.newage,rec.games.video.nintendo,rec.games.vide

:
:o.misc,rec.games.video.marketplace,rec.games.chess,rec.games.bridge,rec.games.bolo,rec.bicycles.rides,rec.bicycles.racing
:Followup-To:
:rec.sport.rowing,rec.sport.pro-wrestling,rec.sport.paintball,rec.sport.golf,rec.sport.football.pro,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.music.reggae,rec.music.phish,rec.music.newage,rec.games.video.nintendo,rec.games.vid

:
eo.misc,rec.games.video.marketplace,rec.games.chess,rec.games.bridge,rec.games.bolo,rec.bicycles.rides,rec.bicycles.racing
References: <3oe0s9$4s1@alterdial.UU.NET>
Organization: Dutchess Community College
Distribution:

mail00320@pop.net wrote:

: To whom it may concern:
:
: Plus any kind of totally wacko letters you might run across.

As a netizen I have to say this, with a smiley face.

Someone is on a fishing trip.
Is it the FBI?
the CIA(not the Culanary institute of America in Poughkeepsie N.Y.)
the NSA? (Oh god I hope they don't get into this)
UNCLE(they do exist at the UN last I herd, drug people)
INTERPOL?
Naaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa ;-)
It's this modern world.
King Crimson is recording again. 21st century schizoid man.
Cats foot
iorn claw.
da da da da
nothing at all.
21 century schizoid man>>>>>>>>>>

J.S. Just in case,,,, I hope you understand. WE must play fair, no
cheating, like a fishing tournament, rules and judges....

1824. Re: Flame

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: mskinner@julian.uwo.ca
Message-ID: <3oeo61$ftp@falcon.ccs.uwo.ca>
Source record: 113111
Cross-posted to: rec.sport.rowing,rec.sport.pro-wrestling,rec.sport.paintball,rec.sport.golf,rec.sport.football.pro,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.music.reggae,rec.music.phish,

In article <3oe0s9$4s1@alterdial.uu.net>, <mail00320@pop.net> wrote:
>LISTEN UP! You owe me. I don't want to exact my pound of flesh--I just
>want what's coming to me.

OK, you are an idiot. Have a nice day.

(Nothing personal, of course)

>Plus any kind of totally wacko letters you might run across.

Well, there was this 'To whom it may concern' spam...oh, wait, you
already know that one.

--

DISCLAIMER: I had nothing to do with this message...I must have left my
terminal unattended or something.
(ALIHTATTPSAAIM.S)

1825. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: n0dh@comtch.iea.com
Message-ID: <3ofsbt$fem@krel.iea.com>
Source record: 113112
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

amsoft@epix.net wrote:

: The World of Ham Radio CD-ROM MAY 1995 issue is now available.
: For more information contact amsoft@epix.net or the new AmSoft
: WWW site at: http:/hamster/business.uwo.ca:80/~amsoft/

: Pete, KC3TL voice: 717-938-8249 fax: 717-938-6767

Pete

you guys just don't get it do you......you didn't get enough flames the
last time you used the rec.radio.****** bandwidth for commercial ads?

:-(
N0DH

1826. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: ssampson@icon.net
Message-ID: <ssampson.18.0016192F@icon.net>
Source record: 113113
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <3ofsbt$fem@krel.iea.com> n0dh@comtch.iea.com (D.C. Henderson) writes:
>you guys just don't get it do you......you didn't get enough flames the
>last time you used the rec.radio.****** bandwidth for commercial ads?
> N0DH

You're whining.

1827. Help With ZEPP type antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: sstutts@usit.net
Message-ID: <3ofd4k$eua@news.usit.net>
Source record: 113114

A friend of mine is trying the construct an ZEPP type antenna. He has
all the measurements exept the "offset for the tuning stud" or something like
that (it is all greek to me). Any help would be greatly appreciated.

Thanks in advance

1828. Amatuer "HOW TO" VIDEOS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: n4da@mindspring.com
Message-ID: <n4da.236.000BDA2D@mindspring.com>
Source record: 113115

Hello allow me to introduce myself. I am Milton Lord the "Radio Doctor". I can assist amateurs with their technical problems through the use of my instructional videos and 22 years of experience in repairing RF communications equipment.

I have owned and operated a business called HAM REPAIR CO. for over 10 years. With my experience both repairing amateur radio equipment and instructing amateurs I have compiled 25 amateur radio instructional videos.

These instructional videos are designed to give you a better understanding of the technical aspects of your amateur radio equipment.

Whether your desire is a better understanding of packet or the IF alignment of a Yaesu 101 you can find the help you need in one of these instructional videos.

Recently the videos were evaluated by WB6NOA Gordon West and printed in 73 magazine. Mr. West had the following to say.....

.....And Lord knows what he's doing-you see every step in disassembling and reassembling printed circuit boards, and he gives you valuable hints on how to keep from accidentally ripping out solder traces, or inadvertently shorting something out when you accidentally lay the fold-out board down incorrectly.

After screening all of his videos, including a powerful set of tapes that describe how to tune up a kilowatt amplifier, how to pull packet RX out of most mobile 2 meter transceivers, and why the proper ALC settings are important to good linearity, I was convinced we really have someone sincere about producing good videos for getting things done, as opposed to simply a lot of videos to turn a quick buck. He works on these rigs on a daily basis and you can tell it by watching his techniques.

"HAM REPAIR CO."
Kennesaw, Ga.
(404) 422-1415

Specializing in the repair of assorted Ham Radio Equipment.

I would like to invite you to visit my web page where extensive information may be obtained about each video and other services my company provides at the following address...

http://www.mindspring.com/~n4da/top.html

1829. Eggbeater Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: dave@intnet.net
Message-ID: <3ofqmd$pi5@zeus.IntNet.net>
Source record: 113116

Hi all,I'm looking for info on how to build an eggbeater antenna. I'm looking to build something in the 145,550 range as I would be using it primarily for the shuttle and Mir. I have the ARRL antenna book but it dosen't give much info on them. Any info would be appreciated.
Thanks, Dave
You can send any info directly to me at dave@IntNet.net

1830. WANTED: Transistor Specs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-06 00:00:00 UTC
From: rtyo@en.com
Message-ID: <3oftmo$6qp@antares.en.com>
Source record: 113117

I am searching for transistor specs for two MOSFET devices used in the front-end of the Kenwood TS-820S. They are: 3SK35 and 3SK41. If anyone has any pointers on where I can find such specs, I would greatly appreciate it.

73's,
-- Rick (KC8L)

****
* *
* Rick Tyo 73's /-/-/-/ -.. . *
* rtyo@en.com DE KC8L | -.- -.-. ---.. .-.. *
* | *
****

1831. Creator of REC.RADIO.AMATEUR.LOW-PROFILE!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: Adam O'Donnell <adam@libertynet.org>
Message-ID: <3oh66v$l28@netnews.upenn.edu>
Source record: 113032

Hello there!

I am the creator of the newsgroup.
You will be able to vote for it in less than one week.

Once Friday rolls along, I will post a Call For Votes, or CFV.
In there there will be all the necessary information on how to
vote for the newsgroup.

Thank you and I hope that you vote yes.
Reminder: If voted down, I will have to wait 6 MONTHS to re-propose
the idea. It is too late now to change the name. I asked about the
name about 2 months ago and the majority said "LOW-PROFILE".

Please vote yes!

72, 73
Adam O'Donnell, N3RCS

1832. Re: Automatic Antenna Tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <60c_9505070430@mba.mba.org>
Source record: 113033

edbu@sepia.wv.tek.com (Ed Burress) in replying to someone else's post asking how automatic antenna tuners work, wanted to know how to do this at home.

Over the years, there have been automatic antenna tuners described in the various ham magazines. I don't have any references at hand, but they are out there. I think maybe they've tended to be for a single band at a time, though I might be forgetting, and would tune things properly as you tuned across the band, but when you changed bands you'd have to do something else to move things to that band. Just like getting out of your car and changing the trap on a mobile antenna.

Automatic antenna tuners are basically a servo loop. SOme sort of sensor is placed in the coax to the antenna, and the output of it goes to a controller that tunes the variable capacitor. I guess there are a number of things that could be sensed. Say it watched SWR (and I do not know if that is what is being watched); when the sensor read lowest SWR, the controller would stop and so would the variable capacitor, and the thing is tuned for lowest SWR.

Some of the commercial tuners probably cover the whole Shortwave band, from 3 to 30 MHz. Most manual tuners would require a change of inductance and maybe even capacitance over that range, so these tuners probably would have relays to switch capacitors or taps on a coil. With the ham bands only, though, one could either get some information from the bandswitch of the rig (don't they now have such information on a plug on the back?), or be stepped manually, have simple band pass filters and detectors that would see what band you are transmitting on, and move the inductors and/or fixed capacitors to the right combination for that band.

I recall reading in an ad for one of the commercial automatic antenna tuners that there was a microprocessor inside, complete with memory for selected frequencies (or something like that). That must be a much fancier controller, which measures frequency inside a given band.

I hope this is a start.
Michael VE2BVW
--
| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly thier own.

1833. re: Eggbeater Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <60d_9505070430@mba.mba.org>
Source record: 113034

dave@intnet.net (Dave Zalaback) wants to build an eggbeater antenna for about 145.5 MHz, for Shuttle and Mir use.

I don't know what the ARRL Antenna Book has on eggbeaters; I just checked mine (16th edition) and I don't see them mentioned in the index.

But this was an easy one. The only time I've actually noticed an eggbeater antenna article was in the very first issue of QST that I ever saw. April, 1971. There on page 44 is an article by Dave Thornborg and Les Kramer entitled "The Two-Meter Eggbeater". Contact the ARRL. Either you can get the whole issue, or they will photocopy the article for you for a small fee.

Michael VE2BVW
--
| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly thier own.

1834. Re: A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: "Neil A. Gjere" <ngjere@skypoint.com>
Message-ID: <3ohis1$a23@stratus.skypoint.net>
Source record: 113035

beltrani@aloha.com (Paul Beltrani) wrote:
>jmhill@duck.WPI.EDU (Jonathan M Hill) wrote:
>>Hello all;
>> I am a member of the ham radio club at Worcester Polytechnic Institute
>>in Massachusetts. Sorry, I am not offering a transceiver, actually
>>I am looking for information regarding a transceiver.
I'm not sure about used RADAR detectors, however there is a
gentleman
>in CT that sell Gunn oscilators for $25 a pair.
>
>Those interested can e-mail me for more info.
>
> Paul, AH6NU
> beltrani@aloha.com

I would be interested in this persons name and address etc...

73s

Neil N0PFZ

1835. Re: Help-PLL VCO Minicircuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: agtss@tibalt.ab.ca
Message-ID: <3ohs8s$ggu@tibalt.supernet.ab.ca>
Source record: 113036

In article <3o13jd$fm6@news.ais.net>, mfranks@eagle (Michael Franks) says:
>
>Need info on desisigning PLL to cover 47-77 Mhz. Would like to use
>minicircuits new VCO which covers 37-75 Mhz. I am new at PLL techniques
>and would like rudimentary info on designing a simple PLL that would
>do the job...Tnx
> Please respond via Email mfranks@ais.net 73 de WB9EZB

The topic of PLL's is a big one and can get quite complex depending on how thorough you want to be and how tough the problem is. With the VCO you'll need a phase comparitor, possible programmible divider(s) and ref OSC and low pass filter. Motorola, National, Plessey, among others make IC's that do a lot of the work for you. They also have application notes on PLL's which are worth reading.

There are also a couple of very good books on the topic such as PHASE-LOCKED LOOPS by R. BEST, DIGITAL PLL FREQUENCY SYNTHESIZERS by U. Rohde and PHASELOCK TECHNIQUES by F. Gardener.

GOOD LUCK!
I would recommend
reading the application
>

1836. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: rwilkins@ccnet.com
Message-ID: <3ojvhc$605@ccnet3.ccnet.com>
Source record: 113037
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

KC3TL (amsoft@epix.net) recently wrote in <3odnf4$60b@grape.epix.net>:
:
: #####
: ##########
: ##### o)(o
: #C# _>
: \ ___/ /
: | / __/
: /____\ / //

Hi pete

I could not find a search feature on your web page. There was a long unformated list or index. The folks at QRZ cd-rom have a callsign look up search and they have lots of amateur radio files and programs to down load.

Please provide a service to this amateur community. QRZ does not advertize here....every one links to them on the web! There is room to compete with out filling every radio news group with pointers to your off shore order form. Is it a secure server for credit card info?

--
Bob Wilkins work bwilkins@cave.org
Berkeley, California home rwilkins@ccnet.com
94701-0710 play n6fri@n6eeg.#nocal.ca.usa.noam

1837. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3ojkhh$a05@solaris.cc.vt.edu>
Source record: 113038
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

In article <3oes7o$909@newsbf02.news.aol.com>,
doublehop@aol.com (Doublehop) wrote:
>Catch the interest, INDEED. I not (yet) a ham, but intend to get
>licensed within a year and am earnestly reading everything I can find on
>antennas. This group will likely maintain itself.
>
>73
>Jeff Malone
You're getting closer. The key to 'low-profile' operation is antennas.
Everything else is easily hidden. But the antenna has to be
electromagentically exposed to the whole world, but visibly hidden from your
neighbors. Quite a dicotomy. I think the terms 'secret', 'covert' or perhaps
'hidden' best describe this type of operation rather than 'low-profile.'
Definitely not 'QRP', as this is already well-developed as its own specialty,
and covert stations may be medium or high power if desired. The best antennas
for QRP use are very high-profile, so there would be an immediate conflict in
trying to include this topic in with the QRPers.
-Mike KD4QDM

1838. Re: Wide tuning range VFOs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950507092757.9715D-100000@pmafire.inel.gov>
Source record: 113039

[Spelling/grammatical errors cleaned up from previous posting - Sorry]

I was wondering about a recent QST article (by Rohde) where he talks about using a PLL to follow up a DDS, mainly for the purpose of lowering spur levels. If one were to use a divider before phase comparing with the DDS, then it is conceivable a DDS with 20 MHz tuning range could be used to tune a VFO over 0.5 to 1 GHz, for instance, assuming a VCO with octave bandwidth. This seems a lot more convenient than using a bunch of strange divide ratios combined with several switchable crystal references.

I am sure that this has been thought of before, and it may have even been in Rohde's article (although I thought his PLL was running at the same frequency as the DDS), but I am curious as to what others might think.

Charles Mott

1839. Wide tuning range VFOs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950507091451.9715C-100000@pmafire.inel.gov>
Source record: 113040

I was wondering about a QST article (by Rohde, I Rohde) where he talks about using a PLL to follow up a DDS, mainly for the purpose of cleaning spurs. If one were to use a divider be fore comparing with the DDS as a phase reference, then it is conceivable a DDS with 20 MHz tuning range could be used to tune a VFO over 0.5 to 1 GHz, for instance, assuming a VCO with octave bandwidth. This seems a lot more convenient than using a bunch of stange divide ratios combined with several crystal references.

I am sure that this has been thought of before, and it may have even been in Rohde's article, but I was wondering what others might think about this.

Charles Mott

1840. Re: Wide tuning range VFOs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: Matt Reilly <mhr>
Message-ID: <3oj131$ll4@news.iii.net>
Source record: 113041

Jack Mott <jackm@pmafire.inel.gov> wrote:

1841. Re: hamcomm 3.0 interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: gmason@iadfw.net
Message-ID: <3oir0d$17q@news.iadfw.net>
Source record: 113042

In article <3oeovo$1pr@news.tcd.net>, rick@coffey.com says...
>N7SEH

Yes I use the circuit ant the software...What seems to be your problem?
Pse E-MAIL me direct so I can get to you directly. Gene KZ5V

1842. Need a manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: n7ws@aol.com
Message-ID: <3oj4ob$5uj@newsbf02.news.aol.com>
Source record: 113043

I'm looking for a source for a "Surplus Radio Conversion Manual" (at least
that's what I remember) that includes the BC342 receiver. Will buy, pay
to copy, or whatever.
Wes Stewart, N7WS
n7ws@aol.com

1843. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3ojagk$7cp@newsbf02.news.aol.com>
Source record: 113044

The FCC defines PEP as "the average power supplied to the antenna transmission line by a transmitter during one RF cycle at the crest of the modulation envelope taken under normal operating conditions".

The FCC allows 1500 watts PEP output on all modes. In order to operate with full legal power an amplifier has to produce 1500 watts PEP, or 1500 watts of short term steady carrier output. Almost any amplifier produces slightly more PEP output than long term carrier output because the power supply sags slightly on sustained carriers. If you load your amplifier up to 1200 watts on CW and flip over to SSB, you may see 1500 watts PEP without undue distortion.

Peak envelope power (PEP) is often misunderstood. To show how far reaching this problem is, in the mid-eighties Nye Viking actually designed and calibrated some meters in tuners to indicate 1.414 times the average power when flipped from the average to the peak position!

I'm not aware of ANY meter that can absolutely determine this power on amplitude changing modulation modes like SSB or AM. But some do an almost perfect job on voice (the most expensive Bird, Coaxial Dynamics, and H-P meters), some are fairly good but not totally accurate on voice (the Bird 43P), and many are relatively poor to pretty bad. The poorest ones mostly include meters in antenna tuners (even the bar graph meter displays) and the one hundred dollar or less amateur radio type wattmeters. When calibrated on a CW carrier and used to read voice, these meters seem to read anywhere from 60 to 90% of true PEP.

PEP has no definable association to sine wave or root-mean-square (RMS) power on amplitude changing forms of modulation (ie. SSB, DSB, AM, etc.). It has no fixed ratio to the average power on these modes. You can not use a formula to convert between average and peak voice waveform power on these modes.

PEP is the effective (useful) power at the crest (highest point) of the RF envelope. On SSB, the average power can vary from a few percent of the PEP to over fifty percent of the PEP. Generally, the PEP on SSB is two to five times greater than the average power. On CW (without envelope keying waveform abnormalities) or on other constant amplitude modes (such as FM or RTTY) the PEP is exactly equal to the average power any meter will show.

FCC standards require, if viewed on a scope, that the highest peak sine wave RF cycle voltage transmitted be multiplied times .707 before any E sqrd over R calculations are done. The highest single RF cycle determines the real peak envelope power.

1844. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3ojb4l$7h0@newsbf02.news.aol.com>
Source record: 113045

>Is it the TFE or the electrical contact construction on the capacitors
>causing the loss? I can see how the ones with thin little wires around
>a screw has high loss...
>--
>Zack Lau KH6CP/1

It definately is the Teflon. Teflon is no better than polyethelyne for losses, it just has better physical performance. For example, look up the electrical performance of PTFE insulated coaxial lines, they duplicate the style of standard solid dielectric lines. With no other changes, placing PTFE or any other material in the high voltage, high current path of a small loop antenna (between the plates) any materal other than air or a vacuum substantially reduces the Q and performance of the antenna.

1845. Re: Trouble Tuning up with Ladder Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3ojb8d$7ic@newsbf02.news.aol.com>
Source record: 113046

It's just as likely you may need a 1:1 balun, or a backwards ratio balun. Depending on the length of the feedline and the antenna, the impedance can be anywhere from a few ohms to many thousands of ohms. The reactance may also be outside the tuners range! What are the dimensions of the antenna and the feedline length?73 Tom

1846. Re: Homebrewing your own cabinet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: billhar@spaceworks.com
Message-ID: <D88A4B.n04@spaceworks.com>
Source record: 113047

Leon Heller, G1HSM writes:

>I think the cabinet would have been made from casein, one of the first
>plastics. The raw material for casein actually was milk. BTW, I think
>germanium was extracted from soot a long time ago.

Interesting!

>1F capacitors have actually been available for some years. They are
>made using an electrolytic process, and are used for memory back-up
>sometimes, in place of batteries.

This is true. But in 1925, a couple of strips of tinfoil, some paper for insulation, a piece of cardboard tubing, and some bees' wax was about the state of the art for capacitors. Can you imagine what a 1 farad tubular cap using that technology would be? I doubt both of us could carry it away.

Bill - K5MIL

1847. Re: Need a manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3ojkmk$rbq@misc1.microserve.net>
Source record: 113048

n7ws@aol.com (N7WS) wrote:
>I'm looking for a source for a "Surplus Radio Conversion Manual" (at least
>that's what I remember) that includes the BC342 receiver. Will buy, pay
>to copy, or whatever.

Hi Wes,

You're correct about the title. The BC-342 is in Volume 1, which is the only one I have. I'll be glad to send a photocopy copy of the info if you will forward your snail mail address.

73, Jack WB3U
jackl@pinetree.microserve.com

1848. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995May7.231258.3814@arrl.org>
Source record: 113049

W8JI Tom (w8jitom@aol.com) wrote:
: >Is it the TFE or the electrical contact construction on the capacitors
: >causing the loss? I can see how the ones with thin little wires around
: >a screw has high loss...
: >--
: >Zack Lau KH6CP/1

: It definately is the Teflon. Teflon is no better than polyethelyne for
: losses, it just has better physical performance. For example, look up the
: electrical performance of PTFE insulated coaxial lines, they duplicate the
: style of standard solid dielectric lines. With no other changes, placing
: PTFE or any other material in the high voltage, high current path of a
: small loop antenna (between the plates) any materal other than air or a
: vacuum substantially reduces the Q and performance of the antenna.

I looked up Teflon and it has a loss tangent around 0.00015, which
means that you can expect a capacitor Q of around 6600, if the loss
is only due to dielectric losses. By comparision, Jennings says
"typically in the order of 1000 or 5000 or higher" for their vacuum
capacitors. Teflon circuit board is quite a bit worse with a loss
tangent around 0.0011. Those circuit board makers have to worry
about things like dimensional stability...

In contrast, the (loaded) Q of a 3 ft diameter loop is "only" about
600 at 21 MHz...
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1849. MANUAL WANTED FOR RACAL FREQ. METER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: David Bindle <bindle@duke.usask.ca>
Message-ID: <Pine.OSF.3.91.950507214126.27011A-100000@duke.usask.ca>
Source record: 113050

I'm looking for a manual or a copy for a Racal 100 Mhz. digital freq.
meter, model 801R. I'm wanting to expand it to 600 Mhz. Anyone out
there know where to get such a beasty?
Ken Bindle/VE5KRB or Bindle@Duke.USASK.CA

1850. VHF beam antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-07 00:00:00 UTC
From: altman@PROBLEM_WITH_INEWS_DOMAIN_FILE
Message-ID: <3oinao$vt@osceola.cs.ucf.edu>
Source record: 113051

I'm relatively new to ham radio (and am having a ball!), and am currently beginning to homebrew a simple 3 element beam for 2m. I am working from "All About VHF Amateur Radio", by William Orr, W6SAI (a good book, BTW). His design calls for 3/32 to 1/8 inch aluminum rods for the parasitic elements, and 7/16 inch tubing for the driven element.

The problem is that I don't yet clearly understand which things are critical and which are more forgiving. For example, if I use 3/8 or 7/16 inch rods (which I happen to have on hand) how does that affect other parts of the design? Does it affect the lengths or spacings of the elements? Does it affect impedence matching or line balance? At that diameter, do I need to worry about end conditions?

Also, since this antenna will be protected from the weather by being mounted in the attic (yeah, homeowner's association), will it reduce interference to build the boom and mast out of wood? Does this affect the design?

Obviously, I could just go out and buy the parts as spec'd and put it together, but the goal is to learn something along the way.

All comments and suggestions are welcome. Thanks.

73,
-Marty, KE4WCA

1851. Re: Retuning Surplus Microstrip Circuits fo the Amateur Bands

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: stevebragg@aol.com
Message-ID: <3ommis$3d2@newsbf02.news.aol.com>
Source record: 112918

Kerry,

I'd be very interested in getting your paper. I've been working with
microstrip
at 1296 for about three years now, and new techniques are always welcome.

-- Steve KA9MVA

1852. Re: Beep at end of xmission--how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: Charles.Mccurdy@f1492.n106.z1.fidonet.org
Message-ID: <5e0_9505082258@woodybbs.com>
Source record: 112919

Hi what you need that beep for the 2meter repeaters all ready have that and iv never heard of a ham haveing that on 2meters.

--
|Fidonet: Charles Mccurdy 1:106/1492
|Internet: Charles.Mccurdy@f1492.n106.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

1853. Repeater on the NET!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: Charles.Mccurdy@f1492.n106.z1.fidonet.org
Message-ID: <5e1_9505082258@woodybbs.com>
Source record: 112920

Hi do you got that info about the homemade repeater on .txt files if so i would like to get it or you can send it to me buy netmail at 1:106/1492 ok bye.

--
|Fidonet: Charles Mccurdy 1:106/1492
|Internet: Charles.Mccurdy@f1492.n106.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

1854. Repeater on the NET!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: Charles.Mccurdy@f1492.n106.z1.fidonet.org
Message-ID: <5e2_9505082258@woodybbs.com>
Source record: 112921

Hi do you got that info about the homemade repeater on .txt files if so i would like to get it or you can send it to me buy netmail at 1:106/1492 ok bye.

--
|Fidonet: Charles Mccurdy 1:106/1492
|Internet: Charles.Mccurdy@f1492.n106.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

1855. Re: SL6700

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: tdrumm@sparc.isl.net
Message-ID: <3omog7$kh2@news.isl.net>
Source record: 112922

In article <9505061820434691@kbsbbs.com>, tom.alldread@kbsbbs.com says...
>
> I would like to know where one can get some SL-6700s in small
>quantities? I am very interested in this chip but I don't know of a
>North American supplier that will sell them in small quantities.
>

A friend gave me a copy of a page from DC Electronics (800-467-7736 or
800-423-0070) which is where I saw the SL6700. $11.95 is the price
shown.

Tony - AA0SM

1856. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995May8.233149.30003@arrl.org>
Source record: 112923

W8JI Tom (w8jitom@aol.com) wrote:
: >I looked up Teflon and it has a loss tangent around 0.00015, which
: >means that you can expect a capacitor Q of around 6600, if the loss
: >is only due to dielectric losses. By comparision, Jennings says
: >"typically in the order of 1000 or 5000 or higher" for their vacuum
: >capacitors. Teflon circuit board is quite a bit worse with a loss
: >tangent around 0.0011. Those circuit board makers have to worry
: >about things like dimensional stability...

: I think we have over-simplified the problem. Remember that I compared the
: same style of capacitor with air, PTFE, polystyrene, and polyethelyne. The
: air was noticably better in this application.

: No way is ANY solid dielectric capacitor as good as 6000. Besides, using
: your method the therotical Q of a vacuum cap is infinite!

I looked in the catalogs of Dielectric Labs and American Technical
Ceramics and both sell chip capacitors with Qs in excess of 6000 at HF.

: I'm not positive we are using the same definitions of "loss tangent". I
: assume you are using the "tangent of loss angle". It is the power loss of
: the dielectric divided by the reactive power intensity in the dielectric
: with a sinusoidal voltage at the operating frequency.

: If so, the dielectric factor of PTFE is 2.1. With materials having
: identical "loss tangents" but one having a dielectric factor 2.1 times
: higher, the losses would increase 2.1 times. This is because power density
: would increase 2.1 times with the same value of capacitance. That does
: not include the detrimental change in "loss tangent" when PTFE is
: substituted for dry air or vacuum to PTFE.

: If I look at the dissipation factor of Polyethelyne and PTFE they are
: identical. Teflon has a very slight advantage because of a lower
: dielectric constant (2.26 vs 2.1). That is why PTFE cable has almost
: exactly the same loss as much cheaper polyethelyne cables, and a foam
: filled or air dielectric cable has much lower loss than PTFE.

I haven't done the calculations myself, but I've been told that the
dielectric loss is negligible, and that the loss is due to conductor
losses. Seems reasonable that adding air cuts losses, since the
center conductor gets thicker as you decrease the dielectric constant.
:
: With a higher dielectric constant, the plates in a optimum physical design
: capacitor would have less active parallel surface area, so the current
: density and I sqrd R losses would be higher. This also increases unwanted
: series inductance and requires even more capacitive reactance (less

: overlapping parallel plate area, less internal capacitance, and more
: concentrated power in the dielectric).
:
: Anyway, the best way to account for all the variables is to measure the
: overall performance of a well constructed reference loop with each type of
: capacitor. I did that, and the best component was a welded plate, air
: changes (except "un-meshing" the capacitor plates to reach the same tuning
: point) caused a very noticable increase in bandwidth, loss of field
: strength, and increase in drift and heating.

: >In contrast, the (loaded) Q of a 3 ft diameter loop is "only" about
: >600 at 21 MHz...

This came out of the antenna book. I'm surpised you don't have
comparision figures, since youook. I'm surprised you don't post

I like posts with lots of factual data...

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1857. need specs for Loral Microwave relay

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: chrise@n0jcf.com
Message-ID: <3omj2b$bkr@n0jcf.com>
Source record: 112924
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Just wondering if anyone has access to a Loral catalog. We are in need of specs (power rating, frequency, etc) for the following microwave relay:

080-D13-A1I-3B2

it is an 8PST SMA type relay with 18VDC coil. s/n 2029 9117

Any info greatly appreciated.

Chris

--
Chris Elmquist, N0JCF
chrise@n0jcf.com
n0jcf@amsat.org

1858. Re: Automatic Antenna Tuning

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: dbraun@dtt600.ichips.intel.com
Message-ID: <3ol5h6$8q5@itnews.sc.intel.com>
Source record: 112925

In <Pine.HPP.3.91.950503112406.6550B-100000@pmafire.inel.gov>, Jack Mott
<jackm@pmafire.inel.gov> wrote:
> I have seen several products advertised to include automatic antenna
> tuners. I imagine that these products have some sort of solid state
> mechanization, rather than a servo-controlled variable capacitor. I
> would appreciate any explanations of how these devices work.

Well, a SGC tuner works like this: There is a pi-configuration LC circuit,
where the L and C elements are actually a bunch of coils or caps
(arranged in values like 10,20,40,80, etc) that can be switched by
relays in various combinations. There are about 6 to 9 individual
coils or caps for each element, so each element can have between
64 or 512 different values. There are circuits to measure the SWR,
resistance, and phase at the input. A microprocessor uses the
output of these to adjust all the relays until a good match is acheived.
Probably the algorithm would be similar to what you do manually when
adjusting a manual antenna tuner. There is also a frequency counter
circuit to measure the transmitting frequency, which is also used by the
algorithm.

When you tune up for the first time, the relays start clicking like
an old pinball machine, and after a few seconds, it settles down,
and the SWR is low.

The frequency and the final settings are stored in a NVRAM, so that
when you later return to that frequency, it will immediately
try the previous setting instead of "hunting".

Note that boats and aircraft with HF radios almost always use these things,
because they are convenient, and require no operator skill to use.

Doug Braun (dbraun@ichips.intel.com) N1OWU

1859. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: jherman@uhunix3.uhcc.Hawaii.Edu
Message-ID: <D88LF7.5B1@news.hawaii.edu>
Source record: 112926
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

mkeitz@bev.net (Mike Keitz) writes:

>doublehop@aol.com (Doublehop) wrote:

>>.....antennas.

>...antennas.
>...antenna...
> ...antennas...

"To subscribe to a newsgroup on UNIX use `g' followed by the group's name.
For example: g rec.radio.amateur.antenna"

Jeff NH6IL

1860. Needed: HV Ceramic Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: Barry Newberger <bsn@fusion.ph.utexas.edu>
Message-ID: <3ok0oj$3t0@geraldo.cc.utexas.edu>
Source record: 113052

I need HV ceramic capacitors in the following values and
quantities for a couple of homebrew projects:

7 X 500 pf @ 10KV
3 X .0068 mf @ 6 KV
6 X .0068 mf @ 3 KV
8 X .015 mf @ 3 KV

If you have any of these you a willing to part with or
know of a commercial source that has them and for which
I don't have to take out a 2nd mortgage on the house
(illegal in TX), please drop me an e-mail at
bsn@fusion.ph.utexas.edu.

Tnx es 73,
Barry W5KH

1861. Large diameter semi rigid coax & connectors required

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: Conrad Farlow <conrad@g0ruz.demon.co.uk>
Message-ID: <151827783wnr@g0ruz.demon.co.uk>
Source record: 113053

Hello can anyone tell me where I can obtain some large diameter semi rigid 50 ohm coax.Same construction as UT 141 but with a similar diameter to RG213?I will need about 24 inch(600 mm) of it and I will also need 4 'N'type connectors.It is to be used to connect the dipoles of a VE4MA feedhorn to a 3db hybrid combiner for 1296 eme.It must be very low loss and be able to handle high power at 1296.I would also like it to be cheap!

Many thanks Conrad Farlow G0RUZ

1862. Ramsey PR-40 Mod Advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-070595211540@160.205.101.24>
Source record: 113054

I'm considering using a Ramsey PR-40 in a remote preamp application, and I'd like to modify it such that it uses the output coax to provide the 12 volt power rather than a separate wire pair. If you've performed such a mod & been successful, I'd like to hear about it - please e-mail me. TIA -

TGB

\\ The opinions expressed herein are my own. //

1863. REPOST - SSTV Demod info sought

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: david@pitvax.xx.rmit.edu.au
Message-ID: <3okdrs$8kd@aggedor.rmit.EDU.AU>
Source record: 113055

REPOST - Info/Opinions on SSTV Demod sought

I've been having fun receiving slow scan pictures with JV-Fax lately, using the simple op-amp limiter interface. So far, when band condx. have been good, I've gotten excellent pics from ZL, JA, 6Y (Jamaica) and from around VK of course. A highlight was a noisy but recognisable picture from a GW3. It's a real blast! I'm pleased with the results from a modest 386 PC and a $10 interface.

Now I'm wondering how I can improve the demod, to dig out the weaker signals. The limiter I/F has a definate noise threshold - signal tones have to be well above band noise to decode cleanly.

Would results with a discriminator type detector based on tuned circuits be better than the limiter type interface?

Using the latter and Hamcomm to copy RTTY a while back I found error free copy was only possible with strong signals, but when using a demodulator with dual filters and a 'slicer' I could copy signals down into the fades.

I have started to collect bits to build a SSTV demod using LC input bandpass filtering and discriminator. I'll report any progress.

I note that the trend nowadays is to use pulse width detectors after filtering and squaring the signal. My subjective feeling is that an LC discriminator would work better under noisy conditions as its output is detected and integrated - effectively 'filling in' any lost cycles.

With the 1/f type detectors the data is fed to the computer without further processing. A step change caused by a noise spike is as valid as any other data and will show up on the picture.

I'd appreciate any comments from anyone who has experimented along these lines. I suppose DSP will render both these techniques obsolete eventually - but until I can afford a device and the time to learn how to program it I'm happy to spend a few hours winding inductors!

Best 73, David VK3JKP

1864. $$$ Make Money at Home Assembling Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: chrsmrs@spuddy.mew.co.uk
Message-ID: <D89M75.3Fr@spuddy.mew.co.uk>
Source record: 113056
Cross-posted to: north.market,rec.misc,rec.radio.amateur.homebrew

To all entreprenuers with electronic assemblely capability:

This is a genuine oppertunity to make a lot of extra money working
from home. The kits and complete instructions are provided. All you
have to do is build them and sell them. If you would like to know
more please contact me and I will send details.

Chris Morris.

PO Box 141
Aberystwyth
Dyfed
Wales
UK
SY23 2WG.

email: chrsmrs@spuddy.mew.co.uk

--

* Meeeow ! Call Spuddy on (01268) 515441 for FREE mail & Usenet access *

1865. Retuning Surplus Microstrip Circuits fo the Amateur Bands

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: kbanke@qualcomm.com
Message-ID: <kbanke-080595071737@kbanke-mac.qualcomm.com>
Source record: 113057

I recently gave a talk on Retuning Microstrip Circuits for the Amateur bands at the West Coast VHF/UHF Conference. I'll be happy to Email a portion of this info to anyone requesting it. - Kerry N6IZW -

1866. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: adercole@mezzrtm.lasc.lockheed.com
Message-ID: <3ola9u$7tf@butch.lmsc.lockheed.com>
Source record: 113058

>WWW site at: http:/hamster/business.uwo.ca:80/~amsoft/

Should read: http:/hamster.business.uwo.ca:80/~amsoft/

HOW ABOUT: http://hamster.business.uwo.ca:80/~amsoft/

1867. Airdux Coil

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.799945849.11137.jwicklun@mycroftxxx.halcyon.com>
Source record: 113059

A few weeks ago there was an extended thread regarding the lack of Airdux style coils. It made for very interesting reading, and there were even a few good ideas for homebrewing your own coils. But for those that would rather buy, I just came across a new (to me) source for these open coils. The most recent catalog from Herbach and Rademan (H&R) has a series of "Air Wound Power Inductors" on the back page. Most of the coils cost $2.50 each.

H&R's phone numbers are (800)848-8001
(215)788-5583
(215)788-9577 (FAX)

P.S. they are located in Pennsylvania (Eastern time zone)

73 KI7RH (Jay)

1868. HB Article Lead Story in Upcoming CQ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: nw2l@aol.com
Message-ID: <3olkuv$me1@newsbf02.news.aol.com>
Source record: 113060

DON'T READ THIS IF YOU ARE NOT A SUBSCRIBER TO CQ MAGAZINE!

Just an FYI, the forthcoming June issue of CQ features a bunch of homebrew-
related articles. The lead story will be: "Build (and Use) a DX-Grade Six-Meter
Receiver," by M.A. (Mac) Chapman, KI6BP. The issue also includes part 2 of
G4BXD's "Surplus Electronic Gear, a British Perspective" (part 1 appeared in
12/94), and "Low-Cost Mobile Antenna Accessories From Plumbing Parts," by
Phil Salas, AD5X.

This information is provided only as an advisory for homebrewers who are already
CQ subscribers, so that you'll know what to look forward to in the next issue. It is
in no way intended as an advertisement or as a solicitation to purchase or

subscribe to the magazine. This can only be done through one-on-one e-mail.

73,
Rich Moseson, NW2L
CQ Online

NW2L@aol.com / CQMagazine@aol.com / CQ@genie.geis.com

1869. Looking for sources for gel-cells

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: ntimofee@bingsuns.cc.binghamton.edu
Message-ID: <3oljrr$b83@bingnet1.cc.binghamton.edu>
Source record: 113061

Hi All,
I am looking for a mail order source for NEW lead acid
gel-cells. Addresses/Phone numbers/ any help you have.

Thanks in advance.

Mike
N2XXA
ntimofee@bingsuns.cc.binghamton.edu

1870. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3olou0$n84@newsbf02.news.aol.com>
Source record: 113062

>I looked up Teflon and it has a loss tangent around 0.00015, which
>means that you can expect a capacitor Q of around 6600, if the loss
>is only due to dielectric losses. By comparision, Jennings says
>"typically in the order of 1000 or 5000 or higher" for their vacuum
>capacitors. Teflon circuit board is quite a bit worse with a loss
>tangent around 0.0011. Those circuit board makers have to worry
>about things like dimensional stability...

I think we have over-simplified the problem. Remember that I compared the same style of capacitor with air, PTFE, polystyrene, and polyethelyne. The air was noticably better in this application.

No way is ANY solid dielectric capacitor as good as 6000. Besides, using your method the therotical Q of a vacuum cap is infinite!

I'm not positive we are using the same definitions of "loss tangent". I assume you are using the "tangent of loss angle". It is the power loss of the dielectric divided by the reactive power intensity in the dielectric with a sinusoidal voltage at the operating frequency.

If so, the dielectric factor of PTFE is 2.1. With materials having identical "loss tangents" but one having a dielectric factor 2.1 times higher, the losses would increase 2.1 times. This is because power density would increase 2.1 times with the same value of capacitance. That does not include the detrimental change in "loss tangent" when PTFE is substituted for dry air or vacuum to PTFE.

If I look at the dissipation factor of Polyethelyne and PTFE they are identical. Teflon has a very slight advantage because of a lower dielectric constant (2.26 vs 2.1). That is why PTFE cable has almost exactly the same loss as much cheaper polyethelyne cables, and a foam filled or air dielectric cable has much lower loss than PTFE.

With a higher dielectric constant, the plates in a optimum physical design capacitor would have less active parallel surface area, so the current density and I sqrd R losses would be higher. This also increases unwanted series inductance and requires even more capacitive reactance (less overlapping parallel plate area, less internal capacitance, and more concentrated power in the dielectric).

Anyway, the best way to account for all the variables is to measure the overall performance of a well constructed reference loop with each type of capacitor. I did that, and the best component was a welded plate, air insulated, nearly square butterfly capacitor. Adding PTFE with no other changes (except "un-meshing" the capacitor plates to reach the same tuning point) caused a very noticable increase in bandwidth, loss of field

strength, and increase in drift and heating.

>In contrast, the (loaded) Q of a 3 ft diameter loop is "only" about
>600 at 21 MHz...

How did you arrive at that value of Q? That is pretty close to the Q of the most piston PTFE capacitors I have measured on a HP4191. It is also MUCH higher than the Q of coaxial line capacitors or single layer transmitting ceramic capacitors. Some loop articles suggest using those components!!! If Q is a good apple to apple comparison method and your data is correct, a capacitor Q of 600 would cause a 3 dB reduction in field strength and doubling of bandwidth.

73 Tom W8JI

1871. Some Ics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: tahir@tcdsp1.mmm.com
Message-ID: <3oln54$h12@dawn.mmm.com>
Source record: 113063
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Hi all,

I am trying to find a CHEAP source for the following ICs:

54HC73 J or F Newark price = $1.74
54HC390J Newark price = $1.22

I am looking to buy 500+ of each. Can you direct me to a source?

Thanks.

1872. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3oloef$603@hpscit.sc.hp.com>
Source record: 113064

In article <3ojagk$7cp@newsbf02.news.aol.com>,
W8JI Tom <w8jitom@aol.com> wrote:
>The FCC defines PEP as "the average power supplied to the antenna
>transmission line by a transmitter during one RF cycle at the crest of the
>modulation envelope taken under normal operating conditions".
>
>The FCC allows 1500 watts PEP output on all modes. In order to operate

I thought you can only run 750 watts on FM or CW (key down power).

Can anyone confirm or deny this?

Rick N6RK
rkarlqu@scd.hp.com

1873. Where to get NorCal QRP Club info, rigs, etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-0805951357540001@burdick.interval.com>
Source record: 113065

Club Projects Wanted

The Northern California QRP Club (NorCal) is actively encouraging its members to submit their QRP designs, including rigs and accessories, for possible consideration as NorCal club projects. Previous successful projects include the NorCal 40 monoband transceiver, keyer and frequency counter boards, and the Sierra multiband transceiver. Next up is the Cascade 2-band SSB-only rig.

To make a successful club project for NorCal, your design should be fairly easy to reproduce and relevant to QRP operation. If it fills a unique niche, so much the better. Eric Swartz, WA6HHQ and myself will be among those reviewing the designs; feel free to e-mail us (erics@cruzio.com and wayne@interval.com, respectively).

NorCal Membership

If you're not already a member of NorCal, you can write to Doug Hendricks, KI6DS (dh@altair.csustan.edu) for further information. Or call Jim Cates, WA6GER at (916) 497-3580.

Membership is free, but the quarterly newsletter is $10. The newsletter, "QRPp," has been called the U.S. counterpart to Sprat, the G-QRP club newsletter.

NorCal Kits

NorCal recently decided--after selling several hundred kits--to turn over its most successful club project kits (including the NorCal 40A and Sierra) to Wilderness Radio, run by Bob Dyer, KD6VIO. Their number is (415) 494-3806.

73,
Wayne, N6KR

1874. SSB Generation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199505082142.VAA26227@chaos.magibox.net>
Source record: 113066

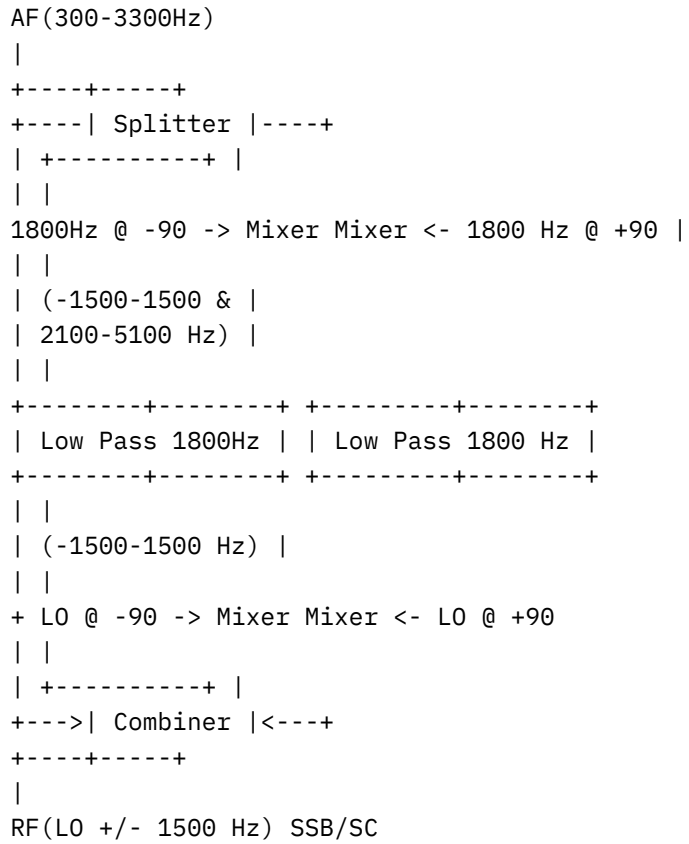
In "Solid State Radio Engineering" (H. Krauss, C. Bostian, and F. Raab, 1980 John Whiley & Sons), there are three methods of generating SSB described.

The first is the traditional SSB Filter IF design:
AF + IF -> (SSB Filter) + LO -> RF.

The second is the phasing Direct SSB (as used by R. Campbell in "High-Performance, Single-Signal Direct-Conversion Receivers" Feb. 1992 QST, and covered in the ARRL Handbook):

AF -> (+/-90 phase shift network) + +/-90 LO -> RF

The third is one I've never heard of (simply called the Third Method):



(when no AF, +/-90 phase cancel each other out -> no RF)

It requires a quadature LO, but it can demodulate SSB as easily as modulate them (just exchange the 1800Hz and LO oscillators). Its benefits appear to be no sharp filters (separation is twice the lowest audio frequency @ low pass filters) and no complicated audio

frequency phase shift network.

Has anybody heard of this circuit or its use? Comments?

Disclamer: Opinions expressed do not reflect the views of my
employer or myself or anybody I know or may ever know.

Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

1875. Building an SWR meter...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-08 00:00:00 UTC
From: johnkit@primenet.com
Message-ID: <johnkit.27.004625E6@primenet.com>
Source record: 113067

Does anyone have info on making a simple SWR meter for 2 meter?
Thanks
John Kittelsrud KC7JRA

1876. WTB BIRD WATTMETER ELEMENTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: hbr@ix.netcom.com
Message-ID: <3omkf3$8ak@ixnews4.ix.netcom.com>
Source record: 112927
Cross-posted to: rec.radio.swap,sci.electronics,rec.radio.amateur.homebrew

I am looking for Bird wattmeter elements. Please e-mail any info.>

1877. Re: Tektronix Scope Repair Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: had@halcyon.com
Message-ID: <NEWTNews.2098.800046612.had@had>
Source record: 112928
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <john.ackermann.350.000CF807@daytonOH.ncr.com>,
<john.ackermann@daytonOH.ncr.com> writes:
>
> I just picked up a Tektronix model 2213A scope for a bargain basement price,
> knowing it would need some repair. Specifically, there's a bad distortion in
> the trace at about 80% of the way up the trace, and a smaller distortion
about
> 20% of the way up (from the bottom). If you're displaying a flat trace, and
> move it up and down, you'll see the flat line distort at these points.
>
> My guess is that this is probably a sign of something wrong with the CRT
> deflection plates, though I hope it is something cheaper!
>
> Anyway, Tektronix wants $355 flat rate to repair and calibrate <plus> $750
> if it needs a CRT, and I'm wondering if anyone can suggest another repair
> place that might be a bit more reasonable -- particularly if they can replace
> the CRT for less. For the money I have in the unit, spending a few hundred
> dollars is reasonable. Spending a grand is out of the question.
>
> Thanks...
>
> John Ackermann AG9V
> john.ackermann@daytonOH.attgis.com
>
John,

Generally speaking the first place to look at is the power supply filter caps
and the diode rectifiers.

Hadley
had@halcyon.com

1878. Tektronix Scope Repair Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: john.ackermann@daytonOH.ncr.com
Message-ID: <john.ackermann.350.000CF807@daytonOH.ncr.com>
Source record: 112929
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

I just picked up a Tektronix model 2213A scope for a bargain basement price, knowing it would need some repair. Specifically, there's a bad distortion in the trace at about 80% of the way up the trace, and a smaller distortion about 20% of the way up (from the bottom). If you're displaying a flat trace, and move it up and down, you'll see the flat line distort at these points.

My guess is that this is probably a sign of something wrong with the CRT deflection plates, though I hope it is something cheaper!

Anyway, Tektronix wants $355 flat rate to repair and calibrate <plus> $750 if it needs a CRT, and I'm wondering if anyone can suggest another repair place that might be a bit more reasonable -- particularly if they can replace the CRT for less. For the money I have in the unit, spending a few hundred dollars is reasonable. Spending a grand is out of the question.

Thanks...

John Ackermann AG9V
john.ackermann@daytonOH.attgis.com

1879. RF amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: Gert von Helden <gertvh@sci.kun.nl>
Message-ID: <D8B7tK.GKp@sci.kun.nl>
Source record: 112930

Hi,
I need some advice on how to build, or better where to buy,
an RF amplifier.
We need one in our lab to drive a quadrupole mass spectromere/ion
guide. Nice would be a broadband amplifier that:
1) drives a pure capacitively load (open circuit) of
50 - 500 pF.
2) has a frequency range of 100 kHz to 30 MHz (higher would be
better).
3) accepts input from an external sine wave generator.
4) can put amplitudes of 20 V - 200 V (variable) on the
capacitive load.
5) has two outputs, one 180 deg. out of phase.

The capacitive load are four parallell steel rods, about 3 cm
in diamater, mounted on a circle, one is always out of phase with
the two rods next to it. Tha amplitude and frequency stability is
not terribly important, 1% for amplitudes should be fine.

Can anybody give me advice and/or point me to a company?
For starters, a fixed frequency amp in the 10-30 MHz range
would also be fine.

Any reply, circuit diagrams, lit. refereneces, company names etc.
are greatly appreciated,

Thanks, Gert

Gert von Helden
Dept. of Molecular and Laser Physics
University of Nijmegen
Toernooiveld 1
6525 ED Nijmegen
The Netherlands
tel: (+31) 80 652179, fax (+31) 80 653311
e-mail:gertvh@sci.kun.nl

1880. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995May9.134712.11320@arrl.org>
Source record: 112931

W8JI Tom (w8jitom@aol.com) wrote:

: How did you arrive at that value of Q? That is pretty close to the Q of
: the most piston PTFE capacitors I have measured on a HP4191. It is also
: MUCH higher than the Q of coaxial line capacitors or single layer
: transmitting ceramic capacitors. Some loop articles suggest using those
: components!!! If Q is a good apple to apple comparison method and your
: data is correct, a capacitor Q of 600 would cause a 3 dB reduction in
: field strength and doubling of bandwidth.

How does the HP4191 deal with contact losses? One of the problems
with our Hewlett Packard Q meter is that it has these binding posts
for connecting components. Of course, common wisdom is that
pressure fit contacts have high loss compared to soldering or welding.

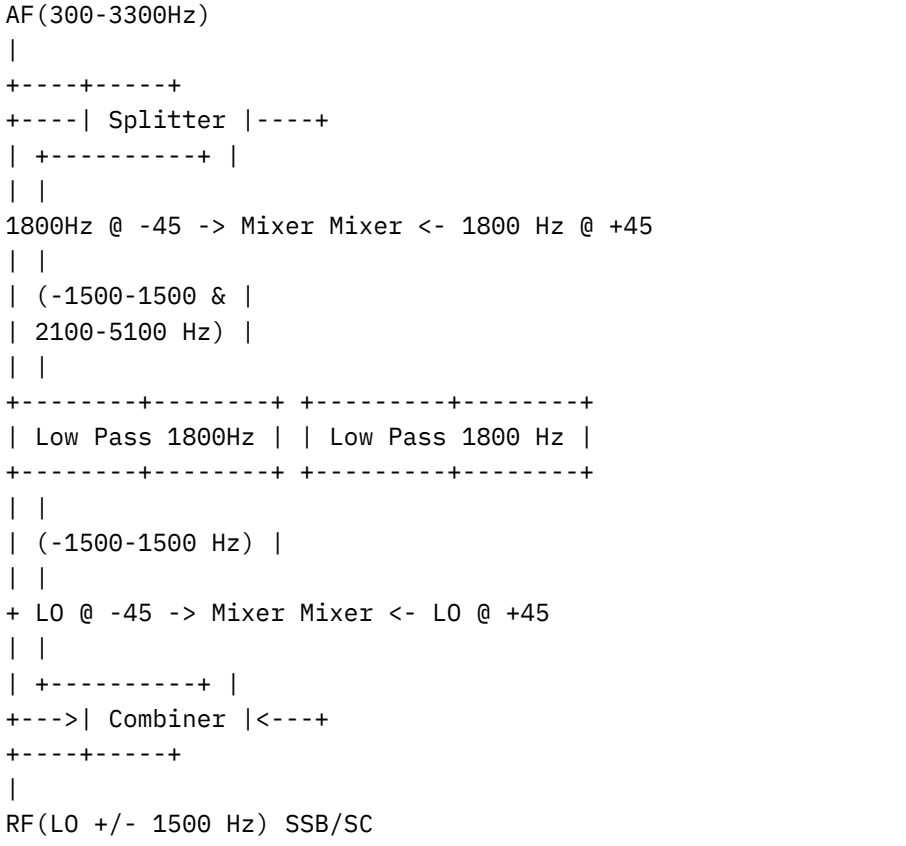
On the other hand, I'm not about to weld an inductor to our Q meter!

I'm curious as to how you get around this problem. Have you
quantified the losses of the different contact methods?
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1881. Re: SSB Generation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199505091345.NAA24256@chaos.magibox.net>
Source record: 112932

Oops! My bad. The phase shifts refered to in yesterdays post
should be +/-45 (or 0 and 90), not 90 . Circuit should be:



Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

1882. Weaver Modulation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9504098000.AA800035155@mails.imed.com>
Source record: 112933

Nathan Sykes (KD4GHG) asked: Does any one know about the "third Method" of SSB generation?

Nathan:

This method is also known as the Weaver method after its inventor. There have been numerous articles over the years about this method. Check old issues of Ham Radio and 73 Magazine circa 1975 to 1980. Those who have used it say it works just fine.

There was also an article in QEX last year about a digital implementation using a Harris IC that uses this method for a digital IF using DSP.

If you do the math (like some of us engineering types do) you will see that there is one slight problem with this method that I have never seen mentioned in any analysis of this method. That is that there is the possibility of distortion due to the frequency aliasing that occurs. Presumably this is not a problem for voice modes since it is very unlikely that you will have substantial frequency components equally spaced from the LO frequency simultaneously. This is an analysis that I have been meaning to perform rigourously for over a decade now. From my initial analysis you would certainly not want to try to transmit music (of more interest to SW broadcasters than amateurs) or other similar signal using this method.

Ray Mack
WD5IFS
mack@mails.imed.com

1883. Homebrew Archive?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: eighmy@scott.net
Message-ID: <3onslv$d12@koala.scott.net>
Source record: 112934

Can anyone tell me where the archive ftp site for the homebrew usegroup is located?

Tnx es 73,
Gene
WD4MPS
eighmy@scott.net

1884. Very small short range AM transmitter - any ideas?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: mhjelt@spider.compart.fi
Message-ID: <3oo6j2$kim@gate.compart.fi>
Source record: 112935
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Hi folks,

I'd like to wire up a remote control system that would reliably work within a range of 10-20 meters (~30-60 ft). It must be done using radio, infra-red or ultra-sonic stuff wouldn't work. The controlling is going to be done through tones, like the DTMF system. If it is possible, it'd be cool with a 4-5kHz audio bandwidth, but that's definitely not necessary. The control tones could be transferred with much less.

Size is an important matter. Something like 0.5 x 0.5 inches or even smaller would be an ideal size of the circuit, but it could be larger. Even 1x1" or more. The antenna should not be too long -- the shorter the better.

Power consumption won't be a problem, since it isn't going to be enabled continuously. In fact, it only needs to be powered when it's transmitting, and I think I can handle that.

The receiver can be 1) huge, 2) ugly, and 3) have an extremely long antenna, if necessary.

Since I don't know much about radio technology, I really don't know if such a thing would be possible to do at all. I'm more into digital and analog electronics. If anyone could sort of give me some advice, pointers, ideas or help regarding this project, I'd be very grateful.

Thanks in advance,
-Mathias C. Hjelt

1885. Looking for Component source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: jim hatton <jim@hatton.demon.co.uk>
Message-ID: <686312645wnr@hatton.demon.co.uk>
Source record: 112936

Hi and thanks for reading this, I'm looking for a couple of I.C.'s for
a project and I'm having trouble finding them. Can anyone help with a
source ? Both are Motorolla I.C.'s

MC13055 an FSK receiver
MC10116 a serial data line receiver

Perhaps someone could tell me the U.K. equivalent or a place to get
these. I'd be most grateful.

I am also looking for a source for a 10 GHz Gunn diode transceiver
module. The actual type seems unimportant providing the Gunn diode
and the Mixer diode are in the same cavity, which should be waveguide
compatible. I have a part number for the suggested device, and a
manufacturer. perhaps you have one or two of these devices in your
junk box that you wouldnt mind selling. (with or without Gunn diode,
I have those)

The device number I have is NEC ND751AAM manufactured by
California Eastern Labs, 3260 Jay Street, Santa Clara. CA 95054.

I would prefer new I.C. 's but a surplus transceiver module.

Thanks in advance

Jim

--

| jim hatton E-Mail jim@hatton.demon.co.uk |
| Packet Radio GM4RJX@GB7SAN |

1886. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkD8AEMG.Mxw@netcom.com>
Source record: 112937

rkarlqu@scd.hp.com (Richard Karlquist) writes:

>In article <3ojagk$7cp@newsbf02.news.aol.com>,
>W8JI Tom <w8jitom@aol.com> wrote:
>>The FCC allows 1500 watts PEP output on all modes. In order to operate

>I thought you can only run 750 watts on FM or CW (key down power).

>Can anyone confirm or deny this?

>Rick N6RK

Boy, I don't know where folks got this. Check the regs, it's there.
1500W pep. Period. 1500 watts average power at the peak of an SSB
signal, or 1500 watts continuous carrier (=1500W PEP). Also 1500W PEP on
an AM signal, meaning a lower carrier power on AM (this makes the AM
boatanchor folks *very* unhappy).

: John Seboldt rohrwerk@netcom.com / I am Bach of Borg...
: Amateur radio K0JD... / your style will be
: Church of the Annunciation, / assimilated.
: Minneapolis /

1887. Call for articles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: ebarbour@netcom.com
Message-ID: <ebarbourD8Aqw0.HC5@netcom.com>
Source record: 112938

I am requesting that any of you here who have done tests, evaluations
or comparisons of transmitter tubes and/or linears that use tubes
ought to consider writing about your experiences for Vacuum Tube Valley News.
We are looking for hams or broadcast engineers who have experience with
tube RF electronics. We'd be especially interested in performance
comparisons of linears and tubes by different manufacturers.
E-mail to me if you're interested.

Eric Barbour
GLASS AUDIO, VTV NEWS
ebarbour@netcom.com (408)733-6146 fax

1888. Source for Throat Mike?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: Vflicks@hookup.net
Message-ID: <Vflicks.4.000FA6FE@hookup.net>
Source record: 112939

Does anyone know of a source for weather proof throat microphones?

Maybe like the kind Keanu Reeves wore in Speed?

S. Walker
swalker@videoflicks.com

1889. Re: series-shunt pair amplifier topology

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: twheless@Name
Message-ID: <D8Bt7u.I67@boi.hp.com>
Source record: 112940
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

>
> I'm looking for a reference to a book or paper that has a tutorial
> treatment of the series-shunt pair amplifier topology described in
> Horowitz and Hill's "Art of Electronics". I don't see how to rationally
> choose the open loop gains of the two stages and the closed loops gains of
> the two feedback loops.
>
> Thanks,
> -Steve
>
> --
> Steve Byan internet: steve@hi.com
> Hitachi Computer Products (America), Inc.
> 1601 Trapelo Road phone: (617) 890-0444
> Waltham, MA 02154 FAX: (617) 890-4998

Why don't you try emailing Winfield Hill himself. A little less than
a year ago he was in a discussion about transistor Vbe (which I
happened to save) and at that time his email address was:

hill@rowland.org

If you find out anything interesting, please post it to the net.
I'd be interested too.

Tom Wheless twheless@hpdmd48.boi.hp.com
Boise Printer Division
Hewlett-Packard Co.
Boise, Idaho

1890. Specs WANTED on SRF-3172P (rf transistor-Motorola)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: gene@eagle.csl.uiuc.edu
Message-ID: <gene.800059240@eagle.csl.uiuc.edu>
Source record: 112941

I have a pair of SRF-3172PB (or simply SRF-3172P) Motorola NPN Ceramic bi-polar transistors that I would like to use as a 7 MHz transmitter for a new Tech-Plus ham. I can find no data on them. I wonder if anyone out there has any approximate voltage-current-frequency data on them?? I'm hoping to get at least 50 watts, class C for the 40M CW band.
.....Thanks for any help...email gene@uicsl.csl.uiuc.edu

--

Internet, BITNET: gene@csl.uiuc.edu

1891. Solid State Amps.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: dvo90267@Rosie.UH.EDU
Message-ID: <3oou9s$n7h@masala.cc.uh.edu>
Source record: 112942

Out of minor curiosity does anyone know a book on building a solid state amp.
Thanks for any info.
Damon
DVO90267@jetson.uh.edu

1892. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3oo4iq$3ad@newsbf02.news.aol.com>
Source record: 112943

Zak Lau wrote>

>I looked in the catalogs of Dielectric Labs and American Technical
>Ceramics and both sell chip capacitors with Qs in excess of 6000 at HF.

I'm sorry Zak. I was under the impression we were talking about high voltage,
high current variable capacitors for a loop. I didn't know we were talking about multi-layer FIXED chip capacitors! I wonder how high a Q is achievable
in a fixed low voltage vacuum?

>I haven't done the calculations myself, but I've been told that the
>dielectric loss is negligible, and that the loss is due to conductor
>losses. Seems reasonable that adding air cuts losses, since the
>center conductor gets thicker as you decrease the dielectric constant.

Actually it is for both reasons, and that was my point. If you carefully read
my statement you will find I said current was concentrated in a smaller area
of the conductor when the dielectric was added. I listed both of those as reasons PTFE (or any dielectric other than air) increases loss in the type of
capacitor I THOUGHT we were discussing. I plainly said the material adds dielectric losses and increases current density in the conductors (increased
I sqrd R losses), plus it increases undesired series L in many situations. My
point was Teflon is not much better than polyethelyne, but air is much better
than both. Your statement supports that. ;-)

: >In contrast, the (loaded) Q of a 3 ft diameter loop is "only" about
: >600 at 21 MHz...

>This came out of the antenna book. I'm surpised you don't have
>comparision figures, since youook. I'm surprised you don't post

>I like posts with lots of factual data...

I have trouble understanding that comment, the text is garbled. Is that data
out of the same book that said (for years) that common steel wool makes a good HF balun? The data must be "factual" when extracted from a publisher that uses such careful technical editing systems!

Lets not waste anymore space..:-) 73 Tom

1893. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995May9.181629.16697@arrl.org>
Source record: 112944

W8JI Tom (w8jitom@aol.com) wrote:

: >In contrast, the (loaded) Q of a 3 ft diameter loop is "only" about
: >600 at 21 MHz...

: How did you arrive at that value of Q? That is pretty close to the Q of

Sorry I garbled that last time--guess thats why I'm not an editor :-).

(Once in a while tin seems to have trouble with insert/overtype... or
is that me have trouble with tin...)

The Q is out of the ARRL Antenna books section on transmitting loops.
I believe its also similar to the experience many people have with
loop antennas--a bandwidth of around 35 kHz on 15 meters.

I'm surprised you didn't post the measurements you made on loop antennas
as a comparision.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1894. Re: Homebrewing your own cabinet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: Larry Kenan <larry.kenan@SanDiegoCA.NCR.COM>
Message-ID: <D8BKLD.Fp7@lcpd2.SanDiegoCA.ATTGIS.COM>
Source record: 112945

>Leon Heller, G1HSM writes:
..
>>1F capacitors have actually been available for some years. They are
>>made using an electrolytic process, and are used for memory back-up
>>sometimes, in place of batteries.
>

I think that these 1 Farad caps actually are rechargeable batteries with
charge/discharge characteristics of a 1 F capacitor.

Larry Kenan

1895. Relaxation oscillators

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950509134339.11211A@pmafire.inel.gov>
Source record: 112946

The Maxim MAX038 high frequency waveform generator works from 0 to 20 MHz, and "the basic oscillator is a relaxation type which that operates by alternately charging and discharging a capacitor, Cf, with constant currents, simultaneously a triangle wave and a square wave". The chip can produce "more than two decades of frequency for any value of Cf". [quotes taken from manufacturers data sheet].

I have seen a suggestion from Belgium that the Analog Devices AD9505 programmable pulse edge delay vernier could be used to form an oscillator. This chip has an internal ramp generator and a variable voltage threshold. A variable propagation delay can be set between about 5 ns and 25 ns. Presumably, this device could be set up in a feedback mode to oscillate at frequencies up to 100 MHz.

For a number of reasons, I don't recommend the use of the AD9505 as an oscillator component. I bring it up to show that the basic technology in the MAX032 chip can certainly be extended upwards in frequency.

What are the reasonable frequency limits of relaxation type oscillators? Does anyone have experience with this type of circuit? (Please, don't bring up the 555 timer.)

Charles Mott

1896. Re: Looking for sources for gel-cells

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: Eddie Hill <ehill>
Message-ID: <3oo95t$p4b@crchh327.bnr.ca>
Source record: 112947

Hi Mike
You can call Digi-key at 1 800 344 4539. Thet show Panasonic gell cells
on page 331 of the current catalog

Eddie Hill
WD5CVD

1897. Manual Wanted: Chanalyst

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: john.dilks@academia.com
Message-ID: <2978.1041.uupcb@academia.com>
Source record: 112948

Manual Wanted: Rider Chanalyst test set.

Manual for a Rider Chanalyst test set, made by RCA during the late 30's, I beleive. It has four "eye" tubes, switches, knobs, dials, jacks and one meter on a nickel-chrome looking front panel. This testset is for superhetrodyne testing. It looks as if it does everything. I would also be happy with a photocopied manual if no one wants to part with theirs. A schematic is needed too.

I just found this beauty at a hamfest last Sunday. It's going to look great on my repair bench / ham shack / radio display room..

I can be reached at: john.dilks@academia.com
-or- 609-927-3873 (evenings EDST)

.... 73' John Dilks, K2TQN

. 1st 1.11 #3514 . The future isn't what it used to be... Where's the radio?

1898. WTB Roller Inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-09 00:00:00 UTC
From: clint.bradford@woodybbs.com
Message-ID: <93.7297.7584.0NFBA297@woodybbs.com>
Source record: 112949

Subject: WTB Roller Inductor

>>I'm looking for a roller 15uh or greater; 1500 Watts or greater...

Gawd, the more I read in this Conference, the more I realize how much I
need to learn.... <grin>
---
 wcECHO 4.0 AR-Net: ATTENTION to Details Mira Loma, CA 909-681-6221

1899. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: mark@ve6mgs.ampr.ab.ca
Message-ID: <D8Co17.39H@bohica.net>
Source record: 112950
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

jeffrey@math.hawaii.edu writes:

>Please stop suggesting rec.radio.amateur.qrp - there's already a very
>fine qrp email list with a high S/N ratio. Last count there were
>400 subscribers. Now that doesn't sound like enough to warrant
>a newsgroup, does it?

All that is needed for a group to form is 100 more yes votes than no votes.

>In the past 3 years every time a suggestion was made to shift from an email
>list to a newsgroup the suggestion was always vehemently voted down.

And why I am not a member of the mail list ... (There is a hint in there).

>If the low-profilers want a group, then why not start an email list?

Because, the defined message of the low-profilers requires some active
information retrieval, something a mail list can not provide because of
it's more obscure nature. I do not support the low-profilers group because
it heavily overlaps the r.r.a.antenna group, though ...

>Such lists are very very successful, for they target a select-interest
>group and as a result the noise level is quite low (no flame wars).

You mother wears army boots, and dresses you funny.

>With well over 7000 newsgroups some sites may have reached the saturation
>point and choose not to subscribe to the new rec.radio.amateur.low-profile.

Even though I do not support the group, I would be pleased to distribute it
despite the 7000 newsgroup saturating my disk transfer statistics ...

Ciao -- Mark

1900. Re: Source for Throat Mike?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: talon@merlin.etsu.edu
Message-ID: <3opi74$jg6@hermes.oc.com>
Source record: 112951

Vflicks@hookup.net wrote:
: Does anyone know of a source for weather proof throat microphones?

: Maybe like the kind Keanu Reeves wore in Speed?

: S. Walker
: swalker@videoflicks.co

Try the throat mike before you buy it! At HamComm '94 a friend of mine bought one and sounded great. I went to the booth and tried one. My wife and a friend said that I sounded a bit garbled. My wife then tried it. We couldn't understand her! So because of that, I have been a bit wary of the throat mike. Just my two cents.....

73 de KB5ULK
David Fox
Dallas County RACES
talon@merlin.etsu.edu
S

1901. Re: Solid State Amps.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: zhenifar@aol.com
Message-ID: <3ophvd$gkc@newsbf02.news.aol.com>
Source record: 112952

I think you ought to check out ARRL's publications by Doug DeMaw (QRP Notebook is one title, and there are two or three other great ones by him as well). He has many great amplifier circuits as well as tons of other stuff, all well explained, many with printed circuit board templates. Good luck with the amps - my attempts at RF amps often tend to oscillate or burn up!

Jennifer Gilfillan

1902. Re: Some Ics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: Ian Robert Walker <Ian@newbrain.demon.co.uk>
Message-ID: <800049520snz@newbrain.demon.co.uk>
Source record: 112953
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <3oln54$h12@dawn.mmm.com> tahir@tcdsp1.mmm.com "Tahir Kayani" writes:

> Hi all,
>
> I am trying to find a CHEAP source for the following ICs:
>
> 54HC73 J or F Newark price = $1.74
> 54HC390J Newark price = $1.22

Not everybody reading this might know the difference between 54 and 74. The 54 series has a much wider temprature range than 74, which makes them far more expensive. Also an F flat pack with a pin spacing of 0.08 inch is more expensive than a J, DIL ceramic with a 0.1 inch pitch.

series min C max C
54 -55 +125
64 -40 +85
74 0 +70

--
Ian G8ILZ
I have an IQ of 6 million, or was it 6?

1903. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: hanko@wv.mentorg.com
Message-ID: <3oqtvq$hm1@hpbab.wv>
Source record: 112954
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <3ofsbt$fem@krel.iea.com>, n0dh@comtch.iea.com (D.C. Henderson) writes:
|> amsoft@epix.net wrote:
|>
|> : The World of Ham Radio CD-ROM MAY 1995 issue is now available.
|> : For more information contact amsoft@epix.net or the new AmSoft
|> : WWW site at: http:/hamster/business.uwo.ca:80/~amsoft/
|>
|> : Pete, KC3TL voice: 717-938-8249 fax: 717-938-6767
|>
|> Pete
|>
|> you guys just don't get it do you......you didn't get enough flames the
|> last time you used the rec.radio.****** bandwidth for commercial ads?
|>
|> :-(
|> N0DH

Or perhaps "YOU guys" (the self-annointed net cops) don't get it.

There are many of us out here who welcome access to ANY and ALL
information relating to our hobby.

"If you don't like it, don't read it."

... Hank

--

Hank Oredson @ Mentor Graphics Library Operations
Internet : hank_oredson@mentorg.com "Parts 'R Us!"
Amateur Radio: W0RLI@W0RLI.OR.USA.NOAM

1904. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: mc@shore.net
Message-ID: <3oqab2$mi5@shore.shore.net>
Source record: 112955
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

In article <D83B43.Mt5@news.hawaii.edu>, <jeffrey@math.hawaii.edu> wrote:
>Please stop suggesting rec.radio.amateur.qrp - there's already a very
>fine qrp email list with a high S/N ratio. Last count there were
>400 subscribers. Now that doesn't sound like enough to warrant
>a newsgroup, does it? In the past 3 years every time a suggestion
>was made to shift from an email list to a newsgroup the suggestion
>was always vehemently voted down.
>
>If the low-profilers want a group, then why not start an email list?
>Such lists are very very successful, for they target a select-interest
>group and as a result the noise level is quite low (no flame wars).

This seems to be the best suggestion. I would definitely be interested
in subscribing. Such a mailing list should have some provision for a
daily digest as well, since some of us simply cannot receive many
messages daily without attracting adverse attention. (How about another
list called Internet.e-mail.low-profile ....!

>With well over 7000 newsgroups some sites may have reached the saturation
>point and choose not to subscribe to the new rec.radio.amateur.low-profile.

This is also a valid point. I'm pretty sure that I would not have access
to such a specialized newsgroup through my present means of access.

73 From Sunny Massachusetts (enjoy it while u can!)

Michael Crestohl KH6KD/W1
mc@shore.net

1905. Re: Flame

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.2173.546@acenet.com>
Source record: 112956

From: brian.carling@acenet.com

PUHLEEZ! Take this garbage somewhere else!
It does not belong in rec.radio.amateur.homebrew!!!!!!!

JS>:o.misc,rec.games.video.marketplace,rec.games.chess,rec.games.bridge
JS>rec.games.bolo,rec.bicycles.rides,rec.bicycles.racing
JS>:Followup-To:
JS>:rec.sport.rowing,rec.sport.pro-wrestling,rec.sport.paintball,rec.spo
rt.golf
JS>rec.sport.football.pro,rec.radio.amateur.homebrew,rec.radio.amateur.e
quipmen
JS>rec.music.reggae,rec.music.phish,rec.music.newage,rec.games.video.nin
tendo JS>rec.games.vid

JS>:
JS>eo.misc,rec.games.video.marketplace,rec.games.chess,rec.games.bridge
JS>rec.games.bolo,rec.bicycles.rides,rec.bicycles.racing
JS>References: <3oe0s9$4s1@alterdial.UU.NET>
JS>Organization: Dutchess Community College
JS>Distribution:

JS>mail00320@pop.net wrote:

JS>: To whom it may concern:
JS>:
JS>: Plus any kind of totally wacko letters you might run across.

JS>As a netizen I have to say this, with a smiley face.

JS>Someone is on a fishing trip.
JS>Is it the FBI?
JS>the CIA(not the Culanary institute of America in Poughkeepsie N.Y.)
JS>the NSA? (Oh god I hope they don't get into this)
JS>UNCLE(they do exist at the UN last I herd, drug people)
JS>INTERPOL?
JS>Naaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa ;-)
JS>It's this modern world.
JS>King Crimson is recording again. 21st century schizoid man.
JS>Cats foot
JS> iorn claw.
JS> da da da da
JS> nothing at all.
JS>21 century schizoid man>>>>>>>>>>

JS>J.S. Just in case,,,, I hope you understand. WE must play fair, no
JS>cheating, like a fishing tournament, rules and judges....

1906. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995May10.140116.1222@arrl.org>
Source record: 112957

W8JI Tom (w8jitom@aol.com) wrote:
: Zak Lau wrote>

: >I looked in the catalogs of Dielectric Labs and American Technical
: >Ceramics and both sell chip capacitors with Qs in excess of 6000 at HF.

: I'm sorry Zak. I was under the impression we were talking about high
: voltage,
: high current variable capacitors for a loop. I didn't know we were talking
: about multi-layer FIXED chip capacitors! I wonder how high a Q is
: achievable
: in a fixed low voltage vacuum?

I was under the impression that people were interested in getting
the maximum efficiency possible out of a loop. Especially techniques
that are easy for homebrewers to try. I think that pointing out
these capacitors is useful--they show that you *can* have a high
dielectric constant *and* a high Q. This is contrary to what you might
expect trying to extrapolate from a coaxial transmission line analogy.

Why the difference?

Look at the transmission line case another way. Usually, the
outer diameter is fixed--we can't make it any bigger. When we add
a dielectric, we normally have to make the center conductor thinner
to keep the impedance constant, another fixed value. But, when we
are building capacitors, we are generally free to keep the conductor
sizes constant.

Tom said his capacitor got hot when he added Teflon, while the
author of the November 1994 QST article on a 100 watt transmitting
capacitor with Teflon said that his didn't. Why the difference?

My guess is that Tom tried to use a bread slicer type capacitor,
with lots of plates welded together. Perhaps this is inferior
in conductivity losses to sliding copper tubes. The nice thing
about the copper tubes is the ease of polishing them to a smooth,
oxide free surface. This is known to make a difference in high
Q circuits. In Tom's case the coupled area was reduced, which must
have increased resistive losses. Doubling losses isn't always a
problem--99 to 98 percent efficiency may be acceptable. On the other
hand, 90 to 80 percent efficiency may be another story... Particularly
when you have compounding effects, such as detuning. In other words,
one problem leads to another--yet another sad tale of woe.

Fortunately, you don't need a sophisticated lab to see for yourself
how well the capacitors work. Just build a loop antenna, run 50 or

100 watts into it, and see if it gets hot! If it does, you need
a better capacitor... If you really want to be scientific, you can
measure antenna bandwidths.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1907. Pin-diode TR switching question(s)....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <3oqp4m$7c9@crchh327.bnr.ca>
Source record: 112958

Will Pin-diode TR switching work up to frequencies in the 902-928 Mhz
range ?

If so, can anyone give me pointers on how to accomplish this..

Thanks,
--
==========

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 991-4769 email: cnc23a@bnr.ca Ham: N4ZBB Packet: n4zbb@n1gmv.nc
DX PacketCluster (tm) Node : W4DW

All opinions are my own and do not necessarily reflect the views of
my employer or co-workers, family, friends, congress, or president.

1908. Metal Detectors- Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: "Kenneth M. Gianino" <gianino@sbctri.sbc.com>
Message-ID: <3oqfov$o92@sbctri.sbc.com>
Source record: 112959

I tried this on sci.electronics but drew no responses- certainly someone here can help with this radio related question. Where can I get REAL information on how modern metal detectors work? I've found schematics for various BFO type detectors but can find nothing but over-simplified explanations of T/R (transmitter/receiver) and PI (pusle induction) systems. I'm also puzzled about "automatic ground cancellation" and "discrimination" circuits. Does anyone know this stuff? The manufacturers are obviosly vague and guarded- a good indication that there is less inside than their price tags would indicate. It's just that the darn stuff works so well...
Ken - WB0QNA gianino@sbctri.sbc.com work:314-529-7758 (sometimes)
home: 314-894-1822

1909. Designing VFOs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: kell@mpac.jsc.nasa.gov
Message-ID: <kell-1005951636580001@netguy.jsc.nasa.gov>
Source record: 112960

I am trying to build a VFO for a SSB transceiver recently published. It was published for 75 meters, and I want to use it on 40 meters, thus the VFO change. The design to be used is that of figure 6-5 in "W1FB's QRTP Notebook". I am starting with a variable cap of from about 10 to 150 pF and trying to design the VFO around it. I have developed some math to help me, I hope there is someone that can tell me if I am on the right track with it. The base is the equation for resonant frequency of f = 1/(2*pi*sqrt(l*c)) whic can be changed to 4*pi*pi*f*f*l*c = 1. Now if one considers a range of frequencies of the VFO of from fmin to fmax caused by changing the variable cap from cmin to cmax (where cmin > cmax - lower c means higner frequency), and break the c into c + cmin and c + cmax you have two equations,

4*pi*pi*fmin*fmin*l*(c+cmin) = 1 and 4*pi*pi*fmax*fmax*l*(c+cmax) = 1.

Setting them equal you get

4*pi*pi*fmin*fmin*l*(c+cmin) = 4*pi*pi*fmax*fmax*l*(c+cmax)

Now divide by 4*pi*pi*l

fmin*fmin*(c+cmin) = fmax*fmax*(c+fmax)

Solve for c and you get

c = (fmin*fmin*cmin - fmax*fmax*cmax)/(fmax*fmax - fmin*fmin)

which should be the remaining amount of capacitance for the circuit. Is this correct?

Once you have c you can find l by l = 1/(4*pi*pi*fmin*fmin*(c+cmin)).

I hope that there is someone out there that can help me. I have the feeling that this is entirely wrong, but can not figure out why. There must be some straightforward way to figure out what the C and L for a VFO based upon a variable cap in hand.

73 and HELP!!

Ted Kell
KC5CUW

--
Ted Kell@mpac.jsc.nasa.gov
KC5CUW/AA

1910. Re: Homebrewing your own cabinet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <800137142snz@lfheller.demon.co.uk>
Source record: 112961

In article <D8BKLD.Fp7@lcpd2.SanDiegoCA.ATTGIS.COM>
larry.kenan@SanDiegoCA.NCR.COM "Larry Kenan" writes:

> >Leon Heller, G1HSM writes:
> ..
> >>1F capacitors have actually been available for some years. They are
> >>made using an electrolytic process, and are used for memory back-up
> >>sometimes, in place of batteries.
> >
>
> I think that these 1 Farad caps actually are rechargeable batteries with
> charge/discharge characteristics of a 1 F capacitor.
>
>
> Larry Kenan

I've just looked them up in a catalogue: "A wet type double layer
electrolytic capacitor having very high capacitance in a compact
package."

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

1911. Amstsrad srx350

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: jankes@serek.arch.pwr.wroc.pl
Message-ID: <3oqchd$q1b@sun1000.ci.pwr.wroc.pl>
Source record: 112962

hi, I'm interested if its possible to use a satelite tv receiver(the amstrad srx
350 to reeive the wefax or other weather map transmissions)
Is there a simple interface that one could build to accomplish this.
The satelite receiver tunes in from 700 to 2500 mhz on the other hand the
weather map transmission are on oaround 1640 mhz(i think, or anyways somewhere
in the range of my receiver), what kind of equipment I would need to receive
those signals.(one is analog and the other high definition digital) I asume
one could use the serial port of their computer and some fast software to receive
those images in digital form, does anyone know what the data format is like?
any info wii be greatly appreciated
thanks.
ra
--
Tomasz Plawski
jankes@serek.arch.pwr.wroc.pl
skr 221
50-950 Wroclaw 2
P O L A N D

1912. Re: Looking for Component source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <3oqilt$672@detroit.freenet.org>
Source record: 112963

I do have a number of new MC10116 triple line receiver IC's
available, these are in the 16 pin DIP version. But I'm not
sure they may ship well to the UK. Thoughts?

Roland, KB8XI
Hancock, MI
#
--

1913. Re: VHF beam antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: c21rag@mail.delcoelect.com
Message-ID: <3ordq2$4t5@kocrsv08.delcoelect.com>
Source record: 112964

In article <3oinao$vt@osceola.cs.ucf.edu>, altman@PROBLEM_WITH_INEWS_DOMAIN_FILE (Marty Altman) writes:
> I'm relatively new to ham radio (and am having a ball!), and am
> currently beginning to homebrew a simple 3 element beam for 2m.
> I am working from "All About VHF Amateur Radio", by William Orr,
> W6SAI (a good book, BTW). His design calls for 3/32 to 1/8 inch
> aluminum rods for the parasitic elements, and 7/16 inch tubing
> for the driven element.
>
> The problem is that I don't yet clearly understand which things
> are critical and which are more forgiving. For example, if I
> use 3/8 or 7/16 inch rods (which I happen to have on hand) how
> does that affect other parts of the design? Does it affect the
> lengths or spacings of the elements? Does it affect impedence
> matching or line balance? At that diameter, do I need to worry
> about end conditions?
>
> Also, since this antenna will be protected from the weather by
> being mounted in the attic (yeah, homeowner's association), will
> it reduce interference to build the boom and mast out of wood?
> Does this affect the design?
>
> Obviously, I could just go out and buy the parts as spec'd and
> put it together, but the goal is to learn something along the way.
>
> All comments and suggestions are welcome. Thanks.

Just about everything about a Yagi affects it to some extent. Larger diameter elements need to be shortened. I can't quote the figures off the top of my head, but for a 3 element beam like you're building, it probably doesn't really matter. For attic installations, 1/8 inch rod for a 2m beam is OK, but if you ever put one up outside, that's very marginal mechanically unless you live in a very benign climate. 3/16 to 1/4 is a good size for 2m beams to be installed outdoors.

Rods instead of tubing should have no effect except for more weight. (Not true at lower frequencies where mechanical considerations become more important. End effects aren't a big concern at 2m. Varying the boom material (conductive vs. non-conductive) definitely affects things. You can use either, but the design needs to take that into account. Method of element mounting is also important with conductive booms. There's insulated element and grounded element, each in through-the-boom or above the boom variants. There's arguments for each method, but since you're reproducing someone else's design, you should use what he used, at least for starters. Then you have a

reference to start experimenting, and learning, from.

Go to the library and look in back issues of QST and Ham Radio for articles on yagis by K1FO and W1JR. W1JR for several years wrote a column in Ham Radio called VHF/UHF world. There's a wealth of information in those columns, about antennas and lots of other things.

Good luck and have fun!

Roger Grady K9OPO c21rag@kocrsv01.delcoelect.com
Delco Electronics Corp. Kokomo, IN
"All information and opinions are strictly personal."

1914. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3orkmm$nb@newsbf02.news.aol.com>
Source record: 112965

Zak,
I don't know if this is interesting enough to the population to tie up space here. You broached the subject of chip capacitors while I was referring only to changing the dielectric in a given type of capacitor in a given application from air to PTFE. Let me clear that first before I give you measured data on an actual loop antenna.

I don't think your argument is valid because the construction style and material in chip capacitors is very different than variable high power transmitting capacitors. For example, ATC makes some chip capacitors out of K15 Porcelain they call ATC 100 (ref ATC data book). This brew has a dissipation factor of .00007 at 100 MHz, while PTFE has a DF of only .0002 (ref Reference Data for Radio Engnrs). PTFE is 3 times worse than ATC100 material! An ATC design engineer I know feels like PTFE isn't actually that good. He thinks the DF is .0002 at 1 MHz, and gets worse as F increases. But he wasn't positive so he said he would call me back.

The ATC material and chip capacitor construction allows ATC to stack many short wide layers of material fractions of an inch from the terminals. That results in negligible series inductance. The very short conductor path also greatly reduces the resistance in the conductors. All of this adds up to a very good capacitor. The ATC Capacitor Handbook states that "Losses of the capacitor occur primarily in dielectric, the medium for energy storage and transfer". And I'm sure that is the case in small low voltage multi-layer chips. The "Q" they specify is primarily made up of the series resistance of the dielectric, and not the parallel leakage resistance or conductor losses.

OTOH, the PTFE piston capacitor I have evaluated in a loop antenna had a single layer of Teflon separating two in line tubes with a moveable plunger. This system has appreciable distributed inductance (the series resonant frequency was just over 100 MHz, compare that to a 110 pF chip!). BTW series inductance murders the ESR of any capacitor.

These capacitors were manufactured by Polyflon and had an estimated Q of 5000. But when I asked the manufacturer if they ever measured the Q, they said NO. They used your simple method of just using the reciprocal of the DF! So here we have a component with an advertised Q of 5000 that was never measured! The capacitor costs 400 to 700 dollars. I'm really don't care what caused the losses in this cap, the bottom line is it was significantly poorer than specified and estimated. Yet it was very well constructed, and had no moving pressure contacts.

The final design I selected had a nearly square welded plate butterfly capacitor with thick support bars. That provided the shortest and widest current path (lowest series L and R). It was air insulated and had no

pressure contacts carrying RF.

Finally I added PTFE between the plates of this capacitor. That caused a noticeable deterioration in the Q, FS and stability of the test loop. And the ONLY change was the addition of the PTFE and re-tuning the capacitor.

The following were the test results on a 3 foot diameter loop. FS is measured power in a reference antenna located 4.3 wl away. The test antenna and the loop were 50 feet high and horizontally polarized. Test F=10.111 MHz Loop C=110 pF (Xc ~145 ohms). Power was constant from a 50 watt generator through a 10 dB isolation pad, except for frequency stability with long term power application. The stability tests were made with 100 watts and were rated only as good, fair, poor, and unusable.

Home made Butterfly air cap -3dB at 10.103 and 10.119 MHz FS 0 dB (selected as normalized reference) stability good

PTFE Home made butterfly cap (same as above with PTFE) -3 dB at 10.099 and 10.125 MHz FS -1.8 dB stability fair to poor

PTFE piston cap -3dB at 10.097 and 10.125 MHz FS -2dB stability poor

Standard air variable -3 dB at 10.090 and 10.132 MHz FS -6 dB stability fair to good

The tests were only for one antenna and are only comparisons of capacitors. My conclusion is the use of any PTFE (incidentally, the substitution of standard polyethylene resulted in almost identical VSWR BW as the PTFE) degrades the performance of a reasonably well constructed loop. Of course if the loop had more loss, such as one made from coax or small tubing, the difference would be reduced. But if the antenna had less ohmic loss, such as one made from very large diameter copper tubing the difference would increase.

I'm sure you will probably find some small area to find fault with Zak, but these are actual measurements. Are you aware of any other actual measurements, or are they all general estimates?
73 Tom

1915. Re: VHF beam antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-10 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995May10.142129.1631@arrl.org>
Source record: 112966

KE4WCA Marty Altman (altman@PROBLEM_WITH_INEWS_DOMAIN_FILE) wrote:
: I'm relatively new to ham radio (and am having a ball!), and am
: currently beginning to homebrew a simple 3 element beam for 2m.
: I am working from "All About VHF Amateur Radio", by William Orr,
: W6SAI (a good book, BTW). His design calls for 3/32 to 1/8 inch
: aluminum rods for the parasitic elements, and 7/16 inch tubing
: for the driven element.

: The problem is that I don't yet clearly understand which things
: are critical and which are more forgiving. For example, if I
: use 3/8 or 7/16 inch rods (which I happen to have on hand) how
: does that affect other parts of the design? Does it affect the
: lengths or spacings of the elements? Does it affect impedence
: matching or line balance? At that diameter, do I need to worry
: about end conditions?

There are sets of equations, such as that in the ARRL Antenna
book, for figuring out how to compensate for different element
diameters. On the other hand, most people use a computer
modeling program to figure out what effect changes will have on
an antenna. We supply a yagi simulation program for IBM
PC compatibles with the Antenna book. Software is also available
on the net.

: Also, since this antenna will be protected from the weather by
: being mounted in the attic (yeah, homeowner's association), will
: it reduce interference to build the boom and mast out of wood?
: Does this affect the design?

Yes, boom material does affect the design. Usually, it makes it
easier. Conductive booms require adjusting the element lengths
you get on the computer to compensate--wooden booms avoid this
area of study...

Interference and what the boom is made out of are usually unrelated
issues.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1916. >>Test Equipment 4 Sale<<

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: had@halcyon.com
Message-ID: <NEWTNews.17144.800234069.had@had>
Source record: 112967
Cross-posted to: sci.electronics,rec.radio.swap,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment, rec.antiques.radio+phono,halcyon.forsale

>>FOR SALE<<

H-P 200CD Low distortion Audio Oscillator
50 Hz to 600 KHz
Clean and in excellent working order with manual.

$75.00

H-P 606B Singal Generator
50 KHz to 65 MHz
Very clean, in excellent working order with manual.

$150.00

H-P 608E Signal Generator
10 MHz to 480 MHz
Super clean and in excellent working order with manual and some spare tubes.

$175.00

Tetronix Scope-Mobil 202-1
Fits 7000 series main frames also perfect for the H-P 608

Contact Hadley, N7REN, Lynnwood, WA
N7REN @ VE7DIE
206/774-4100
e-mail to had@halcyon.com

1917. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: rsmith@internetmci.com
Message-ID: <3otdq2$bre@news.internetmci.com>
Source record: 112968
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

I agree, NET COPS find something to do, like maybe try sex - you may find that to be more fulfilling than criusing the highway handing out citations.

1918. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: rwilkins@ccnet.com
Message-ID: <3oulj4$fo1@ccnet3.ccnet.com>
Source record: 112969
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Bob Smith (rsmith@internetmci.com) recently wrote
in <3otdq2$bre@news.internetmci.com>:

: I agree, NET COPS find something to do, like maybe try sex - you
: may find that to be more fulfilling than criusing the highway
: handing out citations.

Lets look at this a little differently. This is not a NET COPS issue.

What you are seeing is the local citizens here in these groups trying to clean up the graffitti and posters on all the telephone poles in our neighborhood. The NET COPS can't touch all that graffitti, they are too busy being NET COPS.

I don't think any of us mind a commercial poster with some new information or a new product to sell. You can't ignore it!

Just what does a new cd-rom of amateur programs found here on the internet, have to do with Amateur Space, Policy, Digital, Antennas?

This graffitti should be seen in rec.radio.swap where there is no confusion about the commercial nature of the offer.

Would you like this graffitti problem in your neighborhood? The inner cities look like Hell, because no one cares. These commercial cd-rom folks will stop advertizing in our Amateur Radio Magazines and post here for Free. Do you want all the nuts and bolts magazine ads in our news groups? Hunderds of those little ads every week over and over. Then no more ham magazines...

Almost as bad as the SALE@ALLUS on amateur packet. Does anyone really read all that junk? Oh Sure! go eat a cookie.

Bob ;-)

--
Bob Wilkins work bwilkins@cave.org
Berkeley, California home rwilkins@ccnet.com
94701-0710 play n6fri@n6eeg.#nocal.ca.usa.noam

1919. Re: Tektronix Scope Repair Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: d.diamond@trl.oz.au
Message-ID: <d.diamond.196.000C89B6@trl.oz.au>
Source record: 112970
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

>My guess is that this is probably a sign of something wrong with the CRT
>deflection plates, though I hope it is something cheaper!

>John Ackermann AG9V
>john.ackermann@daytonOH.attgis.com

John, see if you can borrow another 'scope. Have a look at the signal
at both deflection plates (with respect to chassis ground). If the signal
looks distorted (which I suspect it will be); then the fault is more likely in
the vertical amplifier which drives the plates. Work your way backwards
towards the 'scope input 'till you see an undistorted signal. The fault
probably lies somewhere near there. Fortunately, Tek use sockets for their
active devices, so removal for checking and substitution is easy. My bet is
you have a crook transistor, op-amp, or resistor gone high. Remember to check
your power supply rail voltages too.

73, Drew, VK3XU Telecom Australia Research Laboratories.

1920. Re: Source for Throat Mike?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: ESPI35E@prodigy.com
Message-ID: <3os0ln$1m3m@usenetw1.news.prodigy.com>
Source record: 112971

I'd suggest calling Fair Radio Sales in Lima, Ohio.
I bought a throat mic from there years ago. The fidelity was fairly poor,
depending on how you placed it on your larnyx...

Not uncommon from what I understand...

73's
de N1FNE

1921. Re: hpgl on pc screen

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <D8EAGv.5qs@zeno.fit.edu>
Source record: 112972
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,comp.graphics

Also, just about all the common garden variety word processing program can handle HPGL for input as a graphics frame (e. g. wordperfect, etc.), but some you might have to print out to get a real readable picture given some screen resolutions.

there are several IEEE-488 cards and control software on the market. from there, it's your problem to string together the commands to send and the responses to look for to build your program.

quite possible there might be some graphics display tools in some of them but i'll bet you have to save to file first and then import into a WP system of some kind...or get one of those printers (like a QMS 860) that "knows" different data streams and reacts accordingly...then you can just dump your job to the printer.

for the laserjet II there was a thing called 'Plotter in a Cartridge" by Pacific Data Products, i think. you'd start up the printer with this installed, and then send a command string to the printer to turn it into a plotter and then follow with plot commands...emulated a 7475A i think with A size paper....it's been a long long while since we used one of those at work...

In <3ocig9$m0u@misc1.microserve.net>, jackl@pinetree.microserve.com (WB3U) writes:
>robertov@flash.ATC.Olivetti.Com (Roberto Valfredini) wrote:
>
>>A friend of mine want to get the output of a spectrum analyzer from it
>>hpib interface and instead of feeding them to an hp plotter (hpgl)
>>drive this output to a DOS PC with an hpib interface and visualize
>>the output of the instrument on the PC VGA screen buffering the
>>instrument output into a dos file .
>
>If your analyzer has the HPIB interface option, there's a program available
>called "Icapture" that makes this easy. In addition to the progarm, all you
>need is a simple cable between your analyzer's RS-232 output and your PC.
>
>The program is available free of charge from HP. I believe their number
>in Santa Rosa, CA, USA is (707) 577-6801.
>
>There is also a text file on the disk which includes an ASCII picture of the
>interconnect cable - it's simple, but you will have to wire it yourself.
>
>As a final note, this program does not allow you to manipulate data
>to or from the analyzer. It will, however, save a snapshot of the screen
>to several different computer graphics formats.
>

>73,
>
>Jack WB3U

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio

1922. 2m parametric amp/message for K4MSG.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995May11.113013.37373@ucl.ac.uk>
Source record: 112973

I posted an artical about 2m parametric amps here. Paul, k4MSG replied he had a circuit from an old ARRL VHF manual and would be willing to copy it if I wanted. I would indeed like a copy, but my attempts to reply to his e-mail have failed, since my unix system does not appear to know about his e-mail address.

If he sees this, could he plase sent me the artical. Sorry I cant reply personally.

1923. Re: Designing VFOs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1995May11.195428.5694@schbbs.mot.com>
Source record: 112974

>I am trying to build a VFO for a SSB transceiver recently published. It
>was published for 75 meters, and I want to use it on 40 meters, thus the
>VFO change. The design to be used is that of figure 6-5 in "W1FB's QRTP
>Notebook". I am starting with a variable cap of from about 10 to 150 pF
>and trying to design the VFO around it. I have developed some math to
>help me, I hope there is someone that can tell me if I am on the right
>track with it.

The basic equation is f = 1/(2*pi*sqrt(L*C))

Reworked in other useful ways:

L = 1/(2*2*pi*pi*f*f*C)
C = 1/(2*2*pi*pi*f*f*L)

Pick an L: 24 Turns on a T-50-2 toroid core is about 2.3 uH. (recheck the equation for toroid inductance in the ARRL Handbook)

For a high frequency of 7.35 Mhz, we need a C of:

1/(4*9.87*7.35e6*7.35e6*2.3e-6) = 2.038e-10 or 204 pf

For the low frequency of 7.150, we need a C of:

1/(4*9.87*7.15e6*7.15e6*2.3e-6) = 2.154e-10 or 215 pf

Therefore, you need a varible cap with about a 9 to 10 pf tuning range, but you have a 10 to 150 pf varible. No problem!

Use a small series cap to reduce your effective tuning range to a 10 pf range, and use a fixed cap for the rest.

For two capacitors in series, the equivelent C is:

C = 1/(1/C1 + 1/C2)

Pick 30pf as an initial guess:

If the varible is at 150 pf you have: 1/(1/150 + 1/30) or 25 pf.
If the varible is at 10 pf you have: 1/(1/10 + 1/30) or 7.5 pf
The range is 25-7.5 or 17.5 pf which is too big, so pick a smaller C

Pick 20pf as the series cap:

at 150 pf, get 1/(1/150 + 1/20) or 17.6 pf
at 10 pf, get 1/(1/10 + 1/20) or 6.6 pf

Total range is 17.6 - 6.6 or 11 pf.

This may be close enough for you or you can try a bit smaller C and try again.

Since you need 204 pf at the high end, and we have found a combination that yields 6.6 to 17.6 when 20 pf is in series with your varible cap, your need C is a fixed 204-6.6 or 197.4 pf C in parrellel with the series combination of 20 pf and your variable capacitor.

The 197.4 pf is probably really 180 pf plus a trimmer cap.

There will of course be stray C in the circuit.

Use NPO type caps or polystyrene (sp?) for stability.

Everything should be mechanically stable or it will "ring" when the VFO is "pinged" mechanically.

The next step will probably be querries about VFO drift!

Good Luck!

- Dan Tayloe, WB0NVB, Phoenix, Az.

1924. Re: Source for Throat Mike?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <800226294snz@lfheller.demon.co.uk>
Source record: 112975

In article <Vflicks.4.000FA6FE@hookup.net> Vflicks@hookup.net writes:

> Does anyone know of a source for weather proof throat microphones?

People who have to use throat mics a lot, like the military, don't
like them very much. They give very poor speech quality and can be
very uncomfortable. You really need to press them against the larynx
for them to work properly, which is a nuisance. You could probably
pick some army surplus ones up at an amateur radio rally (hamfest
in the US).

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

1925. Re: Looking for sources for gel-cells

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3ou87r$n5s@solaris.cc.vt.edu>
Source record: 112976

In article <3oljrr$b83@bingnet1.cc.binghamton.edu>,
ntimofee@bingsuns.cc.binghamton.edu () wrote:
>
>Hi All,
> I am looking for a mail order source for NEW lead acid
>gel-cells. Addresses/Phone numbers/ any help you have.
>
>Thanks in advance.
>
>Mike
>N2XXA
>ntimofee@bingsuns.cc.binghamton.edu

Try Faulkner Enterprises of America (312 River St, Sabula IA; (319) 687-2479)
This company sets up at many of the hamfests around here. They deal in
surplus, however most are unused and some less than 1 year old, they take care
of the stock and charge them periodically. I don't know if that qualifies as
NEW but it's pretty damn close. They offer a guarantee, I forget the exact
details. I've bought several units from them at hamfests without any problem.
Price is about 1/4 the cost of "new" ones from Digi-Key, etc. Of course, if
you have a continuing need for exactly a certain type, etc, then you may need
to go to a factory distributor.

-Mike KD4QDM

1926. CB Radio to ham conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: ZUBZ00A@prodigy.com
Message-ID: <3ot5lf$1tvo@usenetp1.news.prodigy.com>
Source record: 112977

I have two old CB radios, and wonder if there is any fairly easy way to convert them to 10m ham radios. I'm new to ham radio so I need instructions fairly easy to follow. However, I'm no stranger to electronics repair, although I've never tried to do this type of modification before. Any advice appreciated.
TNX & 73, Rick KE4WWE

1927. Re: Pin-diode TR switching question(s)....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: Bill Schaff <schaff@iiiv.tn.cornell.edu>
Message-ID: <3ota0o$cso@newsstand.cit.cornell.edu>
Source record: 112978

In article <3oqp4m$7c9@crchh327.bnr.ca> Ken Edwards,
cnc23a@b4pph13e.bnr.ca writes:
>Subject: Pin-diode TR switching question(s).
>Will Pin-diode TR switching work up to frequencies in the 902-928 Mhz
>range ?

Motorola makes the MRFIC2003 900 MHz GaAs antenna switch. It is an IC
which will provide SPDT switching from 800 to 1000 MHz

1928. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950511121219.6895A-100000@pmafire.inel.gov>
Source record: 112979

On 10 May 1995, W8JI Tom wrote:

> I don't know if this is interesting enough to the population to tie up
> space here. You broached the subject of chip capacitors while I was

I, for one, enjoy observing the clash of titans. The exchanges are packed with information. Please continue posting.

Charles Mott

1929. Re: Pin-diode TR switching question(s)....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <3otphk$mgm@canyon.sr.hp.com>
Source record: 112980

Ken Edwards (cnc23a@b4pph13e.bnr.ca) wrote:
: Will Pin-diode TR switching work up to frequencies in the 902-928 Mhz
: range ?

: If so, can anyone give me pointers on how to accomplish this..

Yes, PIN diodes can do just fine there. In fact, there has been quite a bit of surplus hardware from the Japanese Personal Radio Band, 903-905 MHz, which does this. Mitsubishi, Toshiba and others make not only PA modules in the 1 mw -> 10W territory but also companion PIN switch modules.

I use some of this hardware in the 904 MHz digital radios I built. I have been able to switch 10+ watts with .5 dB or less insertion loss on transmit and not much more on receive and achieve turnaround times of under 40 microseconds. In fact the switch itself appears to be much faster than this.

Mitsubishi, at least, builds PIN switches for other bands. They indicate 2M, 70 cm, 33 cm and 27 cm versions in their catalog and I've seen and used all but the 2M one (model number MD007, I believe).

Generally, the T/R switches appear to be one or two quarter wave lines with a shunt diode(s) in the receive path and a single series diode in the Tx path. The 1296 MHz versions handles 30 watts just fine. It works well with the M57762 PA module.

If you are looking for one or two PIN switches to try for a ham project, I think I can find some that are surplus to my needs.

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| ftp://col.hp.com/hamradio/packet/n6gn/index.html |

1930. Where to get NorCal QRP C

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.2199.546@acenet.com>
Source record: 112981

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

If you are going to put out this information, please do all
of us a favor and let people know that they can NOT make out
any checks to NOR CAL for anything!

Mine was returned (annoyance) and I was told to make out another
check to "Jim Cates." This wastes a lot of time & resources.

I was not given any information either about the membership I had asked
for. No forms. No response!

Joining NORCAL may be more of a challenge than operating
QRP itself is!!

72 de AF4K
brian.carling@acenet.com

• SLMR 2.1a • You CAN trust the government; Ask any Indian!

1931. Re: cordless ph and freq change

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD8E1u9.JL0@netcom.com>
Source record: 112982

In article <3orkle$tg@news.panix.com> jconsole@panix.com writes:
>hello everyone
>
>has anybody taken a cordless phone and changed the frequency from 46mhz or whatever to the 900 mhz
>range. i would like to know which type of phone i can do this with. or mabey there is a project or a
>schematic where i can make my own cordless phone ?

To do this is pretty much impossible; the RF section for 49 MHz is utterly unlike the stuff used at the higher frequencies, which is why the higher frequency units cost so much. You don't get something for nothing.

However, you _can_ easy convert the RF section up to the 6 meter amateur radio band, add a PTT switch for simplex, and have yourself a nice little very-low-power 6M HT. I added a 2N2222 output stage on mine and boosted the power up to almost 200 mW, which is enough for me to regularly talk to friends across town, and sometimes do a bit of DXing in good conditions.

There are reports that some of the cellphones which use the Motorola chipset can be cranked up to the 2M band, but that the performance at the higher frequency is very poor. Still, it's the only HT that you can get at a garage sale for five bucks, and if you can hear the local repeater and manage to key it up, you're home free.
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

1932. GE ICOM channel element synthesizer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: smsmith@pinot.callamer.com
Message-ID: <3orulj$lot@clue.callamer.com>
Source record: 112983

Has anyone developed a programmable replacement for GE Icoms? Perhaps
something using a system similar to Motorola's MC145190 PLL line of chips.
Any info would be greatly appreciated.

steve (kc6wrd)

1933. Re toroid color codes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org
Message-ID: <1995May11.004355.8149@wb3ffv.ampr.org>
Source record: 112984

The short answer is that there is no standardized color code for ferrite or powdered iron cores. Please read my letter in the March 1994 issue of QST, on page 81, in the Technical Correspondence section, titled "Toroidal-Core Color Codes". If you do not positively know who made a particular core, its color tells you nothing whatsoever and cannot be trusted. Most ham projects seem to use the powdered iron cores sold by Amidon (and made by Micrometals), and those are color coded. They have become a sort of standard in homebrewing, and make it appear that there is a standard color code, but it is only one manufacturers color code system. On the other hand, since we do seem to stick pretty much with a single supplier, we can specify cores of a certain color with a fair amount of safety. (But it's usually best to keep on walking when you see bins of cores at a hamfest--you have no idea who made them, and it's risky at best to trust the colors on them.) 73 de WA8MCQ

1934. cordless ph and freq change

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: jconsole@panix.com
Message-ID: <3orkle$tg@news.panix.com>
Source record: 112985

hello everyone

has anybody taken a cordless phone and changed the frequency from 46mhz or whatever to the 900 mhz
range. i would like to know which type of phone i can do this with. or mabey there is a project or a
schematic where i can make my own cordless phone ?

thanks
please email me, i would appreciate it.

1935. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3otcb7$bl5@newsbf02.news.aol.com>
Source record: 112986

>Boy, I don't know where folks got this. Check the regs, it's there.
>1500W pep. Period. 1500 watts average power at the peak of an SSB
>signal, or 1500 watts continuous carrier (=1500W PEP). Also 1500W PEP on

>an AM signal, meaning a lower carrier power on AM (this makes the AM
>boatanchor folks *very* unhappy).

I know where they got it. PEP is the peak RMS power. The other power used is the short term AVERAGE RMS power. They get confused and think the AVERAGE RMS power is just the RMS power, and the PEP is just the peak power and not the peak RMS power. On CW of course the short term average RMS power is exactly equal to the PEP power, but somehow that is confusing.

And it is very common.

1936. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3otctf$k4k@newsworthy.west.sun.com>
Source record: 112987

In article <rohrwerkD8AEMG.Mxw@netcom.com>,
John Seboldt <rohrwerk@netcom.com> wrote:
>rkarlqu@scd.hp.com (Richard Karlquist) writes:
>
>>In article <3ojagk$7cp@newsbf02.news.aol.com>,
>>W8JI Tom <w8jitom@aol.com> wrote:
>>>The FCC allows 1500 watts PEP output on all modes. In order to operate
>
>>I thought you can only run 750 watts on FM or CW (key down power).
>
>Boy, I don't know where folks got this. Check the regs, it's there.
>1500W pep. Period. 1500 watts average power at the peak of an SSB
>signal, or 1500 watts continuous carrier (=1500W PEP). Also 1500W PEP on
>an AM signal, meaning a lower carrier power on AM (this makes the AM
>boatanchor folks *very* unhappy).

In particular, have a look at 97.313 for details.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

1937. Re: Pin-diode TR switching question(s)....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <3otfnp$kuf@crchh327.bnr.ca>
Source record: 112988

In article <3ota0o$cso@newsstand.cit.cornell.edu>, Bill Schaff
<schaff@iiiv.tn.cornell.edu> writes:
|> In article <3oqp4m$7c9@crchh327.bnr.ca> Ken Edwards,
|> cnc23a@b4pph13e.bnr.ca writes:
|> >Subject: Pin-diode TR switching question(s).
|> >Will Pin-diode TR switching work up to frequencies in the 902-928 Mhz
|> >range ?
|>
|> Motorola makes the MRFIC2003 900 MHz GaAs antenna switch. It is an IC
|> which will provide SPDT switching from 800 to 1000 MHz

This device only seems to handle 50 mW. I was hoping for something on
the 5 - 10 Watt capacity.

--
==========

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 991-4769 email: cnc23a@bnr.ca Ham: N4ZBB Packet: n4zbb@n1gmv.nc
DX PacketCluster (tm) Node : W4DW

All opinions are my own and do not necessarily reflect the views of
my employer or co-workers, family, friends, congress, or president.

1938. Re: 2m parametric amp/message for K4MSG.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.800212789@melpar>
Source record: 112989

davek@medphys.ucl.ac.uk (Dave Kirkby) writes:

>I posted an artical about 2m parametric amps here. Paul, k4MSG replied he had a
>circuit from an old ARRL VHF manual and would be willing to copy it if I wanted. I would
indeed like a copy, but my attempts to reply to his e-mail have failed, since my
>unix system does not appear to know about his e-mail address.

>If he sees this, could he plase sent me the artical. Sorry I cant reply personally.

Dave,

What's your address? I'll copy it tomorrow and mail it this weekend.

Paul, K4MSG pbock@melpar.esys.com

1939. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-11 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995May11.224915.9405@arrl.org>
Source record: 112990

W8JI Tom (w8jitom@aol.com) wrote:
: Zak,
: I don't know if this is interesting enough to the population to tie up
: space here. You broached the subject of chip capacitors while I was
: referring only to changing the dielectric in a given type of capacitor in
: a given application from air to PTFE. Let me clear that first before I
: give you measured data on an actual loop antenna.

Why not? Do you know there are actually people who want yet another
newsgroup, in hopes of getting more posts on topics like this.

: I don't think your argument is valid because the construction style and
: material in chip capacitors is very different than variable high power
: transmitting capacitors. For example, ATC makes some chip capacitors out
: of K15 Porcelain they call ATC 100 (ref ATC data book). This brew has a

: The ATC material and chip capacitor construction allows ATC to stack many
: short wide layers of material fractions of an inch from the terminals.
: That results in negligible series inductance. The very short conductor
: path also greatly reduces the resistance in the conductors. All of this
: adds up to a very good capacitor. The ATC Capacitor Handbook states that

Perhaps such ideas ought to be considered when designing capacitors
for transmitting loop antennas.

: OTOH, the PTFE piston capacitor I have evaluated in a loop antenna had a
: single layer of Teflon separating two in line tubes with a moveable
: plunger. This system has appreciable distributed inductance (the series
: resonant frequency was just over 100 MHz, compare that to a 110 pF chip!).
: BTW series inductance murders the ESR of any capacitor.

: These capacitors were manufactured by Polyflon and had an estimated Q of
: 5000. But when I asked the manufacturer if they ever measured the Q, they
: said NO. They used your simple method of just using the reciprocal of the
: DF! So here we have a component with an advertised Q of 5000 that was
: never measured! The capacitor costs 400 to 700 dollars. I'm really don't
: care what caused the losses in this cap, the bottom line is it was
: significantly poorer than specified and estimated. Yet it was very well
: constructed, and had no moving pressure contacts.

I know the Q of the ATC chip capacitors is rather good--see the December
1991 QST p.33 for a very narrow bandwidth LC filter using them (8 kHz at
3.8 MHz).

Sounds like that manufacturer was in error, just like those
manufacturers who build preamps and pass along the noise figures
claimed by the semiconductor manufacturers without ever measuring

the noise figure. On the other hand, the loss tangent or dissipation
factor is a real useful number to know--it gives you a clue into
what can be achieved.

I have to admit, I like to know why numbers don't match up.
For instance, I figured out that semiconductor manufacturers
have to use (relatively) high loss tuners and somehow factor that
error out of their NF numbers. Thus, 0.4 dB NF and an optimum
reflection coefficient of 0.9 may not be terribly accurate; your
best bet is to pop a few devices in a low loss cavity fixture and
see what happens...

much useful test data deleted

: The tests were only for one antenna and are only comparisons of
: capacitors. My conclusion is the use of any PTFE (incidentally, the
: substitution of standard polyethylene resulted in almost identical VSWR BW
: as the PTFE) degrades the performance of a reasonably well constructed
: loop. Of course if the loop had more loss, such as one made from coax or
: small tubing, the difference would be reduced. But if the antenna had less
: ohmic loss, such as one made from very large diameter copper tubing the
: difference would increase.

Another way of reducing loss is to reduce the loaded Q of the
system. The PTFE capacitors you didn't like might well be
acceptable in a different design, such as a loop for 10 meters
(Novice/Tech voice operation).

One of the problems with RF system design is that "high loss" or
"too lossy" really doesn't mean anything. That filter I mentioned
had 21 dB of loss, but worked great. I could hear QRPers despite
the 3 watts coming down the feedline only 22 kHz away from where
I was listening... On the other hand, 0.02 dB of loss can make
difference in the Microwave Update NF contest (I just compete,
I don't write the rules.)

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

1940. Re: Intermod filters for 2m

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995May12.090058.38399@ucl.ac.uk>
Source record: 112991

In article NAA27828@chaos.magibox.net, CNS@psimemphis.COM (C. Nathan Sykes) writes:
> >Hi! I love my Kenwood 251-A, except for the fact that local pagers in my
> >area wipe out some frequencies, and make some fairly local repeaters
> >unusable. Can I get some sort of filter to get rid of some of this
> >intermod? I don't need to get rid of it all, just cut it down
> >significantly to let the repeaters through on a couple frequencies.
>
> I have the same problem except my interference is from the city's
> fire & police communications center (150MHz) located 1/2 mile from
> the house, rather than from pagers (152MHz).
>
> Digi-key sells a Helical Filter for 2m -- tested at 145MHz with 2.8
> MHz bandwith (+/-6 MHz down 25db) with 8db loss. Would that help if
> inserted between the antenna and radio or is the problem in the
> radio. (Yes, I do have the wide receive turned on; I know, there's a
> price for everything).
Trouble is that would degrade the noise figure of your front end by 8dB. Since a noise figure of 2dB is about what you want on 2m, you receiver would be very deaf. A better bet would be a less selective, but lower loss filter.

davek G8WRB

1941. coil winding program wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: mikelder@aol.com
Message-ID: <3oupam$ov0@newsbf02.news.aol.com>
Source record: 112992

If anyone out there has a program that can help wind coils please tell me where I can get it. I have a program like that, but the danged thing is old and i have no docs; no info as to who wrote it and it dont work. Locks up my machine. All I have is an .exe file called coil.exe. It would sure be neat to have, The info screen says that all i need is the wire diameter and the inductance value wanted and it will tell me how big and how many turns, sure would be handy.
thanks
mikelder@aol.com

1942. commercial radio conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: mikelder@aol.com
Message-ID: <3oupu8$p3m@newsbf02.news.aol.com>
Source record: 112993

Any help on converting a motorola mitrek, syntor x, GE (dont remember the model #) would be appreciated. They all have eproms for frequency. Got a programmer but dont know how to enter correct data. I'm sure that somewhere out there is a FAQ for this, but I dont know where it is located, Can someone help me please? ANY info would be appreciated. These are neat radios and I got them very, very cheap. They also work good. They are VHF hi band radios.
frequencies are in the 150-160 range, I know that it can be done pretty easy. I have a pretty good knowledge of radios and have plenty of test equipment to work with. Thanks.
mikelder@aol.com

1943. Re: Ultra-miniature Direction-finding Unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: mikelder@aol.com
Message-ID: <3ounuh$oh2@newsbf02.news.aol.com>
Source record: 112994

a packet tnc can be adapted to the rs-232 output of the gps receiver and sent to a handheld (handi-talkie) for retransmission over the airwaves to be received at another location. The information that will be received will be whatever the gps receiver says. Very accurate. There are several gps receivers that have an rs-232 jack on them. Very small gps, very small (and low power tnc) and very small handie talkie. COOL...

1944. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: rsmith@internetmci.com
Message-ID: <3p021f$kig@news.internetmci.com>
Source record: 112995
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

You make good points Bob. I was pretty much responding to the net cops elitiste (SP) and pompous attitude.

1945. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: jlowman@netcom.com
Message-ID: <jlowmanD8H5pq.2rz@netcom.com>
Source record: 112996
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

amsoft@epix.net wrote:

: The World of Ham Radio CD-ROM MAY 1995 issue is now available.
: For more information contact amsoft@epix.net or the new AmSoft
: WWW site at: http:/hamster/business.uwo.ca:80/~amsoft/

: Pete, KC3TL voice: 717-938-8249 fax: 717-938-6767

Since we're getting off on a tangent here, let's step back and take a look. Even though netiquette frowns on advertising, I enjoy hearing of new products that are closely related to amateur radio. Let's face it...for those of us with 'Net access, we're going to hear about it here well before it hits CQ, QST or the other mags.

Here's something that works for the Linux enthuiasts: a moderated group for announcements, which permits new product announcements, as well as other announcements of general interest to that group. The subject lines for advertising-related announcements begin with "COMMERCIAL:" While I ordinarily dissaprove of moderated groups on censorship grounds, this works quite well. Linux enthusiasts can browse this newsgroup, skipping all posts that are clearly marked as commercials if they wish. The function of the moderator is to keep posts not related to Linux off the newsgroup.

So...I'll pose the question...are we ready to propose adding rec.radio.amateur.announce to the hierarchy?

Jim

--
jlowman@netcom.com | Jim Lowman * KF6CR* San Bernardino, CA
Systems Analyst | San Bernardino City Unified School District
(909) 881-8146 (O) | Unix: "It isn't supposed to be easy...If it
(909) 862-0662 (FAX)| was, everyone would be doing it." -Unknown-

1946. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: hayward@cs.uchicago.edu
Message-ID: <D8H7sD.76D@midway.uchicago.edu>
Source record: 112997
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <3oqtvq$hm1@hpbab.wv> Hank_Oredson@mentorg.com writes:
:In article <3ofsbt$fem@krel.iea.com>, n0dh@comtch.iea.com (D.C. Henderson) writes:
:|> amsoft@epix.net wrote:
:|>
:|> : The World of Ham Radio CD-ROM MAY 1995 issue is now available.
:|> : For more information contact amsoft@epix.net or the new AmSoft
:|> : WWW site at: http:/hamster/business.uwo.ca:80/~amsoft/
:|>
:|>
:|> you guys just don't get it do you......you didn't get enough flames the
:|> last time you used the rec.radio.****** bandwidth for commercial ads?
:|>
:|> :-(
:|> N0DH
:
:
:Or perhaps "YOU guys" (the self-annointed net cops) don't get it.
:
:There are many of us out here who welcome access to ANY and ALL
:information relating to our hobby.
:

Ah, sigh. The Net Cops are just like the OFs on HF; whether it
be ham radio or the net, there will be the OFs sitting in their
shack complaining about something

Kristin (WX9T)
--
Dr. Kristin Rachael Hayward
Director of Administrative Information Systems/Director of Business Services
University of Maine ftp 130.111.120.54 login:anonymous
home page: http://www.umeais.maine.edu/~hayward

1947. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <3p09ms$sup@ixnews3.ix.netcom.com>
Source record: 112998
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In <3p021f$kig@news.internetmci.com> rsmith@internetmci.com (Bob Smith) writes:
>
>You make good points Bob. I was pretty much responding to the
>net cops elitiste (SP) and pompous attitude.
>
Thanks guys...

This NET-COP phenomena is the damnedest counter-productive thing I have ever seen. If I was truly spamming the groups with some trash, I would love every netcop that jumped on my posting. Hey, in advertising, any press is good press. Let's say I only intended to post just once but I made a mistake and it took a couple of postings to correct that. I would have only created three postings about as long as this one is. If that was all, I would be worried about getting enough exposure. BUT NOOO... I can count on at least a half dozen jerks with their heads up their butts jumping on my case and keeping my ad running for at least a couple of weeks. It doesn't even matter whether or not my "ad" is relevant to the newsgroups I post it in. I certainly welcome the quarterly, less than 1k, posting about the Ham CD's. Even if I hated them, would I want to have the newsgroup cluttered with 100k of netcop ranting? A good cop understands some human nature and knows when to let things slide or when to just let go...
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

1948. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: rwilkins@ccnet.com
Message-ID: <3p0ohf$df7@ccnet3.ccnet.com>
Source record: 112999
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Jim Lowman (jlowman@netcom.com) recently wrote
in <jlowmanD8H5pq.2rz@netcom.com>:

: amsoft@epix.net wrote:
: : WWW site at: http:/hamster/business.uwo.ca:80/~amsoft/

: So...I'll pose the question...are we ready to propose adding
: rec.radio.amateur.announce to the hierarchy?

We have a similar group now. rec.radio.amateur.info

How about rec.radio.marketplace for new product announcements

Many of the other large collections of newsgroups have established the
marketplace group for similar posts. It has been proved quite popular
with readers, as well as the marketers. One stop shopping.

Bob

--
Bob Wilkins work bwilkins@cave.org
Berkeley, California home rwilkins@ccnet.com
94701-0710 play n6fri@n6eeg.#nocal.ca.usa.noam

1949. GE Phoenix SX programming

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: popyackl@ers.rl.af.mil
Message-ID: <383.popyackl@ers.rl.af.mil_POPMail/PC_3.2.2>
Source record: 113000
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Does anyone have the EEPROM programming information on the GE Phoenix SX line of radios?? I have the service manual and the programmers instruction manual, but neither of these show how the EEPROM data is organized. I have been trying to figure it out for days now. If someone has the programmer, take a look at the BASIC program which controlls it. Thanks. Len Popyack WF2V
popyackl@rl.af.mil

1950. Scope Repair

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9504128002.AA800296261@mails.imed.com>
Source record: 113001

I didn't save the info on the original posting.

I have some experience with some VERY old Tek scopes that work exactly as you describe and they are not broken. These are very old 5 inch round crts. The graticle on these old scopes only covered about 1/3 of the total area of the screen. If you tried to move the trace beyond the graticle, the beam hit one of the deflection plates!

If these don't describe your scope, then it is broken. If it is broken, you might also look at the accelerator voltage. If it is too low, the beam could very easily hit the vertical deflection plates. The previous suggestion to borrow another scope to troubleshoot yours is a good idea.

Ray Mack
WD5IFS
mack@mails.imed.com

1951. PEP Measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: Waltk@pica.army.mil
Message-ID: <9505121058.aa26656@COR5.PICA.ARMY.MIL>
Source record: 113002

W8JIT writes:

>>I know where they got it. PEP is the peak RMS power. The other power used
>>is the short term AVERAGE RMS power. They get confused and think the
>>AVERAGE RMS power is just the RMS power, and the PEP is just the peak
>>power and not the peak RMS power. On CW of course the short term average
>>RMS power is exactly equal to the PEP power, but somehow that is
>>confusing.

Okay, then why does my "peak" reading Coaxial Dynamics wattmeter
read 1500 PEP on CW, but something less (1400W) with a dead-full
carrier? Is it due to a different plate impedance at the final
amplifier stage? Or just a measurement inaccuracy?

Does anyone know how to change the *time constant* of the peak reading
mod kits for both Bird & CD meters. The time constant is too large
and its tough to tweak for max smoke while speaking. The el-cheapo
($100) Diamond meter I had worked well for tuning while talking.
Quick band changes are a must when operating a contest. Just curious.

.....
73 de Walt Kornienko - K2WK Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
Member: The Frankford Radio Club #1 Contest Club In The Universe
---

1952. Re: PEP Measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3p02mo$25k@newsbf02.news.aol.com>
Source record: 113003

>Okay, then why does my "peak" reading Coaxial Dynamics wattmeter
>read 1500 PEP on CW, but something less (1400W) with a dead-full
>carrier? Is it due to a different plate impedance at the final
>amplifier stage? Or just a measurement inaccuracy?

You can bet the ranch it is because you have envelope distortion or modulation caused by poor power regulation in the radio or amplifier. Most of it is probably power supply sag in the amplifier. You almost certainly have more power when the key is first closed than after a second or so.

1953. coherent cw

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: spearce@ccu1.auckland.ac.nz
Message-ID: <3p0kp7$1l3f@thebes.waikato.ac.nz>
Source record: 113004

What is the current status of coherent cw.
I have papers
1/by Woodson in qst 1981(may)
2/by weiss in cq 1977(june)

presumably there have been some advances since then. Could someone send me some more recent references .. maybe the address of the ccw association ..

I am interested in building up a system ... but would like to read up a bit on the current state of play
beforehand

Thanks

1954. Re: Superhet receiver question. Why a triple conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3p0mng$6or@misc1.microserve.net>
Source record: 113005

jdow@BIX.com (Joanne Dow) wrote:

> However my old "dream receiver" used up-conversion to the 150MHzish
> range with a monolithic crystal filter at the first IF for a "roofing filter." Then
> I downconverted to 9MHz for the final IF.

Funny you mentioned this, Joanne. I wanted to build an almost identical design for years, starting in the mid-70's. It was the complexity (and potential cost) of the project that stopped me. Do you know of any commercial receivers or transceivers that use this approach?

73,

Jack WB3U

1955. What to do???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: IFF161@DJUKFA11.BITNET
Message-ID: <95132.134605IFF161@DJUKFA11.BITNET>
Source record: 113006

e
>gaweb.com!newstf01.news.aol.com!uunet!prodigy.com!usenet

>Newsgroups: rec.radio.amateur.homebrew
>Subject: CB Radio to ham conversion?

>Organization: Prodigy Services Company 1-800-PRODIGY

>X-Newsreader: Version 1.2

>I have two old CB radios, and wonder if there is any fairly easy way to
>convert them to 10m ham radios. I'm new to ham radio so I need
>instructions fairly easy to follow. However, I'm no stranger to
>electronics repair, although I've never tried to do this type of
>modification before. Any advice appreciated.
>TNX & 73, Rick KE4WWE

Again I have experienced the problem of attempting to answer a request for information, this time to the sender of the above message, with the product of my effort bouncing back. What is wrong? It happens often and makes me feel like not bothering anymore. Do all these users have no "mailbox" for receiving incoming stuff; do they just send out a message and disappear? I tend not to believe in filling up the postings with material hardly of interest to more than one reader, so email seems like the solution for special needs, like the above, leaving only the general interest information over for posting to the group. Getting 30% of the email back kills any sense of doing something useful-there are better things to do with the time! Can one identify these lost causes in advance?
Bob<iff161@djukfa11>

1956. Info on 4-400A transmitting tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: "Jake A. Hellbach" <Jake_A._Hellbach@ccmail.mobil.com>
Message-ID: <3ovnef$39u@dlsn31.dal.mobil.com>
Source record: 113007

I bought a used 4-400A tube at a ham fest thinking I already had
a schematic to build an HF amp using it, but in looking I found I
didn't have anything on it (just the specs. on the tube from an old
ARRL manual). I have schematics on the 3-500 as well as others
and I was wondering if the schematic would be very different for
the 400.
Or does anyone have a something for this tube? I would pay for copying
and postage.
Also how do you tell which is pin 1? I've never used these types of
tubes.

Thanks for any info.
Jake KK5HY

1957. Re: Source for Throat Mike?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD8Gw1A.Mz2@netcom.com>
Source record: 113008

In article <800226294snz@lfheller.demon.co.uk> Leon@lfheller.demon.co.uk writes:
>In article <Vflicks.4.000FA6FE@hookup.net> Vflicks@hookup.net writes:
>
>> Does anyone know of a source for weather proof throat microphones?
>
>People who have to use throat mics a lot, like the military, don't
>like them very much. They give very poor speech quality and can be
>very uncomfortable. You really need to press them against the larynx
>for them to work properly, which is a nuisance. You could probably
>pick some army surplus ones up at an amateur radio rally (hamfest
>in the US).

Fair Radio Sales in Lima, OH, has the T-1 throat mikes (probably WWII
vintage Air Force units) for sale. There is a British version of the
same mike made by Marconi, which is just as lousy sounding and can probably
be located from a similar dealer in the UK.
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

1958. FASTCASH.TXT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: rmaiers@nmsu.edu
Message-ID: <3p0aq7$qpv@bubba.NMSU.Edu>
Source record: 113009

From rmaiers@nmsu.eduFri May 12 12:30:40 1995
Date: Fri, 12 May 1995 12:29:56 -0600 (MDT)
From: "Richard P. Maiers" <rmaiers@nmsu.edu>
To: "Richard P. Maiers" <rmaiers@nmsu.edu>
Subject: (fwd) EARN $50,000 -- REAL AND LEGAL!!! (fwd)

---------- Forwarded message ----------
Date: Fri, 12 May 1995 09:54:56 -0600
From: rmaiers@NMSU.Edu
To: rmaiers@nmsu.edu
Newgroups: biz.marketplace.international.discussion
Subject: (fwd) EARN $50,000 -- REAL AND LEGAL!!!

Path: bubba.NMSU.Edu!news.pr.erau.edu!nntp.et.byu.edu!gatech!howland.reston.ans.net!news-e
1a.megaweb.com!newstf01.news.aol.com!newsbf02.news.aol.com!not-for-mail
From: johno10661@aol.com (JohnO10661)
Newsgroups: biz.marketplace.international.discussion
Subject: EARN $50,000 -- REAL AND LEGAL!!!
Date: 10 May 1995 13:45:47 -0400
Organization: America Online, Inc. (1-800-827-6364)
Lines: 125
Sender: root@newsbf02.news.aol.com
Message-ID: <3oqu4b$noc@newsbf02.news.aol.com>
Reply-To: johno10661@aol.com (JohnO10661)
NNTP-Posting-Host: newsbf02.mail.aol.com

PLEASE LISTEN BEFORE YOU START FLAMING ME. I THOUGHT THESE
THINGS WERE SCAMS ALSO BUT IN THE LAST WEEK I RECEIVED
$50,000 IN THE MAIL FROM PEOPLE AROUND THE WORLD. I DON'T
KNOW ABOUT PYRAMID SCHEMES OR ANYTHING LIKE THAT BUT I DO
KNOW I MADE $50,000 AND ALL I GAVE WAS 5 MEASLY BUCKS. I WANT
OTHER PEOPLE TO JOIN IN MY GOOD FORTUNE!!!
-A satisfied customer!

INSTRUCTIONS

Follow these instructions EXACTLY, and in 20 to 60 days you will
have received over 50,000.00 dollars IN CASH.

[1] Immediately mail $1.00 to the first 5 names listed below,
starting at number 1 through number 5. SEND CASH ONLY. (Total
investment: $5.00 + postage) >ENCLOSE A LETTER WITH A NOTE
SAYING:
"Please add my name to your mailing list". Include your name
and mailing address. This is a legitimate service that you are
requesting and you are paying $1.00 for this service.

[2] Remove the name that appears as number 1 on the list. Move the other 9 names up one position (Number 2 becomes number 1, number 3 becomes number 2, and so on). Place your name, address, and zip code in the number 10 position.

[3] With your name in the number 10 position, upload this ENTIRE file to 15 (Fifteen) different bulletin boards (local or out-of-state). You may post it to the BBS's message base or to the file section. Name it FASTCASH.TXT, and use the file description comments to draw attention to this file and its great potential for all of us.

[4] Within 60 days you will receive over $50,000.00 in CASH. Keep a copy of this file for yourself so that you can use it again and again whenever you need money. As soon as yu mail out these letters you are automatically in the mail order business. People will be sending YOU $1.00 to be placed on your mailing list. This list can then be rented to a broker that can be found in your local yellow pages listings for additional income on a regular basis.

The list will become more valuable as it grows in size.
This is a service. ** IT IS PERFECTLY LEGAL **
If you have any doubts as to the legality of this service, please refer to Title 18,h sections 1302 and 1341 of the Postal Lottery Laws.
NOTE: Make sure that you retain EVERY name and address sent to you, either on computer or hard copy, but do not discard the names and notes that people send to you. This is PROOF that you are truly providing a service, and should the I.R.S. or some other government agency question you, you can provide them with this proof!
Remember, as each post is downloaded and the instructions carefully followed, five members will be reimbursed for their participation as List Developer with $1.00 each. Your name will move up the list geometrically so that when your name reaches the number 5 position you will be receiving thousands of dollars in cash.
REMEMBER - THIS PROGRAM FAILS ONLY IF YOU ARE NOT HONEST -PLEASE!!PLEASE BE HONORABLE...IT DOES WORK! THANK YOU.

1. Jason Song 50 La Verne Ave. Long Beach CA 90803
2. Hardeep Malik 6475 Marguerite St. Vancouver BC V6M 3L5 Canada
3. Chris Kraemer 450 Beacon St Boston MA 02115
4. John Onysko 3790 Biltz Road Kent OH 44240
5. Dien Tran 19 Presnell St. Portland ME 04102
6. Marc Provencher 444 Capisic St. Portland ME 04102
7. James Grubic P.O. Box 8161 Bozeman MT 59773
8. Zach Nelson 311 Sycamore Road West Reading PA 19611
9. Francis Pineda 11402 Grago Dr. Fort Washinton MD 20744
10. Richard Maiers 400 W. College Ave Las Cruces NM 88005

The following letter was written by a participating member in this program.

****

To those with the COMMON sense to participate in this easy money opportunity:

About six months ago I received the enclosed post in letter form. I ignored it. I received about five more of the same letter within the next two week. I ignored them also. Of course, I was tempted to follow through and dreamed of making thousands, but I was convinced it was just another gimmick and could not possibly work.

I was wrong! About three weeks later I saw this same letter posted on a local bulletin board in Montreal. I liked the idea of giving it a try with my computer. I didn't expect much because I figured, if other people were as skeptical as I, they would not be too quick to part with $5.00. But, I BUY LOTTERY TICKETS WEEKLY IN MY PROVINCE AND HAVE NOTHING TOO SHOW FOR IT BUT TICKET STUBS! This week I decided to look at this as my weekly lottery purchase. I addressed the envelopes and mailed out $1.00 in each as directed. Two weeks went by and I didn't receive anything in the mail. The fourth week rolled around and I couldn't believe what happened! I can not say that I received $50,000.00, but it was definitely well over $35,000.00! For the first time in 10 years I got out of debt. It was great. Of course, it did not take me long to go through my earnings, so I am using this excellent money making opportunity once again.

FOLLOW THE INSTRUCTIONS AND GET READY TO ENJOY!

Please send a copy of this letter along with the enclosed letter so together we can convince people who are skeptical that this really does work!

Good Luck,

Charles Kust

P.S. Everyone participating in this program keeps track of all the names from whom they receive money. If you decide NOT to be HONEST, and NOT to send money to the first 5 people on the list, you can always be tracked down and sued, and I'm sure that you DON'T want that.

Well, in any case, we hope that you follow through with all the instructions in this letter in order to keep this thing going. If you do, you may expect to start getting mail from your first clients in less than three weeks.

Good luck, and we hope that you can benefit from this, just like numerous others from coast to coast, and all over the world.

1959. Re: PEP Measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: hawley@aries.scs.uiuc.edu
Message-ID: <hawley.800321608@aries>
Source record: 113010

Waltk@pica.army.mil writes:

>W8JIT writes:

>>>I know where they got it. PEP is the peak RMS power. The other power used
>>>is the short term AVERAGE RMS power. They get confused and think the
>>>AVERAGE RMS power is just the RMS power, and the PEP is just the peak

>Does anyone know how to change the *time constant* of the peak reading
>mod kits for both Bird & CD meters. The time constant is too large
>and its tough to tweak for max smoke while speaking. The el-cheapo

On the Bird, the peak ckt is potted, but I repaired a broken one by chipping
all the potting compound off the board. There is a capacitor C1 and a resistor
R7 (that's what they are called in my notes, I think they were labeled on the
board) which is the time constant. Paralleling R7 with another resistor will
speed up the decay. The chip is just a 4 opamp IC like an LM324. The resistor
cap combination are connected between pin12 and gnd. The last amp, pin12 in and
pin 14 out, is a follower so as not to load the time constant capacitor. I thinkthe ckt. is
dumb because they use 2 batteries which last 24 hours if you forget to turn it off. I use a
ckt with a single ended opamp LM358. You can buy the kitfor it from KF8AT. Works on any
meter. Use 2 for crossneedle meters and set the
timeconstant long to see your SWR while you talk. Install a switch and have fastor slow
timeconstant.
KF8AT, Floyd is at 810-391-6660. He is also the Collins Net manager.

Chuck Hawley
Amateur Radio KE9UW
BMW K100RS rider, BMWMOA #224
hawley@aries.scs.uiuc.edu
Sr. Research Engineer Emeritus
School of Chemical Sciences
Univ of Ill, Urbana-Champaign

1960. Re: Info on 4-400A transmitting tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: n7ws@aol.com
Message-ID: <3p1aes$clk@newsbf02.news.aol.com>
Source record: 113011

In Message-ID: <3ovnef$39u@dlsn31.dal.mobil.com>Jake writes:

>I bought a used 4-400A tube at a ham fest thinking I already had
a schematic to build an HF amp using it, but in looking I found I
didn't have anything on it (just the specs. on the tube from an old
ARRL manual). I have schematics on the 3-500 as well as others
and I was wondering if the schematic would be very different for
the 400.
>Or does anyone have a something for this tube? I would pay for copying
and postage.
>Also how do you tell which is pin 1? I've never used these types of
tubes.

Jake, I can't help immediately, but I might have something in my files
that would help. I would ask tho.. do you really want to put out the
effort to build something around one tube of unknown condition? Also, is
the power increase worthwhile. Not trying to discourage you, just asking.

Wes Stewart, N7WS
n7ws@aol.com

1961. Re: SSB Generation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: paulbreed@aol.com
Message-ID: <3p0vfq$9ar@newsbf02.news.aol.com>
Source record: 113012

><Snip>

The third method is called the Weaver Method.

and No I haven't tried it.

Paul Breed
Kl7JG

1962. Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950512150620.28985A-100000@pmafire.inel.gov>
Source record: 113013

When I look through the Digi-Key catalog for crystals, some are described as having a load capacitance (15-30 pf) and others are described as "series". What is the difference? Also, the PIC microcontrollers have fuse bits to distinguish between three types of crystals: LP, XT, and HS. Would anyone know if this is standard nomenclature? Finally, I would be curious to know what an AT cut crystal is.

Charles Mott

1963. Parametric Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9504128003.AA800322067@mails.imed.com>
Source record: 113014

K4MSG asked about 2 M parametric amps

Dave:

There was a series of articles in QST circa 1968. I know I have them in
the attic. I'll search this weekend. Send a snail mail address and I'll
photocopy and mail them to you. Of course I could use the web and look it up!

Ray Mack
WD5IFS
mack@mails.imed.com

1964. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-12 00:00:00 UTC
From: ilkka.kontola@nmp.nokia.com
Message-ID: <ilkka.kontola.44.0009E0C3@nmp.nokia.com>
Source record: 113015

In article <3otcb7$bl5@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>From: w8jitom@aol.com (W8JI Tom)

>I know where they got it. PEP is the peak RMS power. The other power used
>is the short term AVERAGE RMS power. They get confused and think the
>AVERAGE RMS power is just the RMS power, and the PEP is just the peak
>power and not the peak RMS power. On CW of course the short term average
>RMS power is exactly equal to the PEP power, but somehow that is
>confusing.

>And it is very common.

RMS voltage and RMS current are useful ways to describe AC signals.
A 100 V RMS voltage will heat a resistive load with same power as 100 V DC
voltage does. That is the definition.

RMS power can be calculated but it has no meaning. 100 V RMS voltage
at 100 ohms resistive load will heat the load with 100 W _average_ power.

Finnish amater radio regulations explain the PEP and carrier power
concepts quite well (IMHO):

---------- Quote on

1.10 The power of the radio station is defined as follows:

1.11 Peak Envelope Power (pX) (of a radio transmitter): The
average power supplied to the antenna transmission line by a transmitter
during one radio frequency cycle at the crest of the modulation
envelope taken under normal operating conditions (RR 151).

1.12 Mean power (pY) (of a radio transmitter): The average
power supplied to the antenna transmission line by a transmitter
during an interval of time sufficiently long compared with the
lowest frequency encountered in the modulation taken under normal
operating conditions (RR 152).

1.13 Carrier Power (pZ) (of a radio transmitter): The average
power supplied to the antenna transmission line by a transmitter
during one radio frequency cycle taken under the condition of
no modulation (RR 153).

---------- Quote off

(See "Finnish Amateur Radio Assosiation" home page at
http://www.compart.fi/SRAL/Welcome.html
for more information)

The (RR xxx) tags point to international Radio Regulations.

Please note that _both_ the carrier power and PEP power definitions contain the word average. That is the way AC power is defined!

For instance 100 W CW or 100 W FM signal is 100 W PEP.

73 de Ilkka OH3NJC

****
Ilkka Kontola E-Mail: ilkka.kontola@nmp.nokia.com
Nokia Mobile Phones Amateur packet radio: oh3njc@oh3rbr
Tampere, Finland

1965. Re: Info on 4-400A transmitting tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May13.091539.26908@ke4zv.atl.ga.us>
Source record: 112868

In article <3ovnef$39u@dlsn31.dal.mobil.com> "Jake A. Hellbach"
<Jake_A._Hellbach@ccmail.mobil.com> writes:
>I bought a used 4-400A tube at a ham fest thinking I already had
>a schematic to build an HF amp using it, but in looking I found I
>didn't have anything on it (just the specs. on the tube from an old
>ARRL manual). I have schematics on the 3-500 as well as others
>and I was wondering if the schematic would be very different for
>the 400.

Indeed, the 4-400A is *quite* different from a 3-500, not the least
of the difference is that it is a tetrode rather than a triode.
Trying to use one in the typical grounded-grid configuration used
with the 3-500 will be futile. Most uses of the 4-400A are in common
cathode configuration, and the gain is quite high in that configuration.
Stability can become a serious issue if you aren't careful. The high
power gain, however, means that the 4-400 is suitable for boosting
low power equipment to quite high power levels. Since the FCC put
an external amplifier power gain limit on commercial amplifiers sold
to amateurs, you don't see many commerical examples of the common cathode
circuit anymore. Try one of the older editions of the ARRL Handbook.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1966. Re: Source for Throat Mike?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May13.092027.26987@ke4zv.atl.ga.us>
Source record: 112869

In article <kludgeD8Gw1A.Mz2@netcom.com> kludge@netcom.com (Scott Dorsey) writes:
>In article <800226294snz@lfheller.demon.co.uk> Leon@lfheller.demon.co.uk writes:
>>In article <Vflicks.4.000FA6FE@hookup.net> Vflicks@hookup.net writes:
>>
>>> Does anyone know of a source for weather proof throat microphones?
>>
>>People who have to use throat mics a lot, like the military, don't
>>like them very much. They give very poor speech quality and can be
>>very uncomfortable. You really need to press them against the larynx
>>for them to work properly, which is a nuisance. You could probably
>>pick some army surplus ones up at an amateur radio rally (hamfest
>>in the US).
>
>Fair Radio Sales in Lima, OH, has the T-1 throat mikes (probably WWII
>vintage Air Force units) for sale. There is a British version of the
>same mike made by Marconi, which is just as lousy sounding and can probably
>be located from a similar dealer in the UK.
>--scott

Note, these are *carbon* microphones. You'll need a local battery
circuit to interface them with modern radios. Fidelity sucks too.
For a modern throat microphone, you want a piezo pressure zone
design. These require an interface circuit too, but fidelity will
be better. You'll probably do better to consider an *ear* mike.
These work by sound conduction too, and are commercially available
to match modern radios.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1967. Re: Where to buy X-band waveguide

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: David Chapman <dave@chassis.demon.co.uk>
Message-ID: <800377603snz@chassis.demon.co.uk>
Source record: 112870
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <WATSR.95May4175911@ossparc15.essex.ac.uk>
watsr@essex.ac.uk "Watson R J" writes:
>
> Anyone know where I can obtain X-band rectangular waveguide in the UK
> preferably in small quantitities (ie. I only need about 1m)

Try Mainline Electronics at P.O. Box 235, LEICESTER, LE2 9SH who you
can 'phone on 01533-777648/780891. In the catalogue I have they are
offering waveguide WR90 (8.2 - 12.4GHz) for 7.87 UKP per foot.
They also have a great range of VHF/UHF/SHF IC's, components etc.,
>
Good luck!
--
Dave Chapman - Consultant at Chapman Associates (dave@chassis.demon.co.uk)
There are three kinds of people in this old world of ours.....
Those that MAKE things happen... Those that WATCH things happening...
And Those that say "WHAT THE **** HAPPENED?" Which are you?

1968. Re: Designing VFOs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <gate.m1215c8w165w@ersys.edmonton.ab.ca>
Source record: 112871

In article <kell-1005951636580001@netguy.jsc.nasa.gov>,
kell@mpac.jsc.nasa.gov (Ted Kell) wrote:
>I am trying to build a VFO for a SSB transceiver recently published. It
>was published for 75 meters, and I want to use it on 40 meters, thus the
>VFO change. The design to be used is that of figure 6-5 in "W1FB's QRTP
>Notebook". I am starting with a variable cap of from about 10 to 150 pF
>and trying to design the VFO around it. I have developed some math to
>help me, I hope there is someone that can tell me if I am on the right
>track with it. The base is the equation for resonant frequency of f =
>1/(2*pi*sqrt(l*c)) whic can be changed to 4*pi*pi*f*f*l*c = 1. Now if
>one considers a range of frequencies of the VFO of from fmin to fmax
>caused by changing the variable cap from cmin to cmax (where cmin > cmax -
>lower c means higner frequency), and break the c into c + cmin and c +
>cmax you have two equations,
>
>4*pi*pi*fmin*fmin*l*(c+cmin) = 1 and 4*pi*pi*fmax*fmax*l*(c+cmax) = 1.
>
>Setting them equal you get
>
>4*pi*pi*fmin*fmin*l*(c+cmin) = 4*pi*pi*fmax*fmax*l*(c+cmax)
>
>Now divide by 4*pi*pi*l
>
>fmin*fmin*(c+cmin) = fmax*fmax*(c+fmax)
>
>Solve for c and you get
>
>c = (fmin*fmin*cmin - fmax*fmax*cmax)/(fmax*fmax - fmin*fmin)
>
>which should be the remaining amount of capacitance for the circuit. Is
>this correct?
>
>Once you have c you can find l by l = 1/(4*pi*pi*fmin*fmin*(c+cmin)).
>
>I hope that there is someone out there that can help me. I have the
>feeling that this is entirely wrong, but can not figure out why. There
>must be some straightforward way to figure out what the C and L for a VFO
>based upon a variable cap in hand.
>
>73 and HELP!!
>
>Ted Kell
>KC5CUW
>

>--
>Ted Kell@mpac.jsc.nasa.gov
>KC5CUW/AA

Ump, I'm too tired to follow your math at the moment. But the whole problem is fairly simple. For a given L and F the capacitance to resonate is
1) C = 1/((2*pi*F)^2*L

Presume a fixed L and a variable C. Then the C to resonate with a given frequency varies with 1/(F)^2. If you have C1 at F1 and C2 at F2 you get the obvious relationship:

2) C1/C2 = (F2/F1)^2

Or alternatively:
3) C1 = (F2/F1)^2 * C2

Then you can get the difference between C1 and C2 as
4) C2-C1 = C2 (1 - (F2/F1)^2))

Since you know C2-C1 is ~140pF you can plug that and the frequncies into 4 and get C2. Then from 3 you can get C1. From this you can calculate the shunt capacitance you need by subtracting the 10pF minimum capacitance from C1. And from 1) and C1 you can calculate L.

Best give L and Cshunt a modest amount of trimming range so that you can calibrate the puppy if you want to.

{^_^} Joanne Dow, Amiga Exchange Editor on BIX
jdow@bix.com The Wizardess

1969. Re: FASTCASH.TXT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: kirk@uslink.net
Message-ID: <kirk.12.2FB3F7CD@uslink.net>
Source record: 112872

THIS CRAP IS "OUTTA LINE!"

In article <3p0aq7$qpv@bubba.NMSU.Edu> rmaiers@nmsu.edu
(Richard P. Maiers) writes:

>PLEASE LISTEN BEFORE YOU START FLAMING ME. I THOUGHT THESE
>THINGS WERE SCAMS ALSO BUT IN THE LAST WEEK I RECEIVED
>$50,000 IN THE MAIL FROM PEOPLE AROUND THE WORLD. I DON'T
>KNOW ABOUT PYRAMID SCHEMES OR ANYTHING LIKE THAT BUT I DO
>KNOW I MADE $50,000 AND ALL I GAVE WAS 5 MEASLY BUCKS. I WANT
>OTHER PEOPLE TO JOIN IN MY GOOD FORTUNE!!!
> -A satisfied customer!

> INSTRUCTIONS...

Please, spew spam elsewhere!

-Kirk, NT0Z

1970. Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: fred.mckenzie@spacecoast-bbs.com
Message-ID: <8A94330.009100032D.uuout@spacecoast-bbs.com>
Source record: 112873

JM> When I look through the Digi-Key catalog for crystals, some are
JM> described as having a load capacitance (15-30 pf) and others are
JM> described as "series". What is the difference?
JM> .... Finally, I would be curious to know what an AT cut
JM> crystal is.
Jack-
Quartz crystals can be compared with series and parallel LC tuned circuits. They have both a parallel (high impedance) resonance and a series (low impedance) resonance, at slightly different frequencies. The series resonant frequency can be affected by a series reactive element, like an inductor. Frequency is normally specified with no series reactance.
The parallel resonant frequency is affected by a parallel reactance, usually a capacitance. Thus, a "load" capacitance must be specified when ordering.
Radio crystals are cut from natural quartz crystals. It is found that crystals cut at differing angles from the natural quartz axis, have differing frequency-versus-temperature characteristics. An "AT" cut crystal has the most stable temperature characteristic.
73, Fred, K4DII

This copy of Freddie 1.2.5 is being evaluated.

1971. Re: Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: n7ws@aol.com
Message-ID: <3p1pm4$fta@newsbf02.news.aol.com>
Source record: 112874

Jack Mott writes:

>When I look through the Digi-Key catalog for crystals, some are described

as having a load capacitance (15-30 pf) and others are described as "series". What is the difference? Also, the PIC microcontrollers have fuse bits to distinguish between three types of crystals: LP, XT, and HS.

Would anyone know if this is standard nomenclature? Finally, I would be curious to know what an AT cut crystal is.<

Jack:
When a crystal is specified with a load capacitance, it is calibrated for "parallel" (anti) resonance. The crystal isn't really operated at its own parallel resonant frequency but at a frequency where it appears to be an inductor that resonates with the parallel combination of its own shunt capacitance and that of the load capacitor. A series mode crystal doesn't have a specified load capacitance. There is no physical difference between the two, the only difference is the calibrated frequency.

LP, XT, and HS. don't mean anything to me. I'm sure someone else can help with this. An AT cut describes the way the crystal lattice was oriented when the slice was taken. Different cuts (AT, BT, SC, etc) have various properties having to do with temperature stability, drive levels, etc.

HTH, 73,
Wes Stewart, N7WS
n7ws@aol.com

1972. Re: Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3p3f06$nn@misc1.microserve.net>
Source record: 112875

Jack Mott <jackm@pmafire.inel.gov> wrote:
>When I look through the Digi-Key catalog for crystals, <snip>

Hi Charles,

I have no info regarding LP, XT or HS crystals, but the following should help to answer some of your other questions. All excerpts are from "The Radio Handbook", Eleventh Edition, Copyright 1947 by Editors and Engineers, Ltd.

73, Jack WB3U

The shunt capacitance of the electrodes and associated wiring (crystal holder and socket, plus circuit wiring) is represented by the dotted portion of Figure 4B. <Figure 4B shows a dotted-line capacitor, C2, labeled "Stray Shunt" connected in parallel across an inductor and capacitor which are in series> In a high frequency crystal, this will be considerably greater than the capacitive component of an equivalent L/C circuit, and unless the shunt capacitance is balanced out in a bridge circuit, the crystal will exhibit both resonant (series resonant) and anti-resonant (parallel resonant) frequencies, the latter being slightly higher than the series resonant frequency and approaching it as C2 is increased.

The parallel resonant characteristic permits the crystal to be used in place of an L/C tank in an oscillator, with greatly increased stability as a result of the much higher Q.

The series resonance characteristic is employed in crystal filter circuits in receivers . . . and also in certain oscillator circuits wherein the crystal is used as a selective feedback element in such a manner that the phase of the feedback is correct and the amplitude adequate only at or very close to the series resonant frequency of the crystal . . .

The crystal "blank" is cut from the raw quartz at a predetermined orientation with respect to the optical and electrical axes, the orientation determining the activity, temperature coefficient, thickness coefficient, and other characteristics. Various orientations or "cuts" having useful characteristics are illustrated in Figure 5. <Figure 5 contains several sub-drawings too complex to describe well in print.> . . .

The temperature coefficient of frequency for various crystal cuts of the "-T" rotated family is indicated in Figure 5.

<<<
The following table showing angles of cut is part of Figure 5:

High Frequency AT,BT
Low Frequency CT,DT,ET,FT

AT +35 deg, 15 min
BT -49 deg
CT +38 deg
DT -52 deg
ET +66 deg
FT -57 deg
>>>

These angles are typical, but crystals of a certain cut will vary slightly. By controlling the orientation and dimensioning, the "turning point" (point of zero temperature coefficient) for a BT cut plate may be made either lower or higher than the 75 degrees shown. <This number refers to another aspect of the cut angle> Also, by careful control of axes and dimensions, it is possible to get AT cut crystals with a very flat temperature-frequency characteristic . . .

For frequencies between 500 kc. and about 6 Mc., the AT cut crystal now is the most widely used. It is active, can be made free from spurious responses, and has an excellent temperature characteristic. However, above 6 Mc. it becomes quite thin, and a difficult production job. Between 6 Mc. and about 12 Mc., the BT cut plate is widely used. It also works well between 500 kc. and 6 Mc., but the AT cut is more desirable when a high order of stability is desired and no crystal oven is employed . . .

By grinding the crystal especially for harmonic operation, it is possible to enhance its operation as a harmonic resonator, and BT and AT cut crystals designed for optimum operation on the 3rd, 5th, and even the 7th harmonic are available. The 5th and 7th harmonic types, especially the latter, require special holder and oscillator circuit precautions for satisfactory operation, but the 3rd harmonic type needs little more consideration than a regular fundamental type. A crystal ground for optimum operation on a particular harmonic may or may not be a good oscillator on a different harmonic or on the fundamental. One interesting characteristic of a harmonic cut crystal is that its harmonic frequency is not quite an exact multiple of its fundamental, though the disparity is very small.

The harmonic frequency for which the crystal was designed is the "working frequency". It is not the "fundamental", but the crystal itself actually oscillates on this "working frequency" when it is functioning in the proper manner.

1973. Re: coherent cw

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: jbloom@nai.net
Message-ID: <3p2117$atj@a3bsrv.radnet.com>
Source record: 112876

spearce@ccu1.auckland.ac.nz wrote:

> What is the current status of coherent cw.
> I have papers
> 1/by Woodson in qst 1981(may)
> 2/by weiss in cq 1977(june)

> presumably there have been some advances since then. Could someone send me some more recent
>references .. maybe the address of the ccw association ..

> I am interested in building up a system ... but would like to read up a bit on the current state of play
>beforehand

You may want to take a look at "A DSP Version of Coherent-CW," by Bill DeCarle, VE2IQ. It's in the February 1994 issue of QEX (contact ARRL for reprints: lweinberg@arrl.org). It uses an IBM PC and a small circuit board that appeared in the January 1992 QST and also in recent Handbooks ("A Receiver Spectral Display using DSP").

Also contact:

CCW Interest Group
Peter Lumb, G3IRM
2 Briarwood Ave.
Bury St. Edmunds
Suffolk IP33 3QF
England

--
Jon Bloom, KE3Z
jbloom@nai.net

1974. Re: cordless ph and freq change

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: geertj@ripe.net
Message-ID: <D8Hrqn.JKL@inter.NL.net>
Source record: 112877

In <3orkle$tg@news.panix.com> jconsole@panix.com writes:

>has anybody taken a cordless phone and changed the frequency from 46mhz or whatever to the 900 mhz
>range. i would like to know which type of phone i can do this with. or mabey there is a project or a
>schematic where i can make my own cordless phone ?

Hi,

Changing a rig's frequency is more difficult the more the two frequencies
differ. E.g. changing PMR equipment from 155 MHz to 145 MHz is feasible,
while changing the same equipment to 430 MHz is a major undertaking
(you are probably better off building new stuff in the last case).

The difference in techniques applied in equipment for 46 MHz
and 900 MHz is very significant.
For this readin, I think that it is practically impossible
what you want. You are better off building dedicated 900 MHz stuff
from scratch.

73,

Geert Jan, PE1HZG

1975. Re: FASTCASH.TXT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3p1f0p$agl@vixen.cso.uiuc.edu>
Source record: 112878

In a previous article, rmaiers@nmsu.edu (Richard P. Maiers) says:

>
>PLEASE LISTEN BEFORE YOU START FLAMING ME. I THOUGHT THESE
>THINGS WERE SCAMS ALSO BUT IN THE LAST WEEK I RECEIVED
>$50,000 IN THE MAIL FROM PEOPLE AROUND THE WORLD. I DON'T
>KNOW ABOUT PYRAMID SCHEMES OR ANYTHING LIKE THAT BUT I DO
>KNOW I MADE $50,000 AND ALL I GAVE WAS 5 MEASLY BUCKS. I WANT
>OTHER PEOPLE TO JOIN IN MY GOOD FORTUNE!!!
> -A satisfied customer!
>

This is all fine and dandy, but what does it have to do with homebrew ham
radio?
Zack W9SZ

1976. Re: cordless ph and freq change

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3p1frb$c1u@vixen.cso.uiuc.edu>
Source record: 112879

>
>>has anybody taken a cordless phone and changed the frequency from 46mhz or whatever to the 900 mhz
>>range. i would like to know which type of phone i can do this with. or mabey there is a project or a
>>schematic where i can make my own cordless phone ?
>
It is much easier to change a 46 MHz phone to 52 MHz. You would probably have to have the crystals custom-made for your operating frequency, but most of the newer phones use 2 frequencies in the 46-49 MHz range, and these can be used with very little modification on 6 meters.

The older phones used 2 MHz from the base to the handset (house wiring was the antenna) and 46 MHz from the handset to the base. Maybe these could be used cross-band 160 to 6 meters? :-)

I did see a new phone that operated in the 900-MHz range, it was perhaps a Panasonic. (I forget.) The circuit looked rather complex to try to modify to the amateur bands, but I imagine it would be possible. It did have some sort of DSP for noise reduction. This was a household cordless, NOT a cellular.

Zack W9SZ

1977. Re: Designing VFOs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <3p1n8d$82f@news2.delphi.com>
Source record: 112880

In article <kell-1005951636580001@netguy.jsc.nasa.gov>,
kell@mpac.jsc.nasa.gov (Ted Kell) wrote:
>I am trying to build a VFO for a SSB transceiver recently published. It
>was published for 75 meters, and I want to use it on 40 meters, thus the
>VFO change. The design to be used is that of figure 6-5 in "W1FB's QRTP
>Notebook". I am starting with a variable cap of from about 10 to 150 pF
>and trying to design the VFO around it. I have developed some math to
>help me, I hope there is someone that can tell me if I am on the right
>track with it. The base is the equation for resonant frequency of f =
>1/(2*pi*sqrt(l*c)) whic can be changed to 4*pi*pi*f*f*l*c = 1. Now if
>one considers a range of frequencies of the VFO of from fmin to fmax
>caused by changing the variable cap from cmin to cmax (where cmin > cmax -
>lower c means higner frequency), and break the c into c + cmin and c +
>cmax you have two equations,
>
>4*pi*pi*fmin*fmin*l*(c+cmin) = 1 and 4*pi*pi*fmax*fmax*l*(c+cmax) = 1.
>
>Setting them equal you get
>
>4*pi*pi*fmin*fmin*l*(c+cmin) = 4*pi*pi*fmax*fmax*l*(c+cmax)
>
>Now divide by 4*pi*pi*l
>
>fmin*fmin*(c+cmin) = fmax*fmax*(c+fmax)
>
>Solve for c and you get
>
>c = (fmin*fmin*cmin - fmax*fmax*cmax)/(fmax*fmax - fmin*fmin)
>
>which should be the remaining amount of capacitance for the circuit. Is
>this correct?
>
>Once you have c you can find l by l = 1/(4*pi*pi*fmin*fmin*(c+cmin)).
>
>I hope that there is someone out there that can help me. I have the
>feeling that this is entirely wrong, but can not figure out why. There
>must be some straightforward way to figure out what the C and L for a VFO
>based upon a variable cap in hand.
>
>73 and HELP!!
>
>Ted Kell
>KC5CUW
>

>--
>Ted Kell@mpac.jsc.nasa.gov
>KC5CUW/AA

Ump, I'm too tired to follow your math at the moment. But the whole problem is fairly simple. For a given L and F the capacitance to resonate is
1) C = 1/((2*pi*F)^2*L

Presume a fixed L and a variable C. Then the C to resonate with a given frequency varies with 1/(F)^2. If you have C1 at F1 and C2 at F2 you get the obvious relationship:

2) C1/C2 = (F2/F1)^2

Or alternatively:
3) C1 = (F2/F1)^2 * C2

Then you can get the difference between C1 and C2 as
4) C2-C1 = C2 (1 - (F2/F1)^2))

Since you know C2-C1 is ~140pF you can plug that and the frequncies into 4 and get C2. Then from 3 you can get C1. From this you can calculate the shunt capacitance you need by subtracting the 10pF minimum capacitance from C1. And from 1) and C1 you can calculate L.

Best give L and Cshunt a modest amount of trimming range so that you can calibrate the puppy if you want to.

{^_^} Joanne Dow, Amiga Exchange Editor on BIX
jdow@bix.com The Wizardess

1978. WTB: Variable Tuning Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: lgenco@crl.com
Message-ID: <3p3h0k$sha@nntp.crl.com>
Source record: 113016
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Greetings!

I'm looking for a supplier of 365 pf variable tuning capacitors -- the kind that used to be commonly used in radio receivers several years ago. I'd appreciate any tips on where these components might be found today.

73 de N5SGL

Lou
---
lgenco@crl.com Lou.Genco@LChance.sat.tx.us
WWW page on "Old Time Radio": http://www.crl.com/~lgenco/otr.html
---

1979. Re: What to do???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May13.090826.26809@ke4zv.atl.ga.us>
Source record: 113017

In article <95132.134605IFF161@DJUKFA11.BITNET> IFF161@DJUKFA11.BITNET (Bob Mueller) writes:
>>gaweb.com!newstf01.news.aol.com!uunet!prodigy.com!usenet
>>Newsgroups: rec.radio.amateur.homebrew
>>Subject: CB Radio to ham conversion?
>>Organization: Prodigy Services Company 1-800-PRODIGY
>
> Again I have experienced the problem of attempting to answer a request for
>information, this time to the sender of the above message, with the product
>of my effort bouncing back. What is wrong? It happens often and makes me
>feel like not bothering anymore. Do all these users have no "mailbox" for
>receiving incoming stuff; do they just send out a message and disappear?

You're on BITNET, and you complain? :-)

I've found that bounces are a fact of life with sites that have aol.com
in their path. And the user is on Prodigy, which is another sore spot.
BITNET sites aren't a lot better. The internet isn't as inter-net as
we'd like at times. The interface between the various subnets doesn't
always have well maintained routing.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1980. Co-axial RF relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: ka7pyp@uugate.wa7slg.ampr.ORG
Message-ID: <77200@uugate.wa7slg.ampr.org>
Source record: 112881

Hi. Does anyone know a source for coaxial RF relays for VHF frequencies?

Thanks, KA7PYP - Steve.

1981. Re: WTB: Variable Tuning Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <800437685snz@lfheller.demon.co.uk>
Source record: 112882
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In article <3p3h0k$sha@nntp.crl.com> lgenco@crl.com "Lou Genco" writes:

> I'm looking for a supplier of 365 pf variable tuning capacitors -- the kind
> that used to be commonly used in radio receivers several years ago. I'd
> appreciate any tips on where these components might be found today.

Jackson here in the UK still make them, as they are listed in the Maplin
catalogue. They are *rather* expensive; about 10 pounds for a single gang
365 pF. Maplin Electronics are on (01702) 554161, here in the UK.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

1982. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: jlowman@netcom.com
Message-ID: <jlowmanD8KxwC.Fqs@netcom.com>
Source record: 112883
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Bob Wilkins n6fri (rwilkins@ccnet.com) wrote:

: We have a similar group now. rec.radio.amateur.info

Hmmm...must have missed that one; will subscribe to it and check it out.

: How about rec.radio.marketplace for new product announcements

: Many of the other large collections of newsgroups have established the
: marketplace group for similar posts. It has been proved quite popular
: with readers, as well as the marketers. One stop shopping.

Either approach would be fine with me. Since there is already a .info
newsgroup, wouldn't it make more sense to simply direct advertisers to the
appropriate newsgroup, instead of wasting the bandwidth (and everyone's
time, surely a more valuable commodity) flaming these vendors? Of course,
there's still the problem of spamming the entire rec.radio.amateur.*
hierarchy.

Jim
--
jlowman@netcom.com | Jim Lowman * KF6CR* San Bernardino, CA
Systems Analyst | San Bernardino City Unified School District
(909) 881-8146 (O) | Unix: "It isn't supposed to be easy...If it
(909) 862-0662 (FAX)| was, everyone would be doing it." -Unknown-

1983. Hints for the AF9Y weak signal contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: mwcook@cris.com
Message-ID: <3p5lu2$9nb@warp.cris.com>
Source record: 112884
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna

For the last several months, I have sponsored a weak signal contest from my home page (http://www.webcom.com/~af9y/). No one has yet identified the calling station in the recording. The offered prize is currently at $40.

I have now added a text file (courtesy W5UN) containing calls of all 2mtr stations which have made at least one EME contact. The mystery station is contained within this list.

For those without a WWW browser, here's the ftp site:
ftp.webcom.com/pub/af9y/www/

Let's see what today's DSP technology and/or good ears can do with a real world challenge!

de Mike Cook, AF9Y
Email: mwcook@cris.com

1984. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3p4psk$4os@newsbf02.news.aol.com>
Source record: 112885

>Another way of reducing loss is to reduce the loaded Q of the
>system. The PTFE capacitors you didn't like might well be
>acceptable in a different design, such as a loop for 10 meters
>(Novice/Tech voice operation).

Zak,
Well, now you've hit on a common problem. It always is a function of Rloss over Rrad in an antenna. Look at mobile antennas too. My truck's ground loss resistance is 17 ohms on 160. What good would it do to keep the coil resistance below 8 or 10 ohms? The ground loss dominates.

The same goes for the loop. Making the loop larger in area increases the efficiency FOUR times every time the loop AREA doubles. That is only if R loss stays the same, so if I use a poor capacitor but a very good material to build the loop itself, I will see most of that improvement. Why don't articles explain the pro's and con's more, instead of a Xerox formula? Then people would know how it works. 73 Tom

1985. Re: A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <447991723wnr@pacsat.demon.co.uk>
Source record: 112886

HI

Depends what you want to do!

WBFM fine but pretty limited

Here in the UK we have some great transverter designs for 3cms by G3WDG
They use cheap gasfets and will give you 50mw out on 10 ghz - narrowband
They use a 2m transceiver as the if.

We have worked 1200km paths in EU with the design at 50mw - there is
also bigger amps for 300mw and !watt available - or you could drive a
Travelling Wave Tube Amplifier - I have one at 40 watts out. With a 4ft
dish you would be a BIG signal on the bands.

If you would like some more info then yell

73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland
Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk
AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP ****

1986. Long wave and medium wave transmitters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: fkauf@fstgds06.tu-graz.ac.at
Message-ID: <3p534h$fra@fstgds15.tu-graz.ac.at>
Source record: 112887

Where are transmitters for long wave and medium wave?
==========

I'm designing a telecommunication link at about 125kHz using only little
power. Now the receiver isn't ideal and electromagnetic fields at frequencies
of harmonics of that frequency are disturbing my receiving signal.

My questions are:

* Do you know long wave transmitters in the frequency range 230kHz-270kHz
and 355kHz-395kHz and medium wave transmitters in the frequency range
480kHz-520kHz, 605kHz-645kHz?

* Is somewhere a list of long wave and medium wave transmitters for
Europe and perhaps other countries? I'm interested in magnetic field
strength in about 10km distance of those transmitter and their location
too. If you can tell me an estimate of the transmitted power, I can
calculate the field strength by myself.

Many thanks,

Friedrich Kaufmann
email: fkauf@fstgds06.tu-graz.ac.at

1987. Re: Small Transmitting Loops

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950514075320.10628E-100000@pmafire.inel.gov>
Source record: 112888

> Zak,
> Well, now you've hit on a common problem. It always is a function of Rloss
> over Rrad in an antenna. Look at mobile antennas too. My truck's ground
> loss resistance is 17 ohms on 160. What good would it do to keep the coil
> resistance below 8 or 10 ohms? The ground loss dominates.
>

What precisely in ground loss? How do you measure it?

As a general comment, I would say that this thread regarding electrically
small antennas is very interesting. Many so-called antenna experts do
not really understand these issues. Tom and Zack are to be commended.

Charles Mott

1988. Re: Source for Throat Mike?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD8KqvI.BCH@netcom.com>
Source record: 112889

In article <1995May13.092027.26987@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>In article <kludgeD8Gw1A.Mz2@netcom.com> kludge@netcom.com (Scott Dorsey) writes:
>>In article <800226294snz@lfheller.demon.co.uk> Leon@lfheller.demon.co.uk writes:
>>>In article <Vflicks.4.000FA6FE@hookup.net> Vflicks@hookup.net writes:
>>>
>>>> Does anyone know of a source for weather proof throat microphones?
>>>
>>>People who have to use throat mics a lot, like the military, don't
>>>like them very much. They give very poor speech quality and can be
>>>very uncomfortable. You really need to press them against the larynx
>>>for them to work properly, which is a nuisance. You could probably
>>>pick some army surplus ones up at an amateur radio rally (hamfest
>>>in the US).
>>
>>Fair Radio Sales in Lima, OH, has the T-1 throat mikes (probably WWII
>>vintage Air Force units) for sale. There is a British version of the
>>same mike made by Marconi, which is just as lousy sounding and can probably
>>be located from a similar dealer in the UK.
>>--scott
>
>Note, these are *carbon* microphones. You'll need a local battery
>circuit to interface them with modern radios. Fidelity sucks too.
>For a modern throat microphone, you want a piezo pressure zone
>design. These require an interface circuit too, but fidelity will
>be better.

We have some throat mikes at work which are David Clark products, which are basically little ceramic piezo elements with a voltage follower circuit after them to produce a low-Z output that can be plugged into an aircraft radio which expects a carbon mike. (Yes, modern aircraft radios exist which are _still_ designed for carbon mike inputs). The fidelity is about that of the T-1, which is to say you can usually make out every third word in usual conversation, and if you use standard prowords and repeat yourself regularly, you're probably okay. These things cost nearly a thousand bucks each and I wouldn't wish them on my worst enemy. The T-1 was fifteen bucks the last time I looked, and while I still wouldn't wish them on my worst enemy, it's a lot less money to spend to discover that it sounds rotten.

> You'll probably do better to consider an *ear* mike.
>These work by sound conduction too, and are commercially available
>to match modern radios.

The local cops use these things, and report that they work pretty well,
or at least that you can tell the difference between vowels. I haven't
bothered listening to the police radio recently, so I can't say, but they
use Maxon units that might be worth looking at.
--scott
>
>Gary
>--
>Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
>Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
>534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
>Lawrenceville, GA 30244 | |

--
"C'est un Nagra. C'est suisse, et tres, tres precis."

1989. Re: cordless ph and freq change

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD8Kr3D.BMy@netcom.com>
Source record: 112890

In article <3p1frb$c1u@vixen.cso.uiuc.edu> w9sz@prairienet.org (Zack Widup) writes:
>
>The older phones used 2 MHz from the base to the handset (house wiring
>was the antenna) and 46 MHz from the handset to the base. Maybe these
>could be used cross-band 160 to 6 meters? :-)

Hey, it's even better! They worked at 1.75 MHz to be precise, so the amount of effort to move them to 160 is miniscule. Don't know why you would want to do this, but it's no worse than my attempts at getting a WAS using a Hewlett-Packard signal generator for a transmitter. (I have a long way to go, still, after eight years.)

>I did see a new phone that operated in the 900-MHz range, it was perhaps
>a Panasonic. (I forget.) The circuit looked rather complex to try to
>modify to the amateur bands, but I imagine it would be possible. It did
>have some sort of DSP for noise reduction. This was a household
>cordless, NOT a cellular.

Yes, there are a lot of them out now. The Tropez is the one which seems most popular in this area. Some of these use a digital link, but most of them just use standard narrowband FM. It would be fun to modify these for the ham band, but why bother? My local cellular outfit will sell you a cellular phone for $9.95 if you pay for six months of service... you use it for six months, close out the account and move it to the ham bands...
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

1990. Re: Info on 4-400A transmitting tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: Grant Youngman <gyoungma@gtetel.com>
Message-ID: <3p5fiq$4ji@ceylon.gte.com>
Source record: 112891

"Jake A. Hellbach" <Jake_A._Hellbach@ccmail.mobil.com> wrote:
>I bought a used 4-400A tube at a ham fest thinking I already had
>a schematic to build an HF amp using it, but in looking I found I
>didn't have anything on it (just the specs. on the tube from an old
>ARRL manual). I have schematics on the 3-500 as well as others
>and I was wondering if the schematic would be very different for
>the 400.
>Or does anyone have a something for this tube? I would pay for copying
>and postage.
>Also how do you tell which is pin 1? I've never used these types of
>tubes.
>
>Thanks for any info.
>Jake KK5HY

If your old ARRL manual has specs on the tube, it likely has a base diagram. The standard base diagram id for the 4-400A is '5BK'

Hold the tube so you're looking at the base. The pins are clustered roughly in a group of four, with a fifth pin out by itself. Put the 5th pin at the top. Pin numbers, reading from the top clockwise are (3) grid, (4) screen grid, (5) filament, (1) filament, and (2) also screen grid -- connected internally to pin (4). Obviously, the plate is on the top of the tube.

Grant/NQ5T

1991. Re: Info on 4-400A transmitting tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: Grant Youngman <gyoungma@gtetel.com>
Message-ID: <3p5g1n$4ji@ceylon.gte.com>
Source record: 112892

Grant Youngman <gyoungma@gtetel.com> wrote:
>"Jake A. Hellbach" <Jake_A._Hellbach@ccmail.mobil.com> wrote:
>>I bought a used 4-400A tube at a ham fest thinking I already had
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>>didn't have anything on it (just the specs. on the tube from an old
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>>and I was wondering if the schematic would be very different for
>>the 400.
>>Or does anyone have a something for this tube? I would pay for copying
>>and postage.
>>Also how do you tell which is pin 1? I've never used these types of
>>tubes.
>>
>>Thanks for any info.
>>Jake KK5HY

Oh, and I agree with the other comments about building an amp around a used tube of unknown condition. And your standard Hickok tester won't be of much use unless you have a rare base adapter to fit this tube. You'd be better off building something with a single 3-500Z (or a pair).

4-400A isn't a bad tube. I use one in a 500 watt boatanchor AM transmitter. But I don't think I'd build an amp out of one today.

Grant/NQ5T

1992. Re: Pin-diode TR switching question(s)....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: lascal@norton.ecse.rpi.edu
Message-ID: <3p51of$90s@usenet.rpi.edu>
Source record: 112893

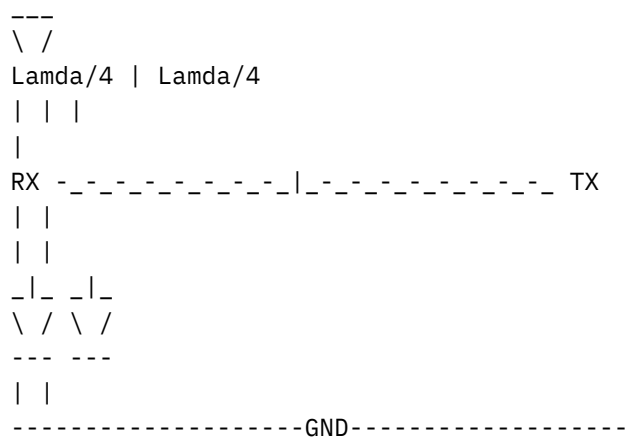
Ken Edwards (cnc23a@b4pph13e.bnr.ca) wrote:
: Will Pin-diode TR switching work up to frequencies in the 902-928 Mhz
: range ?

: If so, can anyone give me pointers on how to accomplish this..

Ken,
sure, PINs are used with some regularity up at 900 mhz.

#1)
The simplest PIN switches have PIN diodes as "series"
switches. I.E. the diode is placed in the signal path. The problem
with this is that the isolation is poor because the diodes tend to
have a large capacitance (due to their size, especially so for high
power pins). If the design is "narrowband" (most often the case), you
can actually try to resonate out the capacitance with a DC blocked
inductor in parallel.

#2)
Another type of switch is the "shunt" switch. Here, the
switch generally has two branches. I'll attempt some ascii art here:



Each of the Lamda/4 transmission lines serves the typical
purpose of "impedance inverter". If, for instance, the RX diode is
on, a very high impedance is presented to the antenna junction, thus
making the RX side "disappear". The same is true of TX. From what
I've seen, this type of switch is very popular.
I built one earlier this year for 400 MHz (for an IF switch in
a 2.3 & 3.4 GHz transverter) with some 30 watt PINs that GE uses in
their 900 mhz mobiles. With this type of switch (above), I got 24 dB
of isolation and under a dB of insertion loss (all etched on 1/16 th
G-10). I didn't end up using the thing, but it was fun for ha ha's.

As with low frequencies, one could implement the transmission lines sections using lumped networks.

#3)
The other type of switch is to combine the two techniques. Obviously one would gain the advantages (and some disadvantages) of both types of switch. The loss would go up, but so would the isolation. I didn't bother building one like that because I was too lazy to hand draw the somewhat more complex circuit board, and I didn't want to try to figure out how to model all of the device parasitics.

Hope this has been somewhat helpful. There's a good applications book by MicroSemi corp (or something like that).... if you can find their number, it would be worth asking for one...

73 & good luck
Lance

--
Lance Lascari <Amateur Radio: WS2B> <lascal@rpi.edu>
Graduating Senior EE @ Rensselaer
http://www.rpi.edu/~lascal/
Mount Greylock Expeditionary Farce (W2SZ/1) Secret agent #52,342

1993. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-1405951300530001@nb-dyna87.interaccess.com>
Source record: 112894
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

In article <D83B43.Mt5@news.hawaii.edu>, jeffrey@math.hawaii.edu wrote:
> With well over 7000 newsgroups some sites may have reached the saturation
> point and choose not to subscribe to the new rec.radio.amateur.low-profile.
>
> 73 from Hawaii,
> Jeff NH6IL

Jeff -

Of those 7,000 newsgroups, how many are totally bogus and mostly or
totally unused, such as:

alt.brian.saunders.pot.kettle.black
the whole alt.bonehead heirarchy
alt.bubba-love.el-caminoville
alt.bruce.it.was.just.an.accident
alt.butt-keg.marmalade
alt.cancel.bots
alt.check.her.miss-jesus
alt.choad

etc., etc. This list could go on and on. I'm really curious as to how
these newsgroups got started. They certainly don't serve a purpose
because nobody ever uses most of them and their names are totally wierd.

Dave, K9SW
Downers Grove,
Illinois

1994. Length

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-14 00:00:00 UTC
From: rlucas@olie.wvitcoe.wvnet.edu
Message-ID: <19950514.003937.488782.NETNEWS@WVNVM.WVNET.EDU>
Source record: 112895

Where can I find out how to build a SWR meter?

-Russell

1995. Homebrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-15 00:00:00 UTC
From: dhlong@tuba.aix.calpoly.edu
Message-ID: <3p6abv$gsh@isnews.csc.calpoly.edu>
Source record: 112896

Why isn't this groups split into two? Homebrewers should either
uiuc.org.homebrewers or start a new news group.

Dave
dhlong@oboe.calpoly.edu

1996. Re: WTB: Variable Tuning Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-15 00:00:00 UTC
From: billhar@spaceworks.com
Message-ID: <D8n59z.Lq1@spaceworks.com>
Source record: 112897
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

> I'm looking for a supplier of 365 pf variable tuning capacitors -- the kind
> that used to be commonly used in radio receivers several years ago. I'd
> appreciate any tips on where these components might be found today.

Antique Electronic Supply of Tempe, AZ., sells a single gang 365 pf unit
for $7.95, cat# CV-231.
You can contact them at (602)820-5411, FAX 1-800-706-6789.

Bill - K5MIL

1997. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-15 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_800535438@rtfm.mit.edu>
Source record: 112898
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

```
Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb,
rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet
mailing list counterparts and complements. It is intended to serve as a
guide for the new reader on what to find where. Questions and comments may
be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at
jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October
1994 to add the discussion of non-Usenet mailing lists and streamline most
of the history discussion, and to change the moderator information for
rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list
for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions
were held on the mailing list, and sent to the mailboxes of those who had
signed up for it. When the Usenet software was created, and net news as we
now know it was developed, a newsgroup was created for hams: net.ham-radio.
The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became
progressively higher. First one by one, and then as part of two
reorganizations, what was once one group became many. In the process,
developments elsewhere on the net were reflected in the groups as they were
created, most notably the change to place all of the ham radio groups in one
hierarchy.

The collection of newsgroups continues to grow as more people join the net,
and as more topics of discussion gain volume, I expect to see more groups be
created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the
notable exception being rec.radio.swap. There are also a few mailing lists
that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them,
and not to the groups that aren't. The whole idea of having different
```

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

1998. Re: 2m parametric amp/message for K4MSG.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-15 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995May15.143651.74656@ucl.ac.uk>
Source record: 112899

In article 800212789@melpar, phb@syseng1.melpar.esys.com (Paul H. Bock) writes:
> davek@medphys.ucl.ac.uk (Dave Kirkby) writes:
>
> >I posted an artical about 2m parametric amps here. Paul, k4MSG replied he had a
> >circuit from an old ARRL VHF manual and would be willing to copy it if I wanted. I would indeed like a copy, but my attempts to reply to his e-mail have failed, since my
> >unix system does not appear to know about his e-mail address.
>
> >If he sees this, could he plase sent me the artical. Sorry I cant reply personally.
>
> Dave,
>
> What's your address? I'll copy it tomorrow and mail it this weekend.
>
> Paul, K4MSG pbock@melpar.esys.com

Dave Kirkby,
Dept. of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA.

tel: 0171-380-9700
fax 0171-380-9577

1999. 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-15 00:00:00 UTC
From: kirk@neptune.gsfc.nasa.gov
Message-ID: <3p827r$cah@post.gsfc.nasa.gov>
Source record: 112900
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

The Coast guard is starting to broadcast differential correction signals for GPS navigation around the US coast. With that signal, your $300 GPS can correct its real time position from about 100 yards accuracy down to less than 10 yards accuracy. (The GPS signal itself is intentionally degraded by the Air Force to 100 yards to confuse Russian missles - the Coast Guard's differential correction merely brings it back. You figure.)

The catch is that the Coast Guard is broadcasting these corrections at around 300 Khz instead of a more sensible VHF that anyone could copy. (I'm convinced they have a warehouse full of old LF/MF xmtrs that they have left over from the old marine radiobeacon days).

Anyway, there are a couple of manufacturers selling little receivers to capture the Coast Guard broadcasts into the GPS, but at outlandish prices, more expensive than a cheap GPS by itself. My question is, does anyone know where to get plans to build a cheap, single freq 300 Khz receiver to feed into a TNC? Or is it cheaper & easier to get an old beacon rcvr or RDF at surplus or a swapmeet?

Bob Kirk N3OZB

2000. Milwaukee, WI Repeater Links

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-15 00:00:00 UTC
From: helix@solaria.sol.net
Message-ID: <3p84fd$c47@solaria.mil.wi.us>
Source record: 112901

Though this area is for homebrewing, there are those who read information
from this area and not from others. Therefore, just so you don't feel
left out, I've posted a short blurb over here too. ;)

Crossposted message follows...

From helix@solaria.sol.net Mon May 15 12:44:32 CDT 1995
Article: 27243 of rec.radio.amateur.misc
Path: news.sol.net!solaria.sol.net!not-for-mail
From: helix@solaria.sol.net (Rob Radvanovsky)
Newsgroups: rec.radio.amateur.misc
Subject: Milwaukee, WI Repeater Links
Date: 15 May 1995 12:42:01 -0500
Organization: SkyNet Communication Services
Lines: 31
Message-ID: <3p83p9$brn@solaria.mil.wi.us>
NNTP-Posting-Host: solaria.mil.wi.us

I've figured out what the various links are for the Greater Metropolitan
Area of Milwaukee, Wisconsin (ya-her-day, eh?) and I feel that these
frequencies will be of great benefit to those who've had some trouble
getting into the two largest repeaters on VHF within the Milwaukee, WI area.

As these frequencies are listed within the amateur radio spectrum, those
who feel that these frequencies should be kept private are badly mistaken
as amateur radio is for everyone. Therefore, I am listing these
frequencies for everyone's use:

145.130 (output) / 144.530 (input) PL = 127.3 Hz (MAARS):

links are listed below with their guessed locations:

222.270 (output) / 223.870 (input) PL = 127.3 Hz (NW site)
222.290 (output) / 223.890 (input) PL = 127.3 Hz (main site)
222.320 (output) / 223.920 (input) PL = 127.3 Hz (UPS site)
222.340 (output) / 223.940 (input) PL = 127.3 Hz (SW site)

146.910 (output) / 146.310 (input) PL = 127.3 Hz (MRC):

links are listed below with their guessed locations:

446.525 (output) / 446.525 (input) PL = 173.8 Hz (SOUTH site)
446.250 (output) / 446.250 (input) PL = 173.8 Hz (NORTH site)

Enjoy!

Vie carenis ennundum!

2001. Re: 2m parametric amp/message for K4MSG.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-15 00:00:00 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.800559392@melpar>
Source record: 112902

davek@medphys.ucl.ac.uk (Dave Kirkby) writes:

>Dave Kirkby,
>Dept. of Medical Physics,
>University College London,
>11-20 Capper St,
>London WC1E 6JA.

>tel: 0171-380-9700
>fax 0171-380-9577

Got it, Dave, it'll be on its way tomorrow. A couple of comments on the article:

The article claims "3 dB noise figures at 432 MHz without the use of a circulator," and goes on to note that this is "no improvement over the better uhf transistor amplifiers" (and remember, this was written around 1972). The article claims that the paramp shows most promise above 1000 MHz, but of course the mid-70s development of the GaAsFET (initially *very* expensive) and subsequent drop in price over the past decade have given us the low-cost preamps we enjoy today. So, to be truthful, the paramp has been overtaken by technology, but if you want to dabble in a little RF "black magic" (like, getting s stable pump signal which, for 432 MHz, is around 4 GHz; in the "good old days" this was done with a receiving-type klystron, a "black-magic" device if ever there was one..... :-))

During the late '60s I was Maintenance CPO on the USS BELMONT (AGTR-4) as an ETC, and we had the Navy's shipboard "moonbounce" or EME system, the AN/SRC-33(XN-1). The system used a 2300 MHz uplink and 1800 MHz downlink, with a 12 kw, 4-cavity power klystron in the transmitter and a 16-foot, X-Y pedestal dish with circular feed. The receiver front end had - you guessed it - a paramp, and it *was* a tricky beast to adjust, commercial equipment or not.

BTW, we ran two chnnels of 100 WPM RTTY via moonbounce to either Hawaii or Cheltenham, MD (depending on who could see the moon best); the shore stations ran 12 kw to 65-foot dishes. With input from the ship's gyro and Roll/Stabilization Data Set, our antenna would track the moon completely cross the sky from 5 degrees above horizon to 5 degrees above horizon.

It was, as we used to say, "like a landline," and to those of us all-to-familiar with the vagaries of HF propagation (especially from South America, where the nearest COMMSTA was Panama, San Juan or Gitmo) it brought tears of joy to our eyes. It was also a "window

on the future" and gave us some idea what it might be like when satcomm became a reality (now taken for granted by most, I expect).

73,

Paul, K4MSG

2002. RUTLAND ARRAYS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-15 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <3p89ru$o72@newsbf02.news.aol.com>
Source record: 112903

I was told by another ham, KD2IX, that Mr. Rutland passed away last month-
does anyone know? If so, It is a sad day. I hope that some industrious
individual picks up the ball on his work and carries on.

VE3IEY

2003. Re: Newsgroup rec.radio.amateur.homebrew, Articles 8043-8072re: 300 kc rcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-15 00:00:00 UTC
From: afn01212
Message-ID: <3p8el9$s8l@huron.eel.ufl.edu>
Source record: 112904

why not use the 67 kc sub carrier fm radio correction instead of 300 kc rcvr
some stations use 57 kc.....anyway there stations all over us using this

2004. Re: Superhet receiver question. Why a triple conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-15 00:00:00 UTC
From: jsoft@MCS.COM
Message-ID: <3p928h$45v@Mercury.mcs.com>
Source record: 112905

I have several small HF receivers, military grade, which has a
65 MHz 1st IF and a 455 Khz 2nd IF. The 65 Mhz 1st IF has a multi-pole
crystal filter and acts as a roofing filter. great radio...

Also, I have an older WJ fet receiver which also has a 65 Mhz 1st
IF and a 15 Khz 2nd IF!

--Joe Jesson

2005. Re: Threshold assistance d

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <800640483.AA01818@hamlink.mn.org>
Source record: 112818

GG>From: G.Udall@soc.staffs.ac.uk (Geth Udall)
GG>Newsgroups: rec.radio.amateur.homebrew
GG>Subject: Threshold assistance device (TAD) made by Eurosat
GG>Organization: Staffordshire University
GG>Message-ID: <3p9ne7$622@bs33n.staffs.ac.uk>
GG>Date: 16 May 1995 08:23:35 GMT
GG>
GG>Hi All,
GG> I have an Echostar 4500 with a 70 Mhz IF output that a TAD could
GG>be fitted to increase the gain, but at ?80 it would cost more than
GG>the receiver.(secondhand). Any thoughts on on what may be a suitable
GG>amplifier chip.
GG>
GG>Many thanks Geth
GG>
GG>
GG>---
GG> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
GG>(1:282/100.0)
Hi,
Is this a video receiver? What is a "TAD"? If this is a satellite RX I
may be able to help.
Bob WB0POQ

2006. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD8nBpu.D71@netcom.com>
Source record: 112819
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

In article <3p827r$cah@post.gsfc.nasa.gov> kirk@neptune.gsfc.nasa.gov (Robert Kirk) writes:
>Anyway, there are a couple of manufacturers selling little receivers
>to capture the Coast Guard broadcasts into the GPS, but at outlandish
>prices, more expensive than a cheap GPS by itself. My question is,
>does anyone know where to get plans to build a cheap, single freq
>300 Khz receiver to feed into a TNC? Or is it cheaper & easier to
>get an old beacon rcvr or RDF at surplus or a swapmeet?

Ahh! It's a godsend! Finally an opportunity to get rid of all these ARC-5 rigs that have been piling up in the garage!

But, if you don't want an ARC-5 set (and I think every person in the country _should_ want an ARC-5 set), you can probably just do a quick and dirty direct conversion setup. I think stealing the IF strip out of an AM table radio and detuning it down to 300 KHz by adding more capacitance to the IF cans might do the job nicely.

However, what are you going to do with the baseband when you get it? How is the signal encoded?
--scott

--
"C'est un Nagra. C'est suisse, et tres, tres precis."

2007. Re: A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: peter@giaeb.cc.monash.edu.au
Message-ID: <peter.800586255@giaeb>
Source record: 112820

pmonta@pmonta.qualcomm.com (Peter Monta) writes:

>Simon Lewis <slewis@pacsat.demon.co.uk> writes:

>> ...
>> Here in the UK we have some great transverter designs for 3cms by G3WDG
>> They use cheap gasfets and will give you 50mw out on 10 ghz - narrowband
>> They use a 2m transceiver as the if.

>Are these written up somewhere? I'd like to take a look at these
>designs.

From memory, the details of some of these units is described in the Microwave Handbook, published by the RSGB. A detailed description was also published in DUBUS magazine in 1993 or 1994, over a couple of issues. Another useful source of information on microwaves in general which includes news on the new projects being developed under the auspices of the RSGB Microwave Committee is the Microwave Newsletter, also published by the RSGB.

Peter Freeman

2008. Re: coil winding program wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3p943d$mfu@parsifal.nando.net>
Source record: 112821

mikelder@aol.com (Mikelder) wrote:
>
> If anyone out there has a program that can help wind coils please tell me
> where I can get it. I have a program like that, but the danged thing is

I don't have a program, but plug the inductance formula from the
ARRL handbook or similar source into a spreadsheet and feed it
any numbers you desire - presto, out comes the answer. A little
algebra may be needed, but that can usually be simplified in a
spreadsheet program by preforming sevveral stepwise calculations.

73, Don

2009. Your favorite device programmer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: acooney@netcom.com
Message-ID: <acooneyD8nIIE.C1J@netcom.com>
Source record: 112822

I'm in dire need of a good quality device programmer to do PALS/GALS and PEELs immediately, and hopefully to grow into full-fledged Altera devices in the near future. I don't want to screw around with a low cost device with comparably low performance and reliability. I'd rather spend my money up front, and save in the long run. There are a limited number of news groups for this sort of question -- being a ham, I figure it's ok for me to ask here...

Are any of you doing serious work with your software and hardware, and if so, could you share your feelings about them with me?

Cheers!
Alan
WD6DES

2010. HP-431C power meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <3p98p9$4dg@newsbf02.news.aol.com>
Source record: 112823

I have an HP-431C power meter. I am looking for the cable and the thermistor head. I do not have a manual but I believe it takes a 478 head. Any help in locating a working pair would be appreciated. Thanks beforehand. My phone is Days: 203-573-5581, Eves: 203-583-1191. VINY (N1VC)

2011. Need information on a Valve

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: ekays@promus.com
Message-ID: <3patah$dl6@stargate.promus.com>
Source record: 112824

Please educate me .....

My Kenwood TS830S has begun to show its age. I've owned it since new
about 15 years now and it's output power has started to sag. It is
time to re-tube this rig.

I have seen (and skipped over) discussions regarding a tube 6146W.
Matched pairs priced at about $50. I seem to remember it was a
more robust version of the 6146B which is the stock tube in my rig.

My questions are :

a) Is this a plug in replacement for the 6146B ?
b) are the voltage current ratings the same ?
c) is $50 a fair price for the pair ?
d) are these really new tubes or NOS ?

Thanks in advance for the information.

73's Gene

==
Eugene D. Kays - ekays@promus.com
Lead Systems Engineer - Support
Promus Companies Memphis TN
ARS KA5ALN my radio glows in the dark
_ _ . . . . . _ _ . _ . _ . . . . . _ . _
==

2012. Re: need specs for Loral Microwave relay

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: Ulf.Lange@tripnet.se
Message-ID: <D8oDww.JMF@transpac.se>
Source record: 112906
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <3omj2b$bkr@n0jcf.com>, chrise@n0jcf.com says...
>
>Just wondering if anyone has access to a Loral catalog. We are in
>need of specs (power rating, frequency, etc) for the following
>microwave relay:
>
> 080-D13-A1I-3B2
>
>it is an 8PST SMA type relay with 18VDC coil. s/n 2029 9117
>
>Any info greatly appreciated.
>
>Chris
>
>--
>Chris Elmquist, N0JCF
>chrise@n0jcf.com
>n0jcf@amsat.org

Try LORAL MICROWAVE-NARDA, Hauppauge, NY at

tel (516) 231 1700
fax (516) 231 1390

Source: Microwave & RF Magazine: Product Data Directory
Issue, Nov -94

Rgds,

Ulf SM6FYQ

2013. 4-400A's as substitutes for 3-500Z.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: Waltk@pica.army.mil
Message-ID: <9505160928.aa08862@COR5.PICA.ARMY.MIL>
Source record: 112907

The 4-400A is plug compatible with the 3-500Z. In grouded grid
configuration the tetrode is run as a triode. Recently I had the
opportunity to test 4 3-500Z's in my 4-400A amp. The only difference
I noticed was the 3-500Z is a bit easier to drive, thats to say,
it requires fewer watts to obtain the legal output than the 4-400A.

My amp is homebrew, it uses 3 (yes, 3) 4-400As. Recently I installed
some rugged pulse rated tubes (made in France) that are identical
to the 4-400A except they're rated at 500W dissipation. They came
from a "Laser cutting" machine (cuts 1/2" Stainless Steel).
The tubes are rated at 30kV max and a peak pulse power (5% duty cycle)
of 65kW per tube! They seem to loaf along at 1500W out running RTTY
(100% duty cycle). I still have 5 4-400's laying around as spares,
if and when, I need to replace the "Laser" tubes.

The nice thing about 4-400's is, as someone has already mentioned,
they are readilly available as "pulls" or at hamfests. A darn sight
cheaper than an 8875, 8874 or any of the "new" geneartion cermaic
tubes. You can put them into an SB-220 and have yourself one heck
of a cheap and reliable amp for a fraction of what it costs to get a
new generation commercial amp.

If you're serious about building an amp, look up articles in QST
written by Measures, AG6K. In my book (contrary to popular belief)
he is THE de facto expert on amplifiers. 73, have fun, and PLEASE
BE CAREFUL - amplifiers can kill!

....
73 de Walt Kornienko <<< K2WK >>> Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
Member: The Frankford Radio Club #1 Contest Club In The Universe
----

2014. Threshold assistance device (TAD) made by Eurosat

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: G.Udall@soc.staffs.ac.uk
Message-ID: <3p9ne7$622@bs33n.staffs.ac.uk>
Source record: 112908

Hi All,
I have an Echostar 4500 with a 70 Mhz IF output that a TAD could be fitted to increase the gain, but at ?80 it would cost more than the receiver.(secondhand). Any thoughts on on what may be a suitable amplifier chip.

Many thanks Geth

2015. Re: HP-431C power meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.800634882.22794.jwicklun@mycroftxxx.halcyon.com>
Source record: 112909

In article <3p98p9$4dg@newsbf02.news.aol.com>, <vinyn1vc@aol.com> writes:
> Path:
news.halcyon.com!nwfocus1.wa.com!news.sprintlink.net!howland.reston.ans.net!new
s-e1a.megaweb.com!newstf01.news.aol.com!newsbf02.news.aol.com!not-for-mail
>
> I have an HP-431C power meter. I am looking for the cable and the
> thermistor head. I do not have a manual but I believe it takes a 478 head.
> Any help in locating a working pair would be appreciated. Thanks
> beforehand. My phone is Days: 203-573-5581, Eves: 203-583-1191. VINY
> (N1VC)
>
I recently went through the same process, and it isn't pretty. The 431C is the cheap part, the thermister sensor is the expensive part. I eventually found a used sensor from one of the surplus test equipment companies that advertise in the Nuts & Volts magazine; but it cost $100 for the sensor. The cable was even harder, hp will sell one for about $150. I purchased a set of connectors for about $18.00 and made my own cable with some shielded twisted pair. The connectors are pn 91-MC6M and 91-MC6F1 (I don't remember the mfg - but I could probably chase that down)

When done, the thing works pretty good, but the sensor may be just a little flaky as I have to be careful and not move things around while I'm making measurements. If I move the sensor around it affects the zero, so I may not have a 100% good sensor.

Good Luck....the good part is that when you get done, you'll be able to measure rf signals up to around 10GHz (so long as they are low power).

73....KI7RH (Jay)

2016. Re: Your favorite device programmer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.800635226.23918.jwicklun@mycroftxxx.halcyon.com>
Source record: 112910

In article <acooneyD8nIIE.C1J@netcom.com>, <acooney@netcom.com> writes:
> I'm in dire need of a good quality device programmer to do PALS/GALS and
> PEELs immediately, and hopefully to grow into full-fledged Altera devices
> in the near future. I don't want to screw around with a low cost device
> with comparably low performance and reliability. I'd rather spend my
> money up front, and save in the long run. There are a limited number
> of news groups for this sort of question -- being a ham, I figure it's
> ok for me to ask here...
>
> Are any of you doing serious work with your software and hardware, and
> if so, could you share your feelings about them with me?

There's always Data IO. They are a little pricey, but you know that you'll get support and they will still be around when you want to upgrade. They work closely with all the device mfgs so they usually support the new devices as soon as anybody (but you have to be a little careful - they don't add support for all new devices to all the programmers at the same time).

73....KI7RH (Jay)

2017. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May16.154547.14673@ke4zv.atl.ga.us>
Source record: 112911
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

In article <3p827r$cah@post.gsfc.nasa.gov> kirk@neptune.gsfc.nasa.gov (Robert Kirk) writes:
>The catch is that the Coast Guard is broadcasting these corrections
>at around 300 Khz instead of a more sensible VHF that anyone could
>copy. (I'm convinced they have a warehouse full of old LF/MF xmtrs
>that they have left over from the old marine radiobeacon days).

They have a better reason than that. The groundwave from the MF transmitters covers a larger area than would a VHF transmitter's LOS signal. Therefore they can use fewer transmitters. Fewer transmitters means fewer maintenance headaches and lower costs.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2018. RSGB Publications

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950516091257.24260B-100000@pmafire.inel.gov>
Source record: 112912

On 16 May 1995, peter freeman wrote:
> ...
> From memory, the details of some of these units is described in the
> Microwave Handbook, published by the RSGB. A detailed description
> was also published in DUBUS magazine in 1993 or 1994, over a couple
> of issues. Another useful source of information on microwaves in
> general which includes news on the new projects being developed under
> the auspices of the RSGB Microwave Committee is the Microwave
> Newsletter, also published by the RSGB.

Where can a list of RSGB publications be found? An internet source is
desirable.

Charles Mott

2019. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: darkwind@xmission.xmission.com
Message-ID: <3paqgg$35g@news.xmission.com>
Source record: 112913
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

WB3U (jackl@pinetree.microserve.com) wrote:
: kirk@neptune.gsfc.nasa.gov (Robert Kirk) wrote:

: >The GPS signal itself is intentionally degraded by the Air Force to
: >100 yards to confuse Russian missles -

: Does that mean their 100 Megaton warhead might hit my house
: instead of the guy across the street? Now I'm worried.

No, but the cruise missle with the conventional warhead might. This is
why the signal is degraded, to render the data stream unusable for long
range self guided missles of a conventional nature. Some of our cruise
missles use GPS (with the military error correction) for primary
navigation to the target.

--

Just when you think you understand the rules that the universe
applies to your life, and are using them to your advantage, the
perversity of fate kicks into play and the rules get randomized.
---
darkwind@xmission.com

2020. Re: Homebrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950516093200.24260E-100000@pmafire.inel.gov>
Source record: 112914

On Mon, 15 May 1995, Eric Barbour wrote:

> David Harrison Long (Dave Long) (dhlong@tuba.aix.calpoly.edu) wrote:
> : Why isn't this groups split into two? Homebrewers should either
> : uiuc.org.homebrewers or start a new news group.
>
> Take a look at the title again....it says, quite clearly,
> "REC.RADIO.AMATEUR.HOMEBREW". OKay??
>

You are unnecessarily rude. Not everyone in the world is aware that the term homebrew can apply to electronics. Given the somewhat incoherent nature of Mr. Long's original posting, it appears that he may have been under the influence of excessive amounts of homebrewed beer. Would you propose a blood alcohol limit for driving on the internet?

Charles Mott

2021. Re: 2m parametric amp/message for K4MSG.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950516120754.8530A-100000@pmafire.inel.gov>
Source record: 112915

I really appreciated the historical information about Navy EME systems that Paul Bock related in a recent posting. As for parametric amplifiers, the AWG-9 weapons control radar in the F-14 was originally designed with an X-band parametric amplifier. Electronic systems designers in the 50s and 60s were often quite sophisticated at applying exotic technologies. Although we are much more advanced in terms of micro-electronics these days, these older designers were often able to deal with a much broader range of technology.

Charles Mott

2022. Re: A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <577177209wnr@pacsat.demon.co.uk>
Source record: 112916

Yes, the designs were published in the Microwave Handbooks Vols 1 - 3
Published by the RSGB.

Speaking to Charlie Suckling G3WDG designer and organiser of the
microwave committee components service, he gave me the followig
information for non-uk parties wanting to build the transverters:

Banking arrangements have been made to accept personal cheques drawn in
US dollars, the exchange rate $1.5 to each UK pound. PLus
a banking fee of 10 dollars per order.

He is quite happy to send information out
about the designs and he can be
reached by email at
charles_suckling @ mcimail.com

Im also willing to help in
anyway I can by supplying components and hard to get items if required.

If anyone requires anymore info then please mail charlie or myself as
required.

73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland
Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk
AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP ****

2023. Re: The Zapper

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-16 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3pb9ej$3aa@misc1.microserve.net>
Source record: 112917

lawrence@combdyn.com (Lawrence *The Dreamer* Chen) wrote:
>Okay, I bought one of these kits......
>
>The question is how do I tune one of these suckers up? I don't have a
>frequency counter that goes up to 10.525GHz, and I don't own a radar detector.

Set your cruise control to 90 and turn the little cap until they stop writing tickets.

2024. Re: RSGB Publications

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: peter@giaeb.cc.monash.edu.au
Message-ID: <peter.800689953@giaeb>
Source record: 112825

Jack Mott <jackm@pmafire.inel.gov> writes:

>On 16 May 1995, peter freeman wrote:
>> ...
>> From memory, the details of some of these units is described in the
>> Microwave Handbook, published by the RSGB. A detailed description
>> was also published in DUBUS magazine in 1993 or 1994, over a couple
>> of issues. Another useful source of information on microwaves in
>> general which includes news on the new projects being developed under
>> the auspices of the RSGB Microwave Committee is the Microwave
>> Newsletter, also published by the RSGB.

>Where can a list of RSGB publications be found? An internet source is
>desirable.

>Charles Mott

The Microwave Handbook is listed in the ARRL Publications Catalogue
in the VHF/UHF/Microwave section. I am not currently aware of an
on-line source of data. I believe that the RSGB is NOT yet on the
Net. Good luck in finding the information.

Peter Freeman
VK3KAI

2025. Re: NEW WWW SITE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: bartdoug@acusd.edu
Message-ID: <D8ppAr.LAv@pwa.acusd.edu>
Source record: 112826

In <jld-140595203635@204.189.34.100>, jld@westes.com (Jennifer) writes:
>Check it out:
>
>http://www.westes.com/

There is nothing wrong with posting a commercial site, but a word of description is considered good netiquitte. Given the prejudice against advertising on the net, you'd think that you folks would want to do all you could to promote good will.

Just a thought,

Doug

What is popular is not always right.
What is right is not always popular.

2026. Re: coil winding program wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: haba@snakemail.hut.fi
Message-ID: <HABA.95May17113905@gamma.hut.fi>
Source record: 112827

In article <3oupam$ov0@newsbf02.news.aol.com> mikelder@aol.com (Mikelder) writes:
>If anyone out there has a program that can help wind coils please tell me
>where I can get it. I have a program like that, but the danged thing is
>old and i have no docs; no info as to who wrote it and it dont work. Locks
>up my machine. All I have is an .exe file called coil.exe. It would sure
>be neat to have, The info screen says that all i need is the wire diameter
>and the inductance value wanted and it will tell me how big and how many
>turns, sure would be handy.

ARRL Handbook for Radio Amateurs tells you how to calculate those
yourself. If you want a figure, you might check up a book called
VHF/UHF Manual, it has nice figures where you can eg. look as a function of
the wire diam and inductance the required turns.
--
--
"99% of the pain in the world is due to misunderstanding" -M. Jarvelainen

Harri.Suomalainen@hut.fi - PGP key available by fingering haba@alpha.hut.fi

2027. Re: Tektronix Scope Repair Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: tig@perth.DIALix.oz.au
Message-ID: <3pcmfcrci1@perth.DIALix.oz.au>
Source record: 112828
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

Booth, Thomas G (thomas.g.booth@den.mmc.com) wrote:
: In article <john.ackermann.350.000CF807@daytonOH.ncr.com>,
: john.ackermann@daytonOH.ncr.com (John Ackermann) wrote:
: >
: > I just picked up a Tektronix model 2213A scope for a bargain basement price,
: > knowing it would need some repair. Specifically, there's a bad distortion in
: > the trace at about 80% of the way up the trace, and a smaller distortion about
: > 20% of the way up (from the bottom). If you're displaying a flat trace, and
: > move it up and down, you'll see the flat line distort at these points.
: >
: > My guess is that this is probably a sign of something wrong with the CRT
: > deflection plates, though I hope it is something cheaper!
: >
: > Anyway, Tektronix wants $355 flat rate to repair and calibrate <plus> $750
: > if it needs a CRT, and I'm wondering if anyone can suggest another repair
: > place that might be a bit more reasonable -- particularly if they can replace
: > the CRT for less. For the money I have in the unit, spending a few hundred
: > dollars is reasonable. Spending a grand is out of the question.
: >
: > Thanks...
: >
: > John Ackermann AG9V
: > john.ackermann@daytonOH.attgis.com

: I'd recommend buying a used service manual for your 2213A from Ed Matsuda &
: do your own troubleshooting before spending the big quid w/ Tek. Ed's
: address is -

: Ed Matsuda
: P.O. Box 390613
: San Diego, Calif. 92149

: TGB

: \\ The opinions expressed herein are my own. //

I'd check the +/- rails to the deflection amp (or even before it gets there)
before I got too depressed about the CRT.

Symmetrical distortion sounds mighty suspicious for a CRT fault.

Good Luck.

Graham Foden. Perth, Western Australia.

2028. Re: 2m parametric amp/message for K4MSG.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.800712246@melpar>
Source record: 112829

Jack Mott <jackm@pmafire.inel.gov> writes:

>I really appreciated the historical information about Navy EME systems
>that Paul Bock related in a recent posting. As for parametric amplifiers,

Glad you enjoyed it.

>an X-band parametric amplifier. Electronic systems designers in the 50s
>and 60s were often quite sophisticated at applying exotic technologies.
>Although we are much more advanced in terms of micro-electronics these
>days, these older designers were often able to deal with a much broader
>range of technology.

Quite true, and quite often the engineering teams tasked with coming
up with new designs could be quite creative in their approaches, although
to be fair I'd have to point out the obvious fact that *sometimes* things
just didn't work out as planned. But, that's just part of the design
process - well, unless you're building an airplane, bridge, building or
elevator; then it had *better* work! :-)

Being on a "technical research ship" (AGTR is the Navy hull type
designator for "Auxiliary, Miscelleneous Class, Technical Research;" we
used to say that it really stood for "Always Going To Revolutions,"
inasmuch as we seemed to be sent to a lot of "trouble spots") we saw our
share of "new approaches" to receiving system technology, especially in
the lower microwave region. It was an interesting time to be working
in electronics.....

Regarding the EME: The Navy "concept name" was TRSSCOMM, or Technical
Research Ship Special Communications. The first such system was built by
NRL, as I recall (sort of a "homebrew" affair which would warm the heart of
any ham), and installed on USS OXFORD (AGTR-1). The dual-channel IF used
a pair of R-390A/URR receivers as tunable IFs. The antenna pedestal was
a modified 40mm gun mount. I know that a similar system was put on USS
GEORGETOWN (AGTR-2), but I'm not sure about USS JAMESTOWN (AGTR-3). The
first of the AN/SRC-33(XN-1) systems, which were built by Lockheed
Electronics, was put on the ill-fated USS LIBERTY (AGTR-5) and USS BELMONT
(AGTR-4), on which I served, got hers after LIBERTY (it was simply a matter
of which one was in the shipyard at the right time; as it happened, we
were deployed and LIBERTY was in Norfolk).

One interesting anecdote: the SRC-33 had a latitude/longitude
readout which was quite accurate, so on a couple of occasions we "needled"
the ship's navigator by calling the bridge and asking for a position just
after he'd done his evening shot with the sextant, and after he gave us the
lat/long we'd tell him where he *really* was. Of course, these were occasions

when we were tracking a visible moon, of course. BTW, in the '60s the sextant was still a primary navigation tool as (a) there were no satellites, and (b) we only had Loran A, which wasn't that accurate.

And for you EMEers out there, yes, we did point at the Sun as a check on receiver performance. Polarization, BTW, was selectable RH/LH circular or linear. Normally the ships used RH and the shore stations used LH (remembering that the polarization sense reverses when the signal bounces off of the moon). We were able to maintain solid RTTY copy while running a couple of KW, but we normally ran about 6 or 8 to allow for the occasional fade. We had to maintain the dish antenna boresight within 1.5 moon diameters of the moon's center, and we had a dish-mounted closed-circuit TV camera (with crosshairs) which was very helpful in that regard.

But for the true ham experimenter, doing EME that way would seem much too easy, and in fact it really was a "brute force" system (especially with those 65-foot dishes at the shore stations).

73,

Paul, K4MSG

2029. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: kirk@neptune.gsfc.nasa.gov
Message-ID: <3pd6c0$p14@post.gsfc.nasa.gov>
Source record: 112830
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

In article <1995May16.154547.14673@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us says...
>
>In article <3p827r$cah@post.gsfc.nasa.gov> kirk@neptune.gsfc.nasa.gov (Robert Kirk)
writes:
>>The catch is that the Coast Guard is broadcasting these corrections
>>at around 300 Khz instead of a more sensible VHF that anyone could
>>copy. (I'm convinced they have a warehouse full of old LF/MF xmtrs
>>that they have left over from the old marine radiobeacon days).
>
>They have a better reason than that. The groundwave from the MF
>transmitters covers a larger area than would a VHF transmitter's
>LOS signal. Therefore they can use fewer transmitters. Fewer
>transmitters means fewer maintenance headaches and lower costs.
>
>Gary
>
>--
>Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
>Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
>534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
>Lawrenceville, GA 30244 | |

Gary... That's true, but if you look at the total cost: USCG transmission
cost + user receiver cost, I'd guess that x thousand users having to buy
otherwise useless, specialized LF/MF rcvrs instead of using VHF which
everyone already has on board, would tip the cost scale. Plus a better
quality, non-multiplexed, ascii signal to boot. I was hoping they'd
use the existing NOAA VHF weather broadcast sites which already provides
good coastal coverage, and use one of the unused WX freqs at that site.
(162.40, .55, etc.) That way, anyone could get differential by turning a
knob on his marine VHF at zero cost.

Bob Kirk
N3OZB

I'm not sure about the great range from those MF beacons in the real
world. Years ago I used them for dfing, but they seemed noisy and
not terribly long ranged. But time clouds happy memories. :-)

2030. Re: Newsgroup rec.radio.amateur.homebrew, Articles 8043-8072re: 300 kc rcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: kirk@neptune.gsfc.nasa.gov
Message-ID: <3pd6h0$p14@post.gsfc.nasa.gov>
Source record: 112831

In article <3p8el9$s8l@huron.eel.ufl.edu>, afn01212 says...
>
>why not use the 67 kc sub carrier fm radio correction instead of 300 kc rcvr
>some stations use 57 kc.....anyway there stations all over us using this
>

But that's the commercial one I'm trying to avoid. I understand that
company is not happy with the USCG's "free" service. I wonder who
will win?

Bob Kirk
N3OZB

2031. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: HigginsJN%RR%USAFA@bld4199-server.USafa.af.MIL
Message-ID: <199505171728.KAA00703@mail.ucsd.edu>
Source record: 112832

```
UNSUBSCRIBE ALL
```

2032. Re: 4-400A's as substitutes for 3-500Z.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: tom_taylor@taligent.com
Message-ID: <tom_taylor-1705951041170001@tom-taylor.taligent.com>
Source record: 112833

There are plans for a dual 4-400 grounded grid HF amp in the 1982-1984 handbook.
I built one and it works great.

--
Tom Taylor
aa6br

2033. 4-400A's as substitutes for 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: Waltk@pica.army.mil
Message-ID: <9505171457.aa17037@COR5.PICA.ARMY.MIL>
Source record: 112834

I recently wrote:

>>If you're serious about building an amp, look up articles in QST
>>written by Measures, AG6K. In my book (contrary to popular belief)
>>he is THE de facto expert on amplifiers.

To which Tom, W8JI, responded:

>That was a good post until this comment. Why would you want to mislead
>people? 73 Tom

Ah, but Tom, he is the expert, in my book. Maybe I should have
further qualified that statement with * IMHO *.

What is it about Measure's published work that you disagree
with? Are you perhaps an purveyor of commercial amplifiers?
I'm certain this issue needs further exploration.

.....
73 de Walt Kornienko <<< K2WK >>> Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
Member: The Frankford Radio Club #1 Contest Club In The Universe
---

2034. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: au156@yfn.ysu.edu
Message-ID: <3pdhr0$5ff@news.ysu.edu>
Source record: 112835

Ilkka has said it very well, there is NO such thing as RMS power as
a standard, accepted definition. RMS voltage and current, yes.

ilkka.kontola@nmp.nokia.com (Ilkka Kontola):

>RMS voltage and RMS current are useful ways to describe
>AC signals. A 100 V RMS voltage will heat a resistive
>load with same power as 100 V DC voltage does. That
>is the definition.

>RMS power can be calculated but it has no meaning. 100 V RMS
>voltage at 100 ohms resistive load will heat the load
>with 100 W _average_ power.

There have been some messages here that are generally correct with
regard to power measurement, *except* that each erroneous reference
to RMS power has to be replaced with *average* power to be totally accurate.

As Ilkka has so well expressed, carrier and PEP power are both defined
in terms of average power (which may be calculated with appropriate RMS
voltage and/or current values).

When the "Lab Notes" column that started this whole thread came out,
I contacted the author about missing the opportunity to bury the
misnomer RMS power, and he has informed me that there will be a followup
in QST that will clarify the issue. I hope it turns out okay.

Hank, N1LTV

2035. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: faunt@netcom20.netcom.com
Message-ID: <FAUNT.95May17130529@netcom20.netcom.com>
Source record: 112836
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

In article <3pd6c0$p14@post.gsfc.nasa.gov> kirk@neptune.gsfc.nasa.gov (Robert Kirk) writes:

(162.40, .55, etc.) That way, anyone could get differential by turning a knob on his marine VHF at zero cost.

Err, the differential receiver doesn't just dump audio into the GPS. There's data on that signal, and the data has to be recovered. I suspect it's those data recovery bits that are the hassle, and would have to be done, even if the signal was on VHF.

On the other hand, I also suspect, but don't know that, any collection of people who could put together a TNC could put together a homebrew differential receiver. As far as I know, there's no diff signals around here in the San Francisco Bay Area yet.

73, doug

2036. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: tschall@halcyon.com
Message-ID: <3pdmhn$dkr@news.halcyon.com>
Source record: 112837
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

>The catch is that the Coast Guard is broadcasting these corrections
>at around 300 Khz instead of a more sensible VHF that anyone could
>copy.

There are some FM radio stations that are broadcasting the same
correction info on FM subcarriers around here. You might want to
investigate that possibility as well.

>(I'm convinced they have a warehouse full of old LF/MF xmtrs
>that they have left over from the old marine radiobeacon days).

That's funny. I laughed.

--Tim KA7PBI

2037. Re: RUTLAND ARRAYS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: hbrown@nadir.resd
Message-ID: <3pdnjf$i9c@morgan.vf.mmc.com>
Source record: 112838

Yes, Tom Rutland died. I do not know if the business has
been sold to anyone. I'll post info on it if when I find out.

73, Harry, W3IIT
hbrown@resd.vf.ge.com

2038. Looking for copper pipe J-pole antenna advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: oops@msg.ti.com
Message-ID: <3pdp63$so5@superb.csc.ti.com>
Source record: 112839
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

I have several plans to build copper pipe J-pole antennas. The one
I'm looking at in particular is tri-banded (2m, 1.25m, & 70cm). On this
design, three feed lines are used. Each feedline corresponds to it's own
'cactus leg' on the J-pole. I'm planning to build a dual-band version
(2m & 70cm) using the tri-bander plans. However, I do not want
to run two different pieces of coax through the house. So, I'm thinking
about using a 2m/70cm duplexer to combine both feedlines from the antenna
into one for distribution through the house. I've seen duplexers designed to
take two imputs (from a transceiver) and combine them into one output
(to the antenna). Would this same duplexer work just the opposite
(one input from the transceiver split to two outputs to the antenna)?
If not, what would be a good approach to combining the two feedlines
into one?

Thanks in advance and 73
Mitchell
KC5MKW

Std. disclaimer: I speak only for myself.

2039. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: chrise@comtrol.com
Message-ID: <chrise.29.000EF087@comtrol.com>
Source record: 112840
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

In article <3pd6c0$p14@post.gsfc.nasa.gov> kirk@neptune.gsfc.nasa.gov (Robert Kirk) writes:
>Path: mr.net!nic.dot.state.mn.us!mn.state.net!news.sprintlink.net!gatech!usenet.eel.ufl.edu!hookup!news.umbc.edu!haven.umd.edu!cs.umd.edu!newsfeed.gsfc.nasa.gov!usenet
>From: kirk@neptune.gsfc.nasa.gov (Robert Kirk)
>Newsgroups: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner
>Subject: Re: 300 Khz receiver for GPS differential
>Date: 17 May 1995 15:56:48 GMT
>Organization: NASA Goddard Space Flight Center -- Greenbelt, Maryland USA
>Lines: 38
>Message-ID: <3pd6c0$p14@post.gsfc.nasa.gov>
>References: <3p827r$cah@post.gsfc.nasa.gov> <1995May16.154547.14673@ke4zv.atl.ga.us>
>NNTP-Posting-Host: isobar.gsfc.nasa.gov
>Mime-Version: 1.0
>X-Newsreader: WinVN 0.99.2
>Xref: mr.net rec.radio.amateur.homebrew:7427 rec.radio.shortwave:28208 rec.radio.scanner:26493

Do these correction broadcasts contain only correction information or do they also contain say, a time of day stamp ?

Is there a reference document on these broadcasts ? That would be cool...

Chris

--
Chris Elmquist, N0JCF Comtrol Corporation voice: (612)631-7614
chrise@comtrol.com fax: (612)631-8117

2040. adc data acqusition =oscilloscope/spect. analy/feq counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: spearce@ccu1.auckland.ac.nz
Message-ID: <3pdr5k$1mvr@thebes.waikato.ac.nz>
Source record: 112841

Hi.

We were thinking of gettin a frequency counter and oscilloscope recently ..
but then got to thinking that with the newer adc devices and memory devices it may be possible to build up a data acquisition interface using video adcs and memory devices that will provide both of the above plus spectrum analyser all via software manipulation of a raw signal.

Does anyone know of a design/kitset/product of this sort.

Thanks

2041. Re: Looking for copper pipe J-pole antenna advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <3pe9li$ntf@crl10.crl.com>
Source record: 112842
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Mitchell Carson (oops@msg.ti.com) wrote:

: I have several plans to build copper pipe J-pole antennas. The one
: I'm looking at in particular is tri-banded (2m, 1.25m, & 70cm). On this
: design, three feed lines are used. Each feedline corresponds to it's own
: 'cactus leg' on the J-pole. I'm planning to build a dual-band version
: (2m & 70cm) using the tri-bander plans. However, I do not want
: to run two different pieces of coax through the house. So, I'm thinking
: about using a 2m/70cm duplexer to combine both feedlines from the antenna
: into one for distribution through the house. I've seen duplexers designed to
: take two imputs (from a transceiver) and combine them into one output
: (to the antenna). Would this same duplexer work just the opposite
: (one input from the transceiver split to two outputs to the antenna)?
: If not, what would be a good approach to combining the two feedlines
: into one?

Why, yes --- it should work. Those type of passive networks should work
equally well in both directions.

--

Don Miller My opinions are my own!
dmiller@crl.com

2042. don`t read. testing

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: mlp@cnct.com
Message-ID: <3pebad$463@earth.cnct.com>
Source record: 112843

this is just a test. thank all for your patience. ray k2ltq

 QMPro 1.53 Everybody wants to go to heaven, but nobody wants to die.

--
Murray Pfeffer | mlp@cnct.com
New York, N.Y. | K2LTQ
U.S.A. | 1:278/320 or 1:278/533

2043. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: gcouger@jsun.agen.okstate.edu
Message-ID: <3pdt3g$1aro@bubba.ucc.okstate.edu>
Source record: 112844
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

In article <3pdmhn$dkr@news.halcyon.com>,
Tim Schall <tschall@halcyon.com> wrote:
>>The catch is that the Coast Guard is broadcasting these corrections
>>at around 300 Khz instead of a more sensible VHF that anyone could
>>copy.

The reasons for using VLF are two fold. First it can be recived at much greater distances than VHF and second it is almost immune to multipath propogation. This means that that you can have pretty high confidence in how long it took the signal to reach you. This important to correcting the GPS.

Gordon
Gordon Couger - 624 Cheyenne, Stillwater, OK 74075
gcouger@master.ceat.okstate.edu 405-624-2855 evenings
I do not speak for my employer

2044. comercial use (was: New CD-ROM & WWW site.)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: EBo <ebo>
Message-ID: <3pe1vu$acu@lynx.unm.edu>
Source record: 112845
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew

hayward@cs.uchicago.edu (Kristin Rachael Hayward) wrote:
>In article <3oqtvq$hm1@hpbab.wv> Hank_Oredson@mentorg.com writes:
>:In article <3ofsbt$fem@krel.iea.com>, n0dh@comtch.iea.com (D.C. Henderson) writes:
>:|> amsoft@epix.net wrote:
>:|>
>:|> : The World of Ham Radio CD-ROM MAY 1995 issue is now available.
>:|> : For more information contact amsoft@epix.net or the new AmSoft
>:|> : WWW site at: http:/hamster/business.uwo.ca:80/~amsoft/
>:|>
>:|> you guys just don't get it do you......you didn't get enough flames the
>:|> last time you used the rec.radio.****** bandwidth for commercial ads?
..
>
>Ah, sigh. The Net Cops are just like the OFs on HF; whether it
>be ham radio or the net, there will be the OFs sitting in their
>shack complaining about something

Ye' Gads, and little fishes... Looks like sombody needs to tune their I/O
stage thingy's a tad...

I have a couple of questions and comments for our gathered host.

1) was the posting made from a commercial account? (it was my understanding
that the neticate issue had more to do with using non-com accounts for
business purposes than the use of comercial accounts for business
purposes)
I could of course be wrong.
2) As the net goes fully comercial, how are we (both as net users and
business
people) going to agree what is the appropriate use of bandwidth? I ask
this not as a retorical question, but as a potential user and comercial
maintainer. I've been considering putting my families custom tile
business on the web. So, how am I supposed to advertise our site?
although it might seem like rec.radio.* may be an inappropriate place
to advertise, who knows... We make tile for the Boyscouts, why not
amature radio groups or idividuals who want their callsigns/logos on tile
too. So how does one go about this in a net-tically acceptable fassion?
Isn't a three or four sentance blatant ad. like "would you like to have
your callsign/logo custom and hand made in tile? Check out http://..."
3) What is the neticate for those who get flammed by the Net COPS? I
personally have little to no tollerance for self appointed moral crucaders
of ________ (please fill in the blank).
.... now you can eat your spam, eggs, spam, and spam!

I whole hartedly agree with Dr. Kristin Rachael Hayward's,
hayward@cs.uchicago.edu (WX9T)... "... whether it be ham radio or the net,
there will be the OFs sitting in their shack complaining about something."

EBo --

ps: if you are so upset with the use/abuse of bandwidth, why did you keep
reposting to something on the order of 10 news groups?

2045. AM RIG and Linear KITS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-17 00:00:00 UTC
From: topanga@newshost.li.net
Message-ID: <3pcper$hjt@linet02.li.net>
Source record: 112846

I am looking for either a already-made or EASY to build AM Transmitter or transceiver. It must work on 80 Meters, but preferably on all the bands. Also a EASY to build kit or already made 300-500 watt linear. I'm looking for something pretty inexpensive..Any suggestions?? Thanks in advance and 73
Keith-AC6CX topanga@li.net

2046. Re: RFD: rec.radio.amateur.low-profile

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: dhartung@mcs.com
Message-ID: <3pg5rm$ouc_001@pr.mcs.net>
Source record: 112847
Cross-posted to: news.groups,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.policy

dmoorman@interaccess.com (Dave Moorman) wrote:
>In article <D83B43.Mt5@news.hawaii.edu>, jeffrey@math.hawaii.edu wrote:
>> With well over 7000 newsgroups some sites may have reached the saturation
>> point and choose not to subscribe to the new rec.radio.amateur.low-profile.
>
>Of those 7,000 newsgroups, how many are totally bogus and mostly or
>totally unused, such as:
>
>alt.brian.saunders.pot.kettle.black
>the whole alt.bonehead heirarchy
>alt.bubba-love.el-caminoville
>alt.bruce.it.was.just.an.accident
>alt.butt-keg.marmalade
>alt.cancel.bots
>alt.check.her.miss-jesus
>alt.choad
>
>etc., etc. This list could go on and on. I'm really curious as to how
>these newsgroups got started. They certainly don't serve a purpose
>because nobody ever uses most of them and their names are totally wierd.

You have to understand the difference between the Usenet Big 8 and
other hierarchies, specifically alt.

Here we have votes to determine before group creation if there's
enough interest, and an individual (tale) to send newgroup messages
that will be honored automatically.

In alt, there are no votes, anyone can send a newgroup message, and
any site can choose to honor it or not.

Nobody's BOUND by Tale, here, but I guarantee you a new rec group
will get at least 50% propagation, especially if it's part of an
existing subgroup such as rec.radio.amateur. A new alt group will
be extremely lucky to get 35-40% propagation.

And the more silly alt groups that get created, the more this
divergence occurs.

The flip side is that the big commercial sites (e.g. AOL, Prodigy,
Netcom <g>) newgroup practically everything that comes down the pike,
so that a large percentage of Usenet readers do have access despite
low propagation.

--
* Daniel A. Hartung * dhartung@mcs.com * http://www.mcs.net/~dhartung/ *
Mage: I see a great hand reaching out of the stars. The hand is yours, and
I hear the sounds of billions of people calling your name.
Londo: My followers?
Mage: Your victims.

A reminder that things we start, do not always end with us.

2047. Re: PEP measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <223234999wnr@ifwtech.demon.co.uk>
Source record: 112848

In article: <3pdhr0$5ff@news.ysu.edu> au156@yfn.ysu.edu (Hank Riley) writes:

: >RMS power can be calculated but it has no meaning. 100 V RMS
: >voltage at 100 ohms resistive load will heat the load
: >with 100 W _average_ power.
:
:
: There have been some messages here that are generally correct with
: regard to power measurement, *except* that each erroneous reference
: to RMS power has to be replaced with *average* power to be totally accurate.
:
: As Ilkka has so well expressed, carrier and PEP power are both defined
: in terms of average power (which may be calculated with appropriate RMS
: voltage and/or current values).
:

That's what most people mean when they say "RMS power": power averaged
over one complete cycle, and calculated *correctly* using RMS voltage
and/or current values.

I don't think too many people believe that you take the RMS value
of the power itself, because that's well-known to give an *incorrect*
result.

In other words, "RMS power" is a shorthand usage, not an unambigous
technical term. It has come into use - and sticks around - because
it has some real value in reminding us that the power has been
averaged over a complete cycle.

The technically correct term, "average power", is no less ambiguous
or open to misapplication... was that averaged over a cycle, a second,
a week or what?

A couple of years ago I was hauled over the coals for using the
term "RMS power" in my magazine column. As you see, I'm not
entirely repentant.

: When the "Lab Notes" column that started this whole thread came out,
: I contacted the author about missing the opportunity to bury the
: misnomer RMS power...

Explain the usage, yes.

Bury it? ... the very best of luck.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'

'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

2048. Need Valve data

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: p.wassink@telecom.ptt.nl
Message-ID: <3pfd72$k6r@lkxl01.telecom.ptt.nl>
Source record: 112849

Hi & tnx fr reading,

I did buy an couple of 4cx300a tubes from eimac last year,
now i im ready to use them , and want to build an PA with those valves

BUT : i can not find the data sheets or any data at all in my collection

so the question in this matter , who has and is willing to send them to
me by mail ?

reply to pwassink@charm.gandalf.ca or to the account mentioned above...

73 peter wassink (pd0pha)

2049. Re: Long wave and medium wave transmitters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: solasaar@cc.Helsinki.FI
Message-ID: <3pfd1b$mhr@oravannahka.Helsinki.FI>
Source record: 112850

Friedrich Kaufmann (fkauf@fstgds06.tu-graz.ac.at) wrote:

> Where are transmitters for long wave and medium wave?
> ==

> My questions are:

> * Do you know long wave transmitters in the frequency range 230kHz-270kHz
> and 355kHz-395kHz and medium wave transmitters in the frequency range
> 480kHz-520kHz, 605kHz-645kHz?

> * Is somewhere a list of long wave and medium wave transmitters for
> Europe and perhaps other countries? I'm interested in magnetic field

> Many thanks,

> Friedrich Kaufmann
> email: fkauf@fstgds06.tu-graz.ac.at

World Radio and Television Handbook 1995 may help.
73
Juha Solasaari

2050. coil winding program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: GFriedla@griprod2.GRi.ORG
Message-ID: <DE38BB2F01252C79@-SMF->
Source record: 112851

I believe there are several programs available on the internet via ftp. In addition, I use a Lotus 1-2-3 spreadsheet for my calculations. I'd be happy to send it via e-mail to anyone who wants it, however, it is not very user-friendly (my plans have been to automate it, but I just never seem to get to it).

73, WD9HDM
Gary Friedlander (gfriedla@gri.org)

Original Text
From ham-homebrew-relay@ucsd.edu, on 5/18/95 4:30 AM:
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Thu, 18 May 95 Volume 95 : Issue 146

Today's Topics:
(none)
300 Khz receiver for GPS differential
4-400A's as substitutes for 3-500Z
coil winding program wanted
HP-431C power meter (2 msgs)
Need information on a Valve
Newsgroup rec.radio.amateur.homebrew, Articles 8043-8072re: 300 kc rcvr
PEP measurement
Tektronix Scope Repair Suggestions?
Your favorite device programmer? (2 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 17 May 95 17:34:38 GMT
From: HigginsJN%RR%USAFA@bld4199-server.USafa.af.MIL
Subject: (none)

UNSUBSCRIBE ALL

Date: 17 May 1995 15:56:48 GMT
From: kirk@neptune.gsfc.nasa.gov (Robert Kirk)
Subject: 300 Khz receiver for GPS differential

In article <1995May16.154547.14673@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
says...
>
>In article <3p827r$cah@post.gsfc.nasa.gov> kirk@neptune.gsfc.nasa.gov
(Robert Kirk) writes:
>>The catch is that the Coast Guard is broadcasting these corrections
>>at around 300 Khz instead of a more sensible VHF that anyone could
>>copy. (I'm convinced they have a warehouse full of old LF/MF xmtrs
>>that they have left over from the old marine radiobeacon days).
>
>They have a better reason than that. The groundwave from the MF
>transmitters covers a larger area than would a VHF transmitter's
>LOS signal. Therefore they can use fewer transmitters. Fewer
>transmitters means fewer maintenance headaches and lower costs.
>
>Gary
>
>--
>Gary Coffman KE4ZV | You make it, |
gatech!wa4mei!ke4zv!gary
>Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
>534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
>Lawrenceville, GA 30244 | |

Gary... That's true, but if you look at the total cost: USCG transmission
cost + user receiver cost, I'd guess that x thousand users having to buy
otherwise useless, specialized LF/MF rcvrs instead of using VHF which
everyone already has on board, would tip the cost scale. Plus a better
quality, non-multiplexed, ascii signal to boot. I was hoping they'd
use the existing NOAA VHF weather broadcast sites which already provides
good coastal coverage, and use one of the unused WX freqs at that site.
(162.40, .55, etc.) That way, anyone could get differential by turning a
knob on his marine VHF at zero cost.

Bob Kirk
N3OZB

I'm not sure about the great range from those MF beacons in the real
world. Years ago I used them for dfing, but they seemed noisy and
not terribly long ranged. But time clouds happy memories. :-)

Date: 17 May 95 18:57:56 GMT
From: Waltk@pica.army.mil
Subject: 4-400A's as substitutes for 3-500Z

I recently wrote:

>>If you're serious about building an amp, look up articles in QST
>>written by Measures, AG6K. In my book (contrary to popular belief)
>>he is THE de facto expert on amplifiers.

To which Tom, W8JI, responded:

>That was a good post until this comment. Why would you want to mislead
>people? 73 Tom

Ah, but Tom, he is the expert, in my book. Maybe I should have
further qualified that statement with * IMHO *.

What is it about Measure's published work that you disagree
with? Are you perhaps an purveyor of commercial amplifiers?
I'm certain this issue needs further exploration.

.....
73 de Walt Kornienko <<< K2WK >>> Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
Member: The Frankford Radio Club #1 Contest Club In The Universe
----

Date: 16 May 1995 02:53:33 GMT
From: DB Wilhelm <w3fpr@nando.net>
Subject: coil winding program wanted

mikelder@aol.com (Mikelder) wrote:
>
> If anyone out there has a program that can help wind coils please tell me
> where I can get it. I have a program like that, but the danged thing is

I don't have a program, but plug the inductance formula from the
ARRL handbook or similar source into a spreadsheet and feed it
any numbers you desire - presto, out comes the answer. A little
algebra may be needed, but that can usually be simplified in a
spreadsheet program by preforming sevveral stepwise calculations.

73, Don

Date: Tue, 16 May 95 07:27:26 PDT
From: Jay Wicklund <jwicklun@mail1.halcyon.com>
Subject: HP-431C power meter

In article <3p98p9$4dg@newsbf02.news.aol.com>, <vinyn1vc@aol.com> writes:
> Path:
news.halcyon.com!nwfocus1.wa.com!news.sprintlink.net!howland.reston.ans.net!n
ew
s-e1a.megaweb.com!newstf01.news.aol.com!newsbf02.news.aol.com!not-for-mail
>
> I have an HP-431C power meter. I am looking for the cable and the
> thermistor head. I do not have a manual but I believe it takes a 478 head.

> Any help in locating a working pair would be appreciated. Thanks
> beforehand. My phone is Days: 203-573-5581, Eves: 203-583-1191. VINY
> (N1VC)
>
I recently went through the same process, and it isn't pretty. The 431C is
the cheap part, the thermister sensor is the expensive part. I eventually
found a used sensor from one of the surplus test equipment companies that
advertise in the Nuts & Volts magazine; but it cost $100 for the sensor.
The
cable was even harder, hp will sell one for about $150. I purchased a set
of
connectors for about $18.00 and made my own cable with some shielded twisted
pair. The connectors are pn 91-MC6M and 91-MC6F1 (I don't remember the mfg
-
but I could probably chase that down)

When done, the thing works pretty good, but the sensor may be just a little
flaky as I have to be careful and not move things around while I'm making
measurements. If I move the sensor around it affects the zero, so I may not
have a 100% good sensor.

Good Luck....the good part is that when you get done, you'll be able to
measure rf signals up to around 10GHz (so long as they are low power).

73....KI7RH (Jay)

Date: 16 May 1995 00:13:29 -0400
From: vinyn1vc@aol.com (VINY N1VC)
Subject: HP-431C power meter

I have an HP-431C power meter. I am looking for the cable and the
thermistor head. I do not have a manual but I believe it takes a 478 head.
Any help in locating a working pair would be appreciated. Thanks
beforehand. My phone is Days: 203-573-5581, Eves: 203-583-1191. VINY
(N1VC)

Date: 16 May 1995 14:10:09 -0500
From: ekays@promus.com (Gene Kays)
Subject: Need information on a Valve

Please educate me .....

My Kenwood TS830S has begun to show its age. I've owned it since new
about 15 years now and it's output power has started to sag. It is
time to re-tube this rig.

I have seen (and skipped over) discussions regarding a tube 6146W.
Matched pairs priced at about $50. I seem to remember it was a
more robust version of the 6146B which is the stock tube in my rig.

My questions are :

a) Is this a plug in replacement for the 6146B ?
b) are the voltage current ratings the same ?
c) is $50 a fair price for the pair ?
d) are these really new tubes or NOS ?

Thanks in advance for the information.

73's Gene

==========
Eugene D. Kays - ekays@promus.com
Lead Systems Engineer - Support
Promus Companies Memphis TN
ARS KA5ALN my radio glows in the dark
_ _ . . . . . _ _ . _ . _ . . . . _ . _
==========

Date: 17 May 1995 15:59:28 GMT
From: kirk@neptune.gsfc.nasa.gov (Robert Kirk)
Subject: Newsgroup rec.radio.amateur.homebrew, Articles 8043-8072re: 300 kc rcvr

In article <3p8el9$s8l@huron.eel.ufl.edu>, afn01212 says...
>
>why not use the 67 kc sub carrier fm radio correction instead of 300 kc rcvr
>some stations use 57 kc.....anyway there stations all over us using this
>

But that's the commercial one I'm trying to avoid. I understand that company is not happy with the USCG's "free" service. I wonder who will win?

Bob Kirk
N3OZB

Date: 17 May 1995 19:12:32 GMT
From: au156@yfn.ysu.edu (Hank Riley)
Subject: PEP measurement

Ilkka has said it very well, there is NO such thing as RMS power as a standard, accepted definition. RMS voltage and current, yes.

ilkka.kontola@nmp.nokia.com (Ilkka Kontola):

>RMS voltage and RMS current are useful ways to describe
>AC signals. A 100 V RMS voltage will heat a resistive
>load with same power as 100 V DC voltage does. That
>is the definition.

>RMS power can be calculated but it has no meaning. 100 V RMS
>voltage at 100 ohms resistive load will heat the load
>with 100 W _average_ power.

There have been some messages here that are generally correct with
regard to power measurement, *except* that each erroneous reference
to RMS power has to be replaced with *average* power to be totally accurate.

As Ilkka has so well expressed, carrier and PEP power are both defined
in terms of average power (which may be calculated with appropriate RMS
voltage and/or current values).

When the "Lab Notes" column that started this whole thread came out,
I contacted the author about missing the opportunity to bury the
misnomer RMS power, and he has informed me that there will be a followup
in QST that will clarify the issue. I hope it turns out okay.

Hank, N1LTV

Date: 17 May 1995 19:25:32 +0800
From: tig@perth.DIALix.oz.au (Graham Foden)
Subject: Tektronix Scope Repair Suggestions?

Booth, Thomas G (thomas.g.booth@den.mmc.com) wrote:
: In article <john.ackermann.350.000CF807@daytonOH.ncr.com>,
: john.ackermann@daytonOH.ncr.com (John Ackermann) wrote:
: >
: > I just picked up a Tektronix model 2213A scope for a bargain basement
price,
: > knowing it would need some repair. Specifically, there's a bad
distortion in
: > the trace at about 80% of the way up the trace, and a smaller distortion
about
: > 20% of the way up (from the bottom). If you're displaying a flat trace,
and
: > move it up and down, you'll see the flat line distort at these points.
: >
: > My guess is that this is probably a sign of something wrong with the CRT
: > deflection plates, though I hope it is something cheaper!
: >
: > Anyway, Tektronix wants $355 flat rate to repair and calibrate <plus>
$750
: > if it needs a CRT, and I'm wondering if anyone can suggest another
repair
: > place that might be a bit more reasonable -- particularly if they can
replace
: > the CRT for less. For the money I have in the unit, spending a few
hundred
: > dollars is reasonable. Spending a grand is out of the question.
: >
: > Thanks...

: >
: > John Ackermann AG9V
: > john.ackermann@daytonOH.attgis.com

: I'd recommend buying a used service manual for your 2213A from Ed Matsuda
&
: do your own troubleshooting before spending the big quid w/ Tek. Ed's
: address is -

: Ed Matsuda
: P.O. Box 390613
: San Diego, Calif. 92149

: TGB

: \\ The opinions expressed herein are my own. //

I'd check the +/- rails to the deflection amp (or even before it gets there)
before I got too depressed about the CRT.

Symmetrical distortion sounds mighty suspicious for a CRT fault.

Good Luck.

Graham Foden. Perth, Western Australia.

Date: Tue, 16 May 95 07:37:55 PDT
From: Jay Wicklund <jwicklun@mail1.halcyon.com>
Subject: Your favorite device programmer?

In article <acooneyD8nIIE.C1J@netcom.com>, <acooney@netcom.com> writes:
> I'm in dire need of a good quality device programmer to do PALS/GALS and
> PEELs immediately, and hopefully to grow into full-fledged Altera devices
> in the near future. I don't want to screw around with a low cost device
> with comparably low performance and reliability. I'd rather spend my
> money up front, and save in the long run. There are a limited number
> of news groups for this sort of question -- being a ham, I figure it's
> ok for me to ask here...
>
> Are any of you doing serious work with your software and hardware, and
> if so, could you share your feelings about them with me?

There's always Data IO. They are a little pricey, but you know that you'll
get support and they will still be around when you want to upgrade. They
work
closely with all the device mfgs so they usually support the new devices as
soon as anybody (but you have to be a little careful - they don't add
support
for all new devices to all the programmers at the same time).

73....KI7RH (Jay)

Date: Tue, 16 May 1995 03:18:14 GMT
From: acooney@netcom.com (Alan Cooney)
Subject: Your favorite device programmer?

I'm in dire need of a good quality device programmer to do PALS/GALS and PEELs immediately, and hopefully to grow into full-fledged Altera devices in the near future. I don't want to screw around with a low cost device with comparably low performance and reliability. I'd rather spend my money up front, and save in the long run. There are a limited number of news groups for this sort of question -- being a ham, I figure it's ok for me to ask here...

Are any of you doing serious work with your software and hardware, and if so, could you share your feelings about them with me?

Cheers!
Alan
WD6DES

Date: Tue, 16 May 95 15:15:47 GMT
From: Jack Mott <jackm@pmafire.inel.gov>

References<447991723wnr@pacsat.demon.co.uk>
<PMONTA.95May15002254@pmonta.qualcomm.com>, <peter.800586255@giaeb>
Subject: RSGB Publications

On 16 May 1995, peter freeman wrote:
> ...
> From memory, the details of some of these units is described in the
> Microwave Handbook, published by the RSGB. A detailed description
> was also published in DUBUS magazine in 1993 or 1994, over a couple
> of issues. Another useful source of information on microwaves in
> general which includes news on the new projects being developed under
> the auspices of the RSGB Microwave Committee is the Microwave
> Newsletter, also published by the RSGB.

Where can a list of RSGB publications be found? An internet source is desirable.

Charles Mott

Date: Wed, 17 May 1995 14:56:16
From: chrise@comtrol.com (Chris Elmquist)

References<3p827r$cah@post.gsfc.nasa.gov>
<1995May16.154547.14673@ke4zv.atl.ga.us>, <3pd6c0$p14@post.gsfc.nasa.gov>
Subject: Re: 300 Khz receiver for GPS differential

In article <3pd6c0$p14@post.gsfc.nasa.gov> kirk@neptune.gsfc.nasa.gov
(Robert Kirk) writes:
>Path:

mr.net!nic.dot.state.mn.us!mn.state.net!news.sprintlink.net!gatech!usenet.eel
.ufl.edu!hookup!news.umbc.edu!haven.umd.edu!cs.umd.edu!newsfeed.gsfc.nasa.gov
!usenet
>From: kirk@neptune.gsfc.nasa.gov (Robert Kirk)
>Newsgroups: rec.radio.amateur.homebrew,rec.radio.shortwave,
rec.radio.scanner
>Subject: Re: 300 Khz receiver for GPS differential
>Date: 17 May 1995 15:56:48 GMT
>Organization: NASA Goddard Space Flight Center -- Greenbelt, Maryland USA
>Lines: 38
>Message-ID: <3pd6c0$p14@post.gsfc.nasa.gov>
>References: <3p827r$cah@post.gsfc.nasa.gov>
<1995May16.154547.14673@ke4zv.atl.ga.us>
>NNTP-Posting-Host: isobar.gsfc.nasa.gov
>Mime-Version: 1.0
>X-Newsreader: WinVN 0.99.2
>Xref: mr.net rec.radio.amateur.homebrew:7427 rec.radio.shortwave:28208
rec.radio.scanner:26493

Do these correction broadcasts contain only correction information or do
they
also contain say, a time of day stamp ?

Is there a reference document on these broadcasts ? That would be cool...

Chris

--
Chris Elmquist, N0JCF Comtrol Corporation voice: (612)631-7614
chrise@comtrol.com fax: (612)631-8117

Date: 16 May 1995 22:53:45 +0100
From: Simon Lewis <slewis@pacsat.demon.co.uk>

References<3o3rn3$87t@bigboote.WPI.EDU> <447991723wnr@pacsat.demon.co.uk>,
<PMONTA.95May15002254@pmonta.qualcomm.com>
Reply-To: slewis@pacsat.demon.co.uk
Subject: Re: A cheap microwave transceiver?

Yes, the designs were published in the Microwave Handbooks Vols 1 - 3
Published by the RSGB.

Speaking to Charlie Suckling G3WDG designer and organiser of the
microwave committee components service, he gave me the followig
information for non-uk parties wanting to build the transverters:

Banking arrangements have been made to accept personal cheques drawn in
US dollars, the exchange rate $1.5 to each UK pound. PLus
a banking fee of 10 dollars per order.

He is quite happy to send information out
about the designs and he can be

reached by email at
charles_suckling @ mcimail.com

Im also willing to help in
anyway I can by supplying components and hard to get items if required.

If anyone requires anymore info then please mail charlie or myself as
required.

73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland
Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk
AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP ****

End of Ham-Homebrew Digest V95 #146
****

2051. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <D8s06M.Ep6@freenet.carleton.ca>
Source record: 112852

Robert Kirk (kirk@neptune.gsfc.nasa.gov) writes:
> In article <1995May16.154547.14673@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us says...
>>
>>In article <3p827r$cah@post.gsfc.nasa.gov> kirk@neptune.gsfc.nasa.gov (Robert Kirk)
writes:
>>>The catch is that the Coast Guard is broadcasting these corrections
>>>at around 300 Khz instead of a more sensible VHF that anyone could
>>>copy. (I'm convinced they have a warehouse full of old LF/MF xmtrs
>>>that they have left over from the old marine radiobeacon days).

Well, they DID have a number of existing radiobeacon sites still in operation.
We had to resurrect a few radiobeacons to implement our system.

>>
>>They have a better reason than that. The groundwave from the MF
>>transmitters covers a larger area than would a VHF transmitter's
>>LOS signal. Therefore they can use fewer transmitters. Fewer
>>transmitters means fewer maintenance headaches and lower costs.

Gary is right. The coverage is excellent. Also, when the USCG looks at
their clients, it's primarily marine shipping that *needs* DGPS. If they
run aground, the repairs cost millions, and there can be environmental
ramifications, and they are paying the bills, after all. (with port fees,
registration, taxes, etc.)

>
> Gary... That's true, but if you look at the total cost: USCG transmission
> cost + user receiver cost, I'd guess that x thousand users having to buy

Again, you have to look at the user base. It's *want* vs. *need*.

Now some enterprising ham might want to take the bull by the horns and
develop an *el cheapo* MF differential receiver to sell to the yachty
crowd and silly sailors.

>
> I'm not sure about the great range from those MF beacons in the real
> world. Years ago I used them for dfing, but they seemed noisy and
> not terribly long ranged. But time clouds happy memories. :-)
>
The beacons are quite difficult to receive aurally, but the MSK signal for
differential corrections are quite another matter. Close to 200 NM radius
effective coverage over water, in many instances, although the advertised
service coverage may be less.

Russ Renaud va3rr
CCG

2052. HELP, army surplus 6m handie align?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: rpmackin@ashley.business.uwo.ca
Message-ID: <3pfi0d$ns6@falcon.ccs.uwo.ca>
Source record: 112853

I bought a pair of 6 metre radios at Dayton.
They are Army surplus units, the rx clips on a helmet, and the tx is handheld
with 2 channels.

Receiving set, radio, AN/PRR-9
Transmitting set, radio, AN/PRT-4 (or 4A)

I know what formula to use in re-crystalling the units, but I need alignment
info.
The book makes reference to a service instruction guide;

TM 11-6625-937-12, for the alignment procedure.

I also would like to know if there is a easy way to allow a
carrier squelch to operate in the rx unit,
it currently has either PL(150Hz) or open speaker modes.

Any help would be greatly appreciated.

Thanks!
de VE3PMK

Pat MacKinnon
75 Beechbank Crescent
London, Ontario N6E 2P1
Canada

Tel: 519 649-1455
Fax: 519 649-7776

2053. Old radar detectors as 10G xmit/rcvr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: "Dale Botkin, N0XAS" <dbotkin@probe.net>
Message-ID: <3pfm74$4g8@jake.probe.net>
Source record: 112854

I've got a couple of old unused radar detectors lying around. I know one is X/K band, and I think
the other is as well. The one I have disassembled in front of me apears to have two Gunn diodes
(I think they are, anyway) and two tuning screws. One is in a cavity in the rear, the other is
poking into the horn about an inch or so in front of the first.

Anybody know what I'm looking at here? Is there a source of articles, FAQs, or other information
to help me figure out how to homebrew a 10G transmitter, receiver, and/or transceiver from these?
FM would be nice, but I'd settle for CW just to experiment with. I keep hearing people saying
there were "some magazine articles a few years back", but have yet to see anything at all on this.

--

Dale Botkin, N0XAS | Probe Technology Internet Services
President | 10159 J St., Omaha, NE 68127-1118
| 402.593.9800
| Internet services for the Heartland

2054. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: kirk@neptune.gsfc.nasa.gov
Message-ID: <3pfn50$150@post.gsfc.nasa.gov>
Source record: 112855
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

In article <FAUNT.95May17130529@netcom20.netcom.com>, faunt@netcom20.netcom.com says...
>
>In article <3pd6c0$p14@post.gsfc.nasa.gov> kirk@neptune.gsfc.nasa.gov (Robert Kirk)
writes:
>
> (162.40, .55, etc.) That way, anyone could get differential by turning a
> knob on his marine VHF at zero cost.
>
>Err, the differential receiver doesn't just dump audio into the GPS.
>There's data on that signal, and the data has to be recovered. I
>suspect it's those data recovery bits that are the hassle, and would
>have to be done, even if the signal was on VHF.
>
>On the other hand, I also suspect, but don't know that, any collection
>of people who could put together a TNC could put together a homebrew
>differential receiver. As far as I know, there's no diff signals
>around here in the San Francisco Bay Area yet.
>
>73, doug

That's already been done. W3IWI has broadcast a differential correction
at a VHF ham freq (145.79) with a standard output that can go directly
into an existing TNC on into the GPS. Worked like a charm. one line
every 30 seconds or so didn't even interfere with the APRS packet
traffic. Same TNC, same VHF radio. (I wish he'd make it permanent.)

Bob Kirk
N3OZB

2055. Battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: parkerbk@sd2.af.mil
Message-ID: <3ped4t$b72@blackbird.afit.af.mil>
Source record: 112856

I would like to build a drop in battery charger or better
put a quick charger, can anyone help. Any one got any
ideas on this, done it before, or have schematics? Currently
I use the power supply that came with the radio for charging,
(input ac120~60 Hz 3w, output DC 13.5v ___ 70mA).
Gets me kinda wondering if I could use the old 6 amp (car battery)
charger and clip the leads onto the battery pack for say 1 hour.
hmmmmmm would this work? The battery is 6v 600mAh . would it
be necessary to set the charger to 6 v instead of 12 (curious about
this because of the above charger)? I just can't caugh up
$80-90 bucks for a REAL one right now.
Thanks for any help.

Keith
KB8ZKH

private e-mail is welcome.

2056. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: kirk@neptune.gsfc.nasa.gov
Message-ID: <3pfnd9$150@post.gsfc.nasa.gov>
Source record: 112857
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

In article <chrise.29.000EF087@comtrol.com>, chrise@comtrol.com says...
>
[...]
>
>Do these correction broadcasts contain only correction information or do they
>also contain say, a time of day stamp ?
>
>Is there a reference document on these broadcasts ? That would be cool...
>
>Chris
>
>--
>Chris Elmquist, N0JCF Comtrol Corporation voice: (612)631-7614
>chrise@comtrol.com fax: (612)631-8117

There is super precise time built into the basic GPS signal from the
satellite.

A good reference is GPS documentation that comes with APRSxx.ZIP
available from, inter alia, ftp at tapr.org. See the file GPS.TXT
buried in the README subdir when you unZIP APRSxx. (APRS is a great
program itself).

Bob Kirk
N3OZB

2057. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD8s8wA.1zK@netcom.com>
Source record: 112858
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

In article <3pdmhn$dkr@news.halcyon.com> tschall@halcyon.com (Tim Schall) writes:
>>(I'm convinced they have a warehouse full of old LF/MF xmtrs
>>that they have left over from the old marine radiobeacon days).
>
>That's funny. I laughed.

Sure, you think it's funny. That's cause you're not sitting out in the
hot sun at a hamfest trying to get rid of these ARC-5 sets....
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

2058. Re: A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: gerhard@netmbx.netmbx.de
Message-ID: <3pg9nq$km2@newsun.netmbx.de>
Source record: 112859

In article <PMONTA.95May15002254@pmonta.qualcomm.com>,
Peter Monta <pmonta@pmonta.qualcomm.com> wrote:
>Simon Lewis <slewis@pacsat.demon.co.uk> writes:
>> Here in the UK we have some great transverter designs for 3cms by G3WDG
>> They use cheap gasfets and will give you 50mw out on 10 ghz - narrowband
>> They use a 2m transceiver as the if.
>
>Are these written up somewhere? I'd like to take a look at these
>designs.

DUBUS
1/91: Michael Kuhne, DB6NT & Juergen Dahms, DC0DA
A Simple 10 GHz Transverter
(single board design, w/o oscillator)

3/93, 4/93, 1/94:
C. Suckling G3WDG & P. Suckling G4KGC & S. Jewell G4DDK
Modern 10 GHz Transverter System, Part 1/2/3

1/95: Philip Prinz, DL2AM:
10W GaAs-Fet Power on 10 GHz

Dubus is published quarterly by a team of hams and has tons
of interesting microwave stuff. Price is $25 per year.
It's bi-lingual English / German.

In the US, contact Russ Miller, N7ART
12041 S.W. Peninsula Drive, Crooked River Ranch, OR 97760

Gerhard

--
Gerhard Hoffmann # phone: +49 30 782 02 33
Gleditschstr. 79 # fax: +49 30 782 02 63
D10823 Berlin # on the air: dk4xp
Germany # in the air: d-1441, d-kick

2059. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: mbrinkho@falcon.inetnebr.com
Message-ID: <3pfsou$ka3@duck.inetnebr.com>
Source record: 112860
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

Scott Dorsey (kludge@netcom.com) wrote:
: In article <3p827r$cah@post.gsfc.nasa.gov> kirk@neptune.gsfc.nasa.gov (Robert Kirk) writes:
: >Anyway, there are a couple of manufacturers selling little receivers
: >to capture the Coast Guard broadcasts into the GPS, but at outlandish
: >prices, more expensive than a cheap GPS by itself. My question is,

: However, what are you going to do with the baseband when you get it?
: How is the signal encoded?

The signal is RTCM type 1/2 &/or 9 - it's MSK encoded.

The frequency for the tower in St. Louis, MO is 322.00KHz.

--
Matt C. Brinkhoff (KB0RXC)
mbrinkho@inetnebr.com
Lincoln, Nebraska (EN10PT)

2060. Re: Battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-18 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3pflg1$mkb@info4.rus.uni-stuttgart.de>
Source record: 112861

>Gets me kinda wondering if I could use the old 6 amp (car battery)
>charger and clip the leads onto the battery pack for say 1 hour.
>hmmmmmm would this work? The battery is 6v 600mAh .

Keith,

I'd like to see this. The battery would explode within minutes.

To quickcharge the batteries they have first of all to be designed
suitable.

Here in electronic mags hundreds of chargers have been published
lately, surely you can find one.

73, Moritz DL5UH

2061. Re: 4-400A's as substitutes for 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3pi73o$j8g@newsbf02.news.aol.com>
Source record: 112768

Walt,
I really didn't intend post this in public. My comments to you were private E-Mail, but you obviously felt obligated to post some of them publicly.

>What is it about Measure's published work that you disagree
>with?

I object to technical inaccuracies and publishing opinions without valid foundation. A few published suggestions were good (i.e. using a diode to anchor the B- rail), most theories are very questionable (i.e. parasitics, filaments, and photons from space radiation triggering arcs in amplifiers on standby), and some suggestions are actually harmful (i.e. using fuses to protect grids and using HV keying lines).

When questioned the author's standard reply is that his suggestions are correct, and disagreement is only because of a conspiracy to build bad products.

The ARRL became unsure of the technical accuracy of the articles so they sent copies of his work to a group of independent (not related to amateur radio) outside experts that read like a "who's who" in engineering. The *unanimous* response was that the articles had no technical merit.

I've offered to debate Rich one on one in a public forum with only two restrictions 1.) we leave personal attacks completely out 2.) we address one issue at a time until concluded before bringing in a new issue.

>Are you perhaps an purveyor of commercial amplifiers?

Ahhh, there's the start of the RM conspiracy defense. No, personally I am not. (I misunderstood "purveyor" in our private E-Mail.) I am and have been employed in the industry for a very long time. I design amateur, medical, and industrial RF and analog equipment. My real interest in this is in seeing people receive accurate and useful information, and that they learn something in the process.

73 Tom

2062. Re: Need info on MC145146

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <3pi8in$3e0@canyon.sr.hp.com>
Source record: 112769

Eric L. Bartholomew (cw400@cleveland.Freenet.Edu) wrote:

: I'm looking for info (application notes, pin-outs, etc.) on the
: Motorola MC145146 Synth. IC. Thank you.

Try page 5-22 of Motorola's CMOS Application Specific Standard ICs
book.

From what I can see, the 145146 appears to be a single PLL with 4 bit
data bus and support for dual modulus prescaling. On-board reference
oscillator is also supported. To use it, you'll need to add reference
crystal, digital control, external VCO and external prescaler if
operation is to be above 15 MHz or so. Depending upon the application,
you may want to also add a loop integrator/filter.

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| ftp://col.hp.com/hamradio/packet/n6gn/index.html |

2063. FS HV Cap. 40uf 6KV

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: pgerba@crl.com
Message-ID: <3pia29$klj@crl4.crl.com>
Source record: 112770

HV Cap 40uf at 6KV non PCB, new Condx. $200 + shipping.

Shipping Wt. about 25 Lbs.

pete
pgerba@crl.com

2064. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: kirk@neptune.gsfc.nasa.gov
Message-ID: <3pibgc$mgh@post.gsfc.nasa.gov>
Source record: 112771
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

In article <3pdt3g$1aro@bubba.ucc.okstate.edu>, gcouger@jsun.agen.okstate.edu says...
>
>In article <3pdmhn$dkr@news.halcyon.com>,
>Tim Schall <tschall@halcyon.com> wrote:
>>>The catch is that the Coast Guard is broadcasting these corrections
>>>at around 300 Khz instead of a more sensible VHF that anyone could
>>>copy.
>
>The reasons for using VLF are two fold. First it can be recived at much
>greater distances than VHF and second it is almost immune to multipath
>propogation. This means that that you can have pretty high confidence in
>how long it took the signal to reach you. This important to correcting
>the GPS.
>
>Gordon
>Gordon Couger - 624 Cheyenne, Stillwater, OK 74075
>gcouger@master.ceat.okstate.edu 405-624-2855 evenings
> I do not speak for my employer

I'm way out of expertise on this (as well as much else), but while the
timing of the original GPS signal is critical - and precise, I don't
think it makes much difference in the time of arrival of the differential
since the SA jiggling is only relatively slowly varying. Updates every
30 sec seem fine.

Bob Kirk
N3OZB

2065. Motorola Quadrature Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199505191754.MAA19824@chaos.magibox.net>
Source record: 112772

If I wanted to use on of the quadrature detector equiped Motorola narrowband FM receiver chips (MC3362,3363, or 3367) to recieve AM/SSB/CW, could I feed a 455khz signal into the Quadrature detector instead of the phase shifted IF signal? Would it then act as a product detector for AM? Or is there something different about the Quadrature detector from a straight mixer. (Aren't they both multipliers?)

Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

2066. RSGB MICROWAVE COMPONENTS SERVICE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <464700758wnr@pacsat.demon.co.uk>
Source record: 112773

Please find below the latest price list for the Microwave Components
Service of the RSGB. They supply many excellent part kits for the
higher micrwave bands.

MICROWAVE COMMITTEE COMPONENTS SERVICE PRICE LIST FEB 95

DESCRIPTION RSGB MEMBER PRICE NON MEMBER
1152 MHz LO PCB G4DDK001B 5.74 6.77
PHOTOCOPY OF G4DDK001B ARTICLE 1.00 1.18
TRIMMERS FOR G4DDK001B (5X5PF) 3.66 4.30
1152MHz AMP PCB G4DDK002 5.47 6.45
2-2.6GHz LO PCB G4DDK004 6.86 8.09
PHOTOCOPY OF G4DDK004 ARTICLE 1.00 1.18
TRIMMERS FOR G4DDK004 (8X5PF) 5.55 6.52
ATC DECOUPLING CAPS FOR G4DDK004 (2) 3.26 3.85
CRYSTAL HEATER 3.52 4.14
UHF SOURCE PCB 6.52 7.66
REGULATOR PCB (LOW VOLTAGE DROP FOR 12V) 2.38 2.80
BEACON KEYER PCB G4FRE008 7.14 8.42
144MHz 5mW SOURCE (G4JNT005) INC PIN DIODES 5.84 6.89
144MHz WIDEBAND NOISE AMP PCB G3WDG008 9.38 11.06
1.3GHz LOW POWER TRANSVERTER G4JNT004 68.66 81.02
5.7GHz DB6NT 8W PA PCB (DUBUS 3.92) 10.50 12.39
10GHz X4 MULTIPLIER/PA G3WDG001 29.83 35.20
10GHz RECEIVE CONVERTER G3WDG002 42.70 50.38
10GHz TRANSMIT CONVERTER G3WDG003 49.03 57.86
10GHz 1dB NF HEMT PREAMP G3WDG004 35.48 41.86
10GHz 300mW PA (60mW DRIVE) G3WDG006 58.93 69.53
10GHz 1W PA (200mW DRIVE) G3WDG007 131.68 155.38
10GHz DB6NT 4W PA PCB 2-STAGE (DUBUS 4.91) 10.50 12.39
10GHz DB6NT 4W PA PCB 1-STAGE (DUBUS 4.91) 10.50 12.39
12/24GHz DB6NT DOUBLER PCB (DUBUS 1-2.92) 7.00 8.26
24GHz DB6NT HEMT AMP PCB (DUBUS 4.93) 10.00 11.80
24GHz DB6NT PA PCB (DUBUS 4.93) 10.00 11.80
24GHz DB6NT HEPA PCB (DORSTEN 2.95) 11.00 12.98
24GHz DB6NT Mk2 TRANSV. PCB (DUBUS 1.93) 12.50 14.75
KIT FOR ABOVE (2 X BAT15 DIODES & 1pF CAP) 10.00 11.80
47GHz DB6NT MIXER PCB (DUBUS 1.94) 10.00 11.80
47GHz DB6NT IF PCB (DUBUS 1.94) 4.00 4.72
23/47GHz DB6NT DOUBLER PCB (DUBUS 4.93) 10.00 11.80
76GHz DB6NT MIXER X4 PCB (DUBUS 2.92) 10.00 11.80
76GHz DB6NT IF PCB (DUBUS 1.94) 4.00 4.72
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25.3/76GHz DB6NT TRIPLER PCB (DUBUS 1.94) 10.00 11.80
19/38GHZ DB6NT DOUBLER PCB (DUBUS 1.94) 12.50 14.75

145GHz DB6NT MIXER PCB (DUBUS 2.94) 10.00 11.80
241GHz DB6NT MIXER PCB (DUBUS 2.94) 10.00 11.80
HYBRID MKU55 (DUBUS 1.91) 9.50 11.21
WAVEGUIDE 16 TO SMA TRANSITION (NO FLANGE) 15.00 17.70
TRANSVERTER SWITCHING UNIT G4JNT001 24.88 29.36

2SK1844 HEMT (0.7dB NF/12GHz) 13.78 16.26
MGF1302 (use in place of "Black Dot" FET) 3.50 4.13
MGF1801 GaAsFET (250mW - 10GHz) 38.27 45.16
MAR1 MODAMP 2.46 2.90
MAR3 MODAMP 3.02 3.56
MAR6 MODAMP 2.92 3.44
MAV11 / MSA1104 MODAMP 4.75 5.57
UPB582C 2.6GHz PRESCALER (DIVIDE BY 4) 7.43 8.73
100OHM CHIP RESISTORS (10) 0.50 0.60
2.2 PF ATC CHIP CAP (GOOD TO 10GHZ) 1.32 1.58
4.7PF CHIP CAPACITORS (10) 1.00 1.18
10PF CHIP CAPACITORS (10) 1.00 1.18
22PF CHIP CAPACITOR (10) 1.00 1.18
470PF CHIP CAPACITOR (10) 1.00 1.18
10NF CHIP CAPACITOR (10) 1.00 1.18
100NF CHIP CAPACITOR (10) 1.00 1.18
CUCLAD 233 0.79MM PCB (TEFLON) 2X1 INCH 2.32 2.74*
LOSSY RUBBER (2X1 INCH PIECE) 1.50 1.77 *
WG20 WAVEGUIDE (PER FOOT) 10.46 12.34
* LARGER SIZES AVAILABLE MAILORDER , PLEASE SPECIFY SIZE REQUIRED -
PRICES PRO RATA. PCB NOW SUPPLIED COATED WITH PHOTORESIST.

CHEQUES WITH ORDER PLEASE MADE OUT TO P SUCKLING. POST ADDRESS: 314A NEWTON ROAD, RUSHDEN, NORTHANTS, NN10 0SY, UK. TEL +44 - 1933 - 411446 (01933-411446 NATIONAL).

ALL PRICES INCLUDE UK POST AND PACKING. FOR ORDERS FROM EUROPE PLEASE ADD 5% AND FROM REST OF WORLD ADD 10% TO COVER AIRMAIL CHARGES, TO TOTAL ORDER VALUE. PAYMENT BY EUROCHEQUE, STERLING TRAVELER'S CHEQUE, OR STERLING CHEQUES DRAWN ON A UK BANK. FOR USA ORDERS, PAYMENT IN DOLLARS (CASH OR CHECK) IS POSSIBLE, PLEASE USE EXCHANGE RATE OF $1.6 = 1 POUND, AND ADD $10 TO COVER EXCHANGE COSTS.

--
+---+
| 73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland |
| Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk |
| AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP **** |
+---+

2067. Re: A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <894352501wnr@pacsat.demon.co.uk>
Source record: 112774

Here is the latest Price listings from the Microwave Components Service
of The RSGB.

Get Building Guys!

MICROWAVE COMMITTEE COMPONENTS SERVICE PRICE LIST FEB 95

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1152 MHz LO PCB G4DDK001B 5.74 6.77
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MAV11 / MSA1104 MODAMP 4.75 5.57
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100OHM CHIP RESISTORS (10) 0.50 0.60
2.2 PF ATC CHIP CAP (GOOD TO 10GHZ) 1.32 1.58
4.7PF CHIP CAPACITORS (10) 1.00 1.18
10PF CHIP CAPACITORS (10) 1.00 1.18
22PF CHIP CAPACITOR (10) 1.00 1.18
470PF CHIP CAPACITOR (10) 1.00 1.18
10NF CHIP CAPACITOR (10) 1.00 1.18
100NF CHIP CAPACITOR (10) 1.00 1.18
CUCLAD 233 0.79MM PCB (TEFLON) 2X1 INCH 2.32 2.74*
LOSSY RUBBER (2X1 INCH PIECE) 1.50 1.77 *
WG20 WAVEGUIDE (PER FOOT) 10.46 12.34
* LARGER SIZES AVAILABLE MAILORDER , PLEASE SPECIFY SIZE REQUIRED -
PRICES PRO RATA. PCB NOW SUPPLIED COATED WITH PHOTORESIST.

CHEQUES WITH ORDER PLEASE MADE OUT TO P SUCKLING. POST ADDRESS: 314A NEWTON ROAD, RUSHDEN, NORTHANTS, NN10 0SY, UK. TEL +44 - 1933 - 411446 (01933-411446 NATIONAL).

ALL PRICES INCLUDE UK POST AND PACKING. FOR ORDERS FROM EUROPE PLEASE ADD 5% AND FROM REST OF WORLD ADD 10% TO COVER AIRMAIL CHARGES, TO TOTAL ORDER VALUE. PAYMENT BY EUROCHEQUE, STERLING TRAVELER'S CHEQUE, OR STERLING CHEQUES DRAWN ON A UK BANK. FOR USA ORDERS, PAYMENT IN DOLLARS (CASH OR CHECK) IS POSSIBLE, PLEASE USE EXCHANGE RATE OF $1.6 = 1 POUND, AND ADD $10 TO COVER EXCHANGE COSTS.

--
+---+
| 73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland |
| Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk |
| AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP **** |
+---+

2068. Re: Motorola Quadrature Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: cripps@netcom.com
Message-ID: <crippsD8unuC.HB5@netcom.com>
Source record: 112775

In article <199505191754.MAA19824@chaos.magibox.net> CNS@chaos.magibox.net writes:
>If I wanted to use on of the quadrature detector equiped Motorola
>narrowband FM receiver chips (MC3362,3363, or 3367) to recieve
>AM/SSB/CW, could I feed a 455khz signal into the Quadrature detector
>instead of the phase shifted IF signal? Would it then act as a
>product detector for AM? Or is there something different about the
>Quadrature detector from a straight mixer. (Aren't they both
>multipliers?)
>--------------------------------------

Nathan,

The problem is that these chips have hard limiting IF amplifiers, so the
AM/SSB would be wiped out. It might work on CW, though.

It's also possible to receive AM by listening to the RSSI output.
Distorted, but intelligible. Or you can linearize it by some external
circuitry - there was an article in 'RF Design' a year or so back
describing this approach, using, I think, a Signetics NE604.

Peter
--
Peter Cripps Associates
Technology Strategy and Product Development
20 Carrera Court Redwood City CA94062
415 364 4413 voice
415 364 1353 fax
cripps@netcom.com

2069. Re: A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: Todd Gruener <tgruener@efn.org>
Message-ID: <Pine.SUN.3.91.950519173256.20894A-100000@haus.efn.org>
Source record: 112776

I am interested in getting some Gunn diodes, please send me some info. I got the dishes and I definitely have a fm radio. Thanks, TODD. KB7RBI

tgruener@efn.org

2070. Re: Old radar detectors as 10G xmit/rcvr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995May19.193004.11334@arrl.org>
Source record: 112777

Dale Botkin, N0XAS (dbotkin@probe.net) wrote:
: I've got a couple of old unused radar detectors lying around. I know one is X/K band, and I think
: the other is as well. The one I have disassembled in front of me apears to have two Gunn diodes
: (I think they are, anyway) and two tuning screws. One is in a cavity in the rear, the other is
: poking into the horn about an inch or so in front of the first.

The one the back is probably the Gunn diode. You can probably find out for sure by powering up the radar detector measuring the DC voltage. You ought to see 7 to 11 volts. If you run the diode off a LM317T regulator, you can FM it by feeding audio into the adjustment terminal. Keep in mind that the field strength at the mouth of the waveguide can be rather high--maybe even worse than standing next to a big dish feed with a full watt or two! Looking into the waveguide while its powered up isn't recommended--even if its just a receiver.

You can hook up a Wide band FM receiver to the other diode to make a Gunnplexer. I published a suitable receiver in the Nov. 1994 issue of QEX.

The final step is getting the units on frequency. It may be just a matter of tweaking the tuning screws. I don't know the details on your unit--I've never owned a radar detector. Perhaps the easiest way is to borrow a Gunnplexer known to be on the right frequency and tweak your unit till they talk to each other. Unlike door openers (10.525 GHz), I think these units are up around 11.5 GHz, so they can use a 1 GHz scanner and cover 24 GHz via harmonic mixing. Thus, you may have a lot of tweaking to do.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2071. ** FLEA at MIT ** Sunday 21 May Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: w1gsl@ATHENA.MIT.EDU
Message-ID: <3phgdk$pnb@senator-bedfellow.MIT.EDU>
Source record: 112862
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics,ne.forsale,ne.general,rec.radio.amateur.homebrew

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****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

2072. Re: Need information on a Valve

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3pgs56$f76@nuclear.microserve.net>
Source record: 112863

ekays@promus.com (Gene Kays) wrote:
>
>I have seen (and skipped over) discussions regarding a tube 6146W.
>Matched pairs priced at about $50. I seem to remember it was a
>more robust version of the 6146B which is the stock tube in my rig.

I always thought the 6146W was the ruggedized version of the 6146A,
not the 6146B. The "A" has a plate dissipation rating of 25 watts,
versus 35 for the "B". Unless I'm wrong, or they've updated the "W"
version, you're better off with the 6146B.

73, Jack WB3U

2073. cmos type replacement.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: doris@xs4all.nl
Message-ID: <3phc2u$dju@news.xs4all.nl>
Source record: 112864

Hello,

Who could tell me the replacement for the CMOS TC4SU69F ?
In Germany they calll it CMOS-EINZELGATTER.
We have thougt for the 4069, but it isn't.

When you can help me, e-mail me directly, because I am not subcribed
to this goup.

With regards,

Doris

2074. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: acl@cray.com
Message-ID: <1995May19.102336.745@ned.cray.com>
Source record: 112865

In article sup@ixnews3.ix.netcom.com, drted@ix.netcom.com (Ted Viens) writes:
> In <3p021f$kig@news.internetmci.com> rsmith@internetmci.com (Bob Smith)
> writes:
> >
> >You make good points Bob. I was pretty much responding to the
> >net cops elitiste (SP) and pompous attitude.
> >
> Thanks guys...
>
> This NET-COP phenomena is the damnedest counter-productive thing I have
> ever seen. If I was truly spamming the groups with some trash, I would

Yea, if you want publicity the best thing is to get on one of the thousands of forems or talk show....

I don't know which is worse the cops or the bitchers...

Archie

2075. coil winding programs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <3pi215$8n4@detroit.freenet.org>
Source record: 112866

Would the person who had the partial coil program 'coil.exe'
drop me a note, please. I beleive I have the rest of the program
needed.
Roland, KB8XI
rburgan@detroit.freenet.org
--

2076. Need info on MC145146

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-19 00:00:00 UTC
From: cw400@cleveland.Freenet.Edu
Message-ID: <3pi6ka$2cp@usenet.INS.CWRU.Edu>
Source record: 112867

I'm looking for info (application notes, pin-outs, etc.) on the
Motorola MC145146 Synth. IC. Thank you.

Eric Bartholomew KF8YK
ericb@ieee.csuohio.edu

2077. COAX cable characteristics TABLE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseD8v0zp.HAs@netcom.com>
Source record: 112778
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

COAX TABLE

Got out the Belden & Pasternack catalogs.
Far as I know, the RG numbers look random. Probably assigned by a clerk
in the Pentagon during WW2. Below is a short table
of the various coaxes and the more important characteristics.

impedence attenuation per 100' velocity max voltage RMSkv
@ 50MHz @ 1GHz
RG6U 75 1.5 dB 11 dB 78% (foam) 0.6kv
RG8U 52 1.2 9 66 (polyethlene) 5kv
RG8U 50 1.1 78 (foam) 0.6
RG8X 50 13.5 2.5
RG11U 75 1.3 9 66 (poly) 5
RG11U 75 1.0 78 (foam) 0.6
RG55B/U 53.5 16.5 1.9
RG58U 53 3.1 20 66 (poly) 1.9kv
RG58U 50 3.2 78 (foam) 0.2kv
RG59U 73 2.4 11.5 66 (poly) 2.3
RG62U 93 1.9 8.5 84 (air & poly) 0.7kv
RG59U 75 2.1 78 (foam) 0.3kv
RG71U 93 1.9 8.5 84 (air & poly) 0.7
RG108A/U 78 26.2 1.0
RG122U 50 4.5 29.2 66 (poly) 1.9
RG140U 75 13 2.3
RG141U 50 2.1 13 69 (teflon) 1.9
RG142U 50 2.7 13 69 " 1.9
RG178U 50 10.5 45 69 " 1.0
RG179U 75 8.5 25 69 " 1.2
RG180U 95 4.6 16.5 69 " 1.5
RG187U 75 8.5 25 69 " 1.2
RG188U 50 9.6 30 69 " 1.2
RG196U 50 10.5 45 69 " 1.2
RG303U 50 2.1 13 69 " 1.9
RG302U 75 13 2.3
RG316U 50 9.4 30 69 " 1.2
RG393U 50 7.5 5
RG400U 50 13 1.9
RG401U 50 7.5 (semi rigid) 3
RG402U 50 13 " 2.5
RG405U 50 22 " 2
RG174U 50 6.6 31 66 (poly) 1.5
RG210U 93 3.1 0.75

RG213U 50 1.6 9 66 " 5
RG214U 50 1.6 9 66 " 5
RG217U 50 5.8 7
RG218U 50 3.8 11Kv
RG219U 50 3.8 11
RG223U 50 3.1 16.5 66 " 1.9
RG225U 50 7.5 5
RG9U 51 1.6 66 " 5
ethernet 50 1.2 78 (foam) 0.6
22B/U 95 twisted pair 2.1 66 (poly) ?
twin lead 300 0.8 <-worse when wet! 80 (poly) ?
8281 75 9.2 2.9
9913 50 4.5 0.6
9914 50 6 0.6
8218 75 20 0.6

these are all the RG#'s I found. The attenuation curves generally follow a straight line when drawn on log-log graph paper. The slope is such that a coax with 2dB at 50Mhz will be 0.8 at 10Mhz. Most coaxes have about the same slope. So, one need only look at the same freq when comparing attenuations when selecting which coax you're gonna use from under the shack table (not strictly true, but close enough for "goverment" work! :-)). Voltage ratings: note that foam dielectric cannot take as much voltage as solid dielectric.

73 de WA2ISE

2078. mlb - balun

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: mlp@cnct.com
Message-ID: <3pl5qh$ms1@earth.cnct.com>
Source record: 112779

Still trying to get some info on MLBs - magnetic longwire baluns.
Does anyone know anything about them? Does anybody have a schematic
for one.
I'm fast getting the idea that they are just another fraud. (Altho
Palomar and some others make them.) Comments anyone??? 73

 QMPro 1.53 Choose heaven for climate, hell for society.

--
Murray Pfeffer | mlp@cnct.com
New York, N.Y. | K2LTQ
U.S.A. | 1:278/320 or 1:278/533

2079. Re: Wide tuning range VFOs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: elctricman@aol.com
Message-ID: <3plftn$bjh@newsbf02.news.aol.com>
Source record: 112780

You are correct but what should be considered is the spurious from the dds will be mulitplied by 20log. For instance if the dds has a spur that is -70 dBc and you mulitiply by 50 the spurs will rise by about 34 db. You can use a very narrow loop to help filter the spur but the noise outside the loop may rise.

2080. HomeBrew Pagers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: zlester@athena.cs.uga.edu
Message-ID: <3pll31$2l7@hobbes.cc.uga.edu>
Source record: 112781

Is it possible to modify a pager to make it receive pages from ham radio freqs? I have an alphanumeric pager that says it operates on 929.8625mhz. Isn't that close to the cb range? It sure would be nice if I could setup my own personal paging service. $20 per month is way too much for a simple service like this. And no I will not be using the pager for business purposes. I plan on having my email "beeped" to me.

Where can I get a list of all the freq's and what they are used for? Is there such a source on the net?

Thanks,
--


```
_____________________________________
| Zack Lester |
| zlester@athena.cs.uga.edu |
| |
| "But God demonstrates his own love |
/)| for us in this: While we were still|(\
/ )| sinners, Christ died for us." |( \
__( (|_____________________________________|) )__
((( \ \ ) /_) Romans 5:8 NIV (_\ ( / / )))
(\\\ \ \_/ / \ \_/ / ///)
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```

2081. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May20.205726.5005@ke4zv.atl.ga.us>
Source record: 112782
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

In article <3pibgc$mgh@post.gsfc.nasa.gov> kirk@neptune.gsfc.nasa.gov (Robert Kirk) writes:
>
>I'm way out of expertise on this (as well as much else), but while the
>timing of the original GPS signal is critical - and precise, I don't
>think it makes much difference in the time of arrival of the differential
>since the SA jiggling is only relatively slowly varying. Updates every
>30 sec seem fine.

I was under the impression that SA was implemented by injecting pseudo-noise in the signal. While the *average* delta might be slowly changing, any given reading could be the maximum dither distance from the previous or following reading in a pseudo-random number fashion. That means the correction transmited only applies to the particular coincident reading taken at both the reference and mobile station locations. It might represent a maximum error in position if applied to the preceding or following reading.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2082. PC Board Material

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: dsweeney@vt.edu
Message-ID: <dsweeney.5.0014D639@vt.edu>
Source record: 112783

At our local hamfest, I bought several pounds of scrap printed circuit board material. However, the vendor told me that, in the future, such material would be very difficult to obtain. This because a change in EPA requlations prohibit the sale of such material except only to "certified" scrap dealers.

Does anyone know anything about this?

Dennis Sweeney (WA4LPR)
dsweeney@vt.edu

2083. Re: $$$ Make Money at Home Assembling Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: tcrow1@aol.com
Message-ID: <3pm2vh$d26@newsbf02.news.aol.com>
Source record: 112784

Please send more info.Thanks!

2084. Help with Dead Kenwood TS-520

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: paulbreed@aol.com
Message-ID: <3pm4e2$dfk@newsbf02.news.aol.com>
Source record: 112785

My 8 year old son played with my TS-520 while the antena was disconnected
from the Antena Tuner and now it is dead on transmit.

The symptoms are.....
RX works fine.
No ALC indication at all while trying to Tune.
Meter Readings while trying to tune:
HV 900V
IP 0
ALC 0
RF 0

If you switch from tune to CW then the only difference is a change in the
IP fro 0 to 50ma.

Does anyone have a service manual for the TS-520?
Can I beg or Buy a copy. I have a good set of Meters Scopes etc..
availible, but I bought the rig at a Flea market and have no documentation
of any kind.

The rig worked fine before it's encounter with child.

Paul Breed
Kl7JG
Thanks for any help you can provide.

2085. Need info on MC145146

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: fred.mckenzie@spacecoast-bbs.com
Message-ID: <8A9B3E0.009100039F.uuout@spacecoast-bbs.com>
Source record: 112786

ELB> I'm looking for info (application notes, pin-outs, etc.) on the
ELB> Motorola MC145146 Synth. IC.
Eric-
I believe that the MC-145146, is actually Motorola's second sourcing
of another company's chip that has the "5146" number. If you have trouble
getting the information you need from Motorola, then look for the original
manufacturer's name.
73, Fred, K4DII

This copy of Freddie 1.2.5 is being evaluated.

2086. Need information on a

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: fred.mckenzie@spacecoast-bbs.com
Message-ID: <8A9B3E0.00910003A0.uuout@spacecoast-bbs.com>
Source record: 112787

W> I always thought the 6146W was the ruggedized version of the 6146A,
W> not the 6146B. The "A" has a plate dissipation rating of 25 watts,
W> versus 35 for the "B". Unless I'm wrong, or they've updated the "W"
W> version, you're better off with the 6146B.
Jack-
I believe you are correct about the relationship between the A,B and
W. Also, I recall reports that the 6146A had lower "noise" than the B,
when used in a Repeater.
There is one other difference between the A and B: The B version has
the plate cap welded, while the A version has it soldered. One of the
more common failure modes I've encountered, has been crystalization of the
solder at the plate cap. Re-soldering with ordinary 60-40 tin/lead solder
doesn't hold up long. I've never had such a failure using the 6146B.
Therefore, if the 6146W ruggedization involves welding of the plate
cap, and the story of lower noise is true, it might be a better choice for
use in a repeater. Otherwise, I would agree with using the B version,
since it is probably much easier to find, and would probably last longer.
73, Fred, K4DII

This copy of Freddie 1.2.5 is being evaluated.

2087. Re: Need information on a Valve

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3pjnfh$1j0@parsifal.nando.net>
Source record: 112788

>
> I always thought the 6146W was the ruggedized version of the 6146A,

I checked my tube manuals, and find the same thing. I'd use the
6146B if it were my money.

73, Don W3FPR

2088. Re: Old radar detectors as 10G xmit/rcvr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-20 00:00:00 UTC
From: sjnoll@rain.org
Message-ID: <3pk1be$rga@news.rain.org>
Source record: 112789

Dale:

I wrote: "Radar Detector to Microwave Receiver Conversion" in
February 1991 73 Magazine.

It describes conversion of a BEL XKR-IX Micro-Eye police radar detector
into a ham FM X-band receiver. I don't know how applicable it would be
to other brands and models.

--
*** Steve J. Noll, Ventura CA, WA6EJO, IEEE, AVS, sjnoll@rain.org ***

2089. VHF, UHF PC Boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-21 00:00:00 UTC
From: bon@paradox.win.net
Message-ID: <261@paradox.win.net>
Source record: 112790

I need to increment my practical knowledge in the construction of PC Boards for VHF and UHF aplications. Any reference (books, articles, manuals, files ...) is welcome.
73, JB

--
bon@paradox.win.net (Joaquin Bonilla, Forest, MS, USA)

2090. Re: AM RIG and Linear KITS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May21.140320.9195@ke4zv.atl.ga.us>
Source record: 112791

In article <3pcper$hjt@linet02.li.net> topanga@newshost.li.net (Keith Smith) writes:
>I am looking for either a already-made or EASY to build AM Transmitter or
>transceiver. It must work on 80 Meters, but preferably on all the bands.
>Also a EASY to build kit or already made 300-500 watt linear. I'm looking
>for something pretty inexpensive..Any suggestions?? Thanks in advance and 73
> Keith-AC6CX topanga@li.net

AM linears are rather horribly inefficient. You'll come out cheaper
and better doing direct plate modulation at the desired power level.
While there are still some very old transmitters floating around that
work at this power level, some old Vikings and such, you're going to
be hard pressed to find newer amateur equipment working at this power
level on AM.

What you're looking at is building a moderately high power MOPA
transmitter and plate modulating it. While this is not a very
complex project, some of the components you'll need, such as the
modulation transformer, may be a bit hard to find. You'll find
this project easiest to implement with tubes, but there are some
clever, but fairly complex, ways to do it with solid state components
operating Class D. Cheap it won't be unless you're a very good
scrounger.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2091. Re: Help with Dead Kenwood TS-520

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-21 00:00:00 UTC
From: paulbreed@aol.com
Message-ID: <3pnpi4$m40@newsbf02.news.aol.com>
Source record: 112792

I 'm sorry for the bandwidth waste, but I fixed it.
The TS-520 is new to me and I didn't realize that the CARier
control affected the output. My son turned that down to zero and I
Got Zero output.

Sorry to have wasted the bandwidth

Humbly Paul Breed
Kl7JG

2092. New Wrekid Label

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-21 00:00:00 UTC
From: sbrymantra@aol.com
Message-ID: <3pnt3h$mvf@newsbf02.news.aol.com>
Source record: 112793

S T R A W B E R R Y M A N T R A R E C O R D S

To get zines distributed, Email us at the Email address below with a sample article and a description of the zine, or maybe even the whole zine, so we can make sure we want to distribute it, and if we say kuul, then send us some copies of the zine and yr in the catalog. To get yr tapes distributed-Be good, and have nice sound quality. Send a good-sounding master tape and a master cover we can make black and white copies from to the address at the bottom. If you don't send a master cover, we'll just make one. Don't expect great artwork. John's taking drawing class. We'll see what he can do. At least send a song list. The more you rock, the better. No Extreme-Hole Hearted Mr. Big shlock rock, please. We don't want Country or Offspring or Contemporary or R & B or Reggae or Rap tapes. So don't send them to us. If we don't like them, we put them away. Have any or all (?) of the following elements in yr music: rock, catchy rock, punk, or hardcore. Don't be lame, and, like we said, have nice sound quality.

Our royalty policy is real simple: When we distribute you, for each copy of the album you sell through us, (whether it's on vinyl or tape or cd) you get a dollar. Our royalty policy on zines is simple, too. You keep 70% of the money, we keep 30% of the money. If we (as in you and us) decide yr zine will be two dollars, we keep 60 cents for each sold zine. (60 cents just about covers postage costs. the zine department is really non-profit) The remaining $1.40 is yours! Because of this policy, we don't buy wholesale copies of zines in advance. mainly cos it's risky to us and yr zine gets more money this way.

*Online Zines: Don't wanna wait for snail mail to bring the zine to you? Kuul! We'll Email it to you. Just send the money to the label address telling what zine you want and where we Email the zine to so you can download

it-and
the zine will be yours within seconds of receiving the money via a
download
file. Available when the catalog specifies "Online Version." Some zines
are
available Online only, some only by mail, some both. The royalty policies
for
Online Zines remain the same. (yes, postage costs don't exist when you
send
online zines, but really, it's not fair to the non-online zines. Some of
those zines have pictures and stuff, especially art/comic-type zines,
which
would be way impossible to do online. They don't have the advantage of not
paying for copying costs and postage. Just cos they have pix doesn't mean
they should lose money.)

SoundClips from Strawberry Mantra Records. Download 20-45 second long
samples as Wave Files from Strawberry Mantra releases.

Email the screen name below to request a SoundClip. I M P O R T A N
T!!!-Must
have a sound card to play these things. If you need help, after getting yr
clip, email me, i'll do what i can. Realize that mucho sound quality has
to
be sacrificed to make SoundClips possible, and that SoundClips do not at
ALL
represent the sound quality of Strawberry Mantra releases. If AOL said
"Welcome" when you signed on, then you probably, (unless yr sound runs
through that internal PC speaker that the modem noise comes through) can
play
these things.

All prices include tax and shipping and handling.

If you run a little label yrself, contact us. We'll trade tapes and
stuff.
We make sure the sound quality is nice on our releases. And, to smaller
bands, four-track recordings are just fine. There's a lot you can do with
four track recordings to make them sound really nice. We focus on the
music.
That's why we give the bands the extra money, to bring out new material.
It's
really money out of our pockets. But we're nice. We just want to make sure
we
don't make ourselves look bad by releasing poor-quality recordings. That's
all we ask. So talk to us! See ya later.
From John Mulhausen and Andrew Bales-Owners

Email SbryMantra@aol.com
Send zines, tapes and orders (cheks payable to John Mulhausen) to:
Strawberry Mantra Records
P.O. Box 701805

Tulsa, OK 74170-1805

COMING SOON
about 20 new albums are scheduled to be sent to us
The Video- a VHS tape w/ atticus finch, john, and others live. sketches, and
behind the scenes looks at kitty vamp and strawberry mantra records. probably
will cost 7 bux
Psychedelicatessen- Strawberry Mantra is putting together a compilation that
will be sent to 14 eager radio stations. (scary) and will include at least one
song from every band we distribute. (cept the ones on the kitty vamp
compilation, of course) and if yr on the label yr on the comp. and it's going
to 12 radio stations who happen to be rather interested in us. scary....
zines galore. zines zines zines
tell me right now if you want to be updated. we're gonna bring out good
stuff, but give us a second, the label is as of now, about 2 weeks old.

2093. Re: HomeBrew Pagers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-21 00:00:00 UTC
From: jeffj@crl.com
Message-ID: <3povh4$m5q@crl3.crl.com>
Source record: 112794

Zack Lester (zlester@athena.cs.uga.edu) wrote:
: Is it possible to modify a pager to make it receive pages from ham radio
: freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
: Isn't that close to the cb range? It sure would be nice if I could setup
: my own personal paging service. $20 per month is way too much for a simple
: service like this. And no I will not be using the pager for business purposes.
: I plan on having my email "beeped" to me.

The only problem with this is you would be "broadcasting" and that is a
no no in amateur radio. Great idea though!

Jeff

2094. Earmics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: Stephen.Parry@forsythe.stanford.edu
Message-ID: <3pqsfc$jfb@morrow.stanford.edu>
Source record: 112719

Does anyone has experience to share with earmics in general, and
those advertised in QST in particular?

Stephen

2095. Re: Bias circuits for solid state amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkD8zyq7.6LF@netcom.com>
Source record: 112720

You mention the bias diode method, and an active regulator method. I think it would be better to use the active regulator, because less idle current is drawn. The basic diode method is fine, but you have lots of current flowing through the series resistor and diode that is not destined for your transistor bases. It of course has the advantage of super simplicity. But I think you'll be happier with an active regulator with an adjustment pot so you can set bias to your liking; you'll get less wasted DC current to boot. I'll be building up the 140 watt amp kit from CCI, which uses the Motorola AN762 design.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di dah, di dah, di dah...
: Minneapolis / (sorry, Duke!)

2096. Computer Packet Program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: jwilcox@macon.com
Message-ID: <3pqtnk$4ms@metro.atlanta.com>
Source record: 112721

Does anyone know of a program that will provide Packet services? I don't mean a simple term program, I am talking about something that could use a comparator circuit like the hamcom interface to do packet.

Jim KE4IHI

2097. Re: Constant impedance filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: "Charles H. Reichert" <reichert>
Message-ID: <3pr06s$ae6@newdelph.cig.mot.com>
Source record: 112722

OSYSMAS@MVS.OAC.UCLA.EDU (Michael Stein) wrote:
>Really? Don't the two R=3DZo resisters short the input to the output?

Yep! See theory below.

>
>I've seen something similar with only one R in it (leave out +
> this 2nd resistor). |
> |
>> Xc =3D Zo Xl =3D Zo |
>> Input -----||-----UUUUUU--------- Output |
>> | R=3DZo R=3DZo | |
>> |--/\/\/------/\/\/--| |
>> | =9B ----------------------+
>> |
>> ------
>> | |
>> | C
>> --- C
>> Xc=3DZo --- C Xl=3DZo
>> | C
>> |____|
>> |
>> |
>> ---
>> /// Gnd

--
Theory:

The Input & Output resistors act as load for the input and source for the next
stage off frequency. The further off frequency you get the more series
reactance
and lower parallel reactance which pulls the resistors to ground.

At Fo the Series LC shorts out the resistors allowing the next stage to act as
the load for the previous stage whereas the Parallel LC acts as an RF bloack to
ground.

Increasing Q will increase the side attentuation but component values start to
become impractical.
Now I don't claim to be the originator of this circuit...first saw it in the
ARRL Adavnced Solid State Design manual many moons ago if I remember correctly.

\|/
^ ^

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Hmmmm...Could Be!
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| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
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2098. Re: Need info on MC145146

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: geertj@ripe.net
Message-ID: <D90345.FvC@inter.NL.net>
Source record: 112723

In <NEWTNews.801155103.9513.jwicklun@mycroftxxx.halcyon.com> Jay Wicklund <jwicklun@mail.halcyon.com> writes:

>In article <8A9B3E0.009100039F.uuout@spacecoast-bbs.com>, <fred.mckenzie@spacecoast-bbs.com> writes:
>> ELB> I'm looking for info (application notes, pin-outs, etc.) on the
>> ELB> Motorola MC145146 Synth. IC.
>> Eric-
>> I believe that the MC-145146, is actually Motorola's second sourcing
>> of another company's chip that has the "5146" number. If you have trouble
>> getting the information you need from Motorola, then look for the original
>> manufacturer's name.
>> 73, Fred, K4DII

Not really. It is a 20-pin 4-bit PLL chip, motorola design.
These chips make good synthesizers.

Eric, if you can't get anything closer, mail me your snail address.

73, Geert Jan PE1HZG

2099. Re: Constant impedance filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3pqjmd$ibl@hpscit.sc.hp.com>
Source record: 112724

```
In article <3pq5v9$5rj@newdelph.cig.mot.com>,
Charles H. Reichert <reichert> wrote:
>There are "Constant Impedance BPF" sold by Mini-Circuits, and theres a simple
>circuit for them, but they are broadband and not real sharp. I use them quite
>often in my homebrew gear as terminations for the sharp BPF's and at Mixer
>ports.
>
>Basically circuit looks like this.
>
>Zo = 50, 75, etc. For Q = 1
>
>For higher Q => Xc(ser)*Q Xl(ser)*Q
> Xc(par)/Q Xl(par)/Q
>
> Xc = Zo Xl = Zo
> Input -----||-----UUUUUU--------- Output
> | R=Zo R=Zo |
> |--/\/\/------/\/\/--|
> |
> |
> ------
> | |
> | C
> --- C
> Xc=Zo --- C Xl=Zo
> | C
> |____|
> |
> |
> ---
> /// Gnd
>

Using these sections as building blocks, you can break down any
bandpass filter into second order sections and construct it with
the circuit above. It is part of a class of circuits known as
"constant resistance lattices". The lattice from which this circuit
is derived can be transformed to the bridged T shown above.
The general design constraint is that the product of series arm
impedance times the shunt arm impedance must equal Zo squared.
You can add a capacitor across the series coil and a capacitor
in series with the shunt coil to form transmission zeros if you
want to build an elliptic function filter or a bandstop filter
(which requires a pair of zeros on the jw axis at the center
```

frequency).

When I build filters like this, I build a constant impedance filter
to get the first 20 dB. and then follow it with a wider bandwidth
conventional filter of the reflective type. Any out of band reflections
are attenuated 40 dB. by the round trip thru the constant impedance
front end filter, for a reflection coefficient of .01, which is
probably better than the constant impedance filter is to begin with.
This saves a bunch of parts. For example, you build a two pole 5%
BW filter with constant impedance. It's down 20 dB. at 10% BW. So
you follow it with a 7 pole conventional filter with 10% BW.

A completely different way to make a constant impedance filter
is to build a diplexer and simply terminate the unused port in Zo.
The way you build a diplexer is to design complementary "singly
terminated" filters and connect the Ro=0 ends in parallel. A
singly terminated filter is one which is designed to go from a voltage source
(Ro=0) to Zo <> 0. Zverev has tables for them. For example, build
a 100 MHz. bandpass filter with 5% BW and a 100 MHz. bandstop filter
with 5% BW. Connect the Ro=0 ends in parallel and that's one port
of your completed filter. The other port is the 50 ohm port of the
bandpass filter, and you put a 50 ohm dummy load on the 50 ohm port
of the bandstop filter.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2100. Re: Bias circuits for solid state amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: john.seboldt@blackboard.com
Message-ID: <546210530-950522153943@blackboard.com>
Source record: 112725

From: rohrwerk@netcom.com (John Seboldt)
You mention the bias diode method, and an active regulator method. I think it would be better to use the active regulator, because less idle current is drawn. The basic diode method is fine, but you have lots of current flowing through the series resistor and diode that is not destined for your transistor bases. It of course has the advantage of super simplicity. But I think you'll be happier with an active regulator with an adjustment pot so you can set bias to your liking; you'll get less wasted DC current to boot. I'll be building up the 140 watt amp kit from CCI, which uses the Motorola AN762 design.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di dah, di dah, di dah...
: Minneapolis / (sorry, Duke!)

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* Processed by ViaUUCP! v4.00r for WILDCAT! *

2101. Constant impedance filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995May22.080019.73297@ucl.ac.uk>
Source record: 112795

Does anyone know know of the configuration, or better still design-equations or software for designing contant impedance filters. I'm looking to make a band-pass filter, centre =100MHz, bandwidth = 5MHz, that presents a good match to 50 Ohms over a wide frequency range - preferably DC to 1GHz.

Most filter types reflect the unwanted signal, so present a high VSWR in the stopband. I want a filter that absorbs (hence has resistors) the unwanted signals.

The filter is required to be on the IF port of a mixer. I dont want to reflect the image frequencies back to the mixer. Since the receiver is wide band, I cant say what the image frequency will be - it will vary.

dave kirkby G8WRB

2102. Need info on Mullard 7534 vacuum tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: hanavin@stimpy.eecis.udel.edu
Message-ID: <3pq6fc$clj@louie.udel.edu>
Source record: 112796

I am looking for specs on a Mulllard 7534 / E130C vacuum
tube. Plate dissapation, filiment voltage, pin outs would
be helpful.

Thanks-Chuck
--
Chuck Hanavin Email: hanavin@eecis.udel.edu
Senior Electronics Specialist Phone: 302-831-8403
140 Evan Hall, University of Delaware Callsign: WB3FJJ
Newark, Delaware 19716

2103. Re: Constant impedance filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: "Charles H. Reichert" <reichert>
Message-ID: <3pq5v9$5rj@newdelph.cig.mot.com>
Source record: 112797

There are "Constant Impedance BPF" sold by Mini-Circuits, and theres a simple circuit for them, but they are broadband and not real sharp. I use them quite often in my homebrew gear as terminations for the sharp BPF's and at Mixer ports.

Basically circuit looks like this.

Zo = 50, 75, etc. For Q = 1

For higher Q => Xc(ser)*Q Xl(ser)*Q
Xc(par)/Q Xl(par)/Q

```
Xc = Zo Xl = Zo
Input -----||-----UUUUUU--------- Output
| R=Zo R=Zo |
|--/\/\/------/\/\/--|
|
|
------
| |
| C
--- C
Xc=Zo --- C Xl=Zo
| C
|____|
|
|
---
/// Gnd
```

```
--
\|/
^ ^
( O O )
___.ooO__U__Ooo.___
Hmmmm...Could Be!
=====================================================
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
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2104. CatPack/PC software???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: astaff@starbase.neosoft.com
Message-ID: <3poobk$j3s@uuneo.neosoft.com>
Source record: 112798

I am looking for the software to run my Yaesu FT-990 with my PC. My copy of the software is corrupt, and Applied Solutions is no longer making it. If you know where I can get it or can e-mail me a zipped copy, I would greatly appreciate it.

Glenn Thompson 'astaff@neosoft.com'

2105. Re: CatPack/PC software???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3pp13u$3tj@parsifal.nando.net>
Source record: 112799

> I am looking for the software to run my Yaesu FT-990 with my PC. My copy
> of the software is corrupt, and Applied Solutions is no longer making
< snip>,,.
>
I would also like to know where I can obtain CatPack or some other
software to run my Yaesu FT-900. If anyone can point me in the
right direction or send me something I can evaluate via e-mail, I
would appreciate it.

73 es TNX,
Don W3FPR w3fpr@nando.net

2106. Re: A cheap microwave transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: pmonta@wizard.qualcomm.com
Message-ID: <PMONTA.95May21225637@wizard.qualcomm.com>
Source record: 112800

Thanks very much for the references.

Peter Monta pmonta@qualcomm.com
Qualcomm, Inc./Globalstar

2107. subscribe help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: aa766@freenet.hamilton.on.ca
Message-ID: <D8ys1t.4uM@mcshub.dcss.mcmaster.ca>
Source record: 112801

Hello and thanks for reading this,

Could someone please forward to me the proper addressing,
so I can permanently subscribe to this newsgroup?

Many thanks,

73, Mike VE3AHQ

--

--

2108. Eddystone receiver 4 sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: Old Man <70401.134@CompuServe.COM>
Message-ID: <3posdvmml1@mhade.production.compuserve.com>
Source record: 112802
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew,rec.radio.swap

Eddystone 830/7 receiver in excellent condition. A few scratches
but very nice. Have a full set of spare tubes and manual.
This model last tube receiver made by Eddystone. Rare here in
USA. $600 OBO plus shipping.
Sandy W5TVW

2109. Re: Constant impedance filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3pq64b$cfc@tierra.santafe.edu>
Source record: 112803

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:
>
>Does anyone know know of the configuration, or better still design-equations or
>software for designing contant impedance filters. I'm looking to make a band-pass
>filter, centre =100MHz, bandwidth = 5MHz, that presents a good match to 50 Ohms over
>a wide frequency range - preferably DC to 1GHz.
>
>Most filter types reflect the unwanted signal, so present a high VSWR in the
>stopband. I want a filter that absorbs (hence has resistors) the unwanted signals.
>
>The filter is required to be on the IF port of a mixer. I dont want to reflect the
>image frequencies back to the mixer. Since the receiver is wide band, I cant say
>what the image frequency will be - it will vary.
>
>
>dave kirkby G8WRB
>
I saw an interesting idea for an application of 3 dB hybrid couplers. Use two
couplers. The first is essentially a power splitter. Place identical filters in
each leg and use the second coupler as a combiner. Reflections off both couplers
will go to the termination at the isolated port of the first coupler, provided the
filters are identical. Signal in the passband will appear at the sum port of the
second coupler. If you just want a peaked response, the filters could be simple
resonators. There may be a simpler way, but this seems to be pretty clever.

--
==

James M. Potter, President Internet: jpawi@roadrunner.com
JP Accelerator Works, Inc. AOL: jpawi@aol.com,jpotter@aol.com
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

2110. Re: HP-431C power meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: hbrown@nadir.resd
Message-ID: <3pqbpr$out@morgan.vf.mmc.com>
Source record: 112804

Jay,

The mfg and who you got the connectors from sure would be helpful. The cables are even more scarce than the sensors.

73, harry, W3IIT
hbrown@resd.vf.ge.com

2111. Re: Need info on MC145146

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.801155103.9513.jwicklun@mycroftxxx.halcyon.com>
Source record: 112805

In article <8A9B3E0.009100039F.uuout@spacecoast-bbs.com>,
<fred.mckenzie@spacecoast-bbs.com> writes:
>
> ELB> I'm looking for info (application notes, pin-outs, etc.) on the
> ELB> Motorola MC145146 Synth. IC.
> Eric-
> I believe that the MC-145146, is actually Motorola's second sourcing
> of another company's chip that has the "5146" number. If you have trouble
> getting the information you need from Motorola, then look for the original
> manufacturer's name.
> 73, Fred, K4DII
Just considering past numbering sequences that Motorola uses for CMOS ICs it
is more likely that another source would have been the 45146, no the 5146.
Motorola took the original 40xx cmos numbers and called them 140xx, then took
their own proprietary parts and called them 145xx, letting other mfgs use the
corresponding 45xx when they second sourced Motorola. I don't have much info
on the MC145146, but have you tried the Motorola Literature request line at
(800) 441-2447

73 de KI7RH (Jay)

2112. Re: Constant impedance filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <199505220930520SYSMAS@MVS.OAC.UCLA.EDU>
Source record: 112806

Really? Don't the two R=Zo resisters short the input to the output?

I've seen something similar with only one R in it (leave out +
this 2nd resistor). |
|
> Xc = Zo Xl = Zo |
> Input -----||-----UUUUUU--------- Output |
> | R=Zo R=Zo | |
> |--/\/\------/\/\--| |
> | ----------+
> |
> ------
> | |
> | C
> --- C
> Xc=Zo --- C Xl=Zo
> | C
> |____|
> |
> |
> ---
> /// Gnd

2113. Re: Need info on MC145146

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <3pq3e7$ooa@abyss.West.Sun.COM>
Source record: 112807

In article 3e0@canyon.sr.hp.com, glenne@sr.hp.com (Glenn Elmore) writes:
>Eric L. Bartholomew (cw400@cleveland.Freenet.Edu) wrote:
>
>: I'm looking for info (application notes, pin-outs, etc.) on the
>: Motorola MC145146 Synth. IC. Thank you.
>
> Try page 5-22 of Motorola's CMOS Application Specific Standard ICs
>book.

Motorola reorganized the data books for the communications ICs; the
PLLs all appear in the Communications Data Book, order #DL136/D.
Well worth having, it includes several classic app notes/article
reprints on PLL design.

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

2114. Re: Motorola Quadrature Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: mzenier@eskimo.com
Message-ID: <D8zMED.J8M@eskimo.com>
Source record: 112808

in <199505191754.MAA19824@chaos.magibox.net>, C. Nathan Sykes wrote:
: If I wanted to use on of the quadrature detector equiped Motorola
: narrowband FM receiver chips (MC3362,3363, or 3367) to recieve
: AM/SSB/CW, could I feed a 455khz signal into the Quadrature detector
: instead of the phase shifted IF signal? Would it then act as a
: product detector for AM? Or is there something different about the
: Quadrature detector from a straight mixer. (Aren't they both
: multipliers?)

You can't do this because of the fairly mundane reason that in the Motorola chips, the multiplier inputs are connected together with a low value on chip capacitor used as part of the phase shift network, so both are fed by the output of the IF, which as another poster said is hard limited.

Some of the similar Philips chips have exernal inputs on the detector and use an external phase shift cap. NE605, 615, 614.

Another trick is if there is a signal strength indicator output, you can linearize it with a antilog amp and detect AM with an FM IF strip.

Finally, there was a project a year or three back in QST for a synchronous AM detector that used the hard limited IF output to feed a seperate mixer (An NE602).

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2115. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: knudsen@ihurry.ih.att.com
Message-ID: <D8zs9w.G2n@nntpa.cb.att.com>
Source record: 112809
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

Well, guess what I just found in the Chicago area.
A signal on 322 kHz, transmitting some kind of low-rate FSK
data with a rather low frequency shift. So low, in fact,
that without the BFO turned on, it sounds like an unmodulated
carrier, not the "galloping hoofs" of an SW RTTY signal.

This is a new station, not an existing aircraft beacon. It has no
A2/MCW Morse ID modulation as those do.

Baud rate seems to be around 100 or maybe a tad more.
Might this be a GPS differential broadcaster?

PS: Haven't DF'ed it yet -- could use my classic Raytheon DF
portable to get a bearing from Wheaton, IL.
--
m.j.knudsen@att.com /// knudsen@ihades.att.com
It's not how many friends come to your funeral;
It's how many collectors come to your estate sale that counts!

2116. Need Source for TCM3105 Modem Chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: "Neil A. Gjere" <ngjere@skypoint.com>
Message-ID: <3pqjgj$cbj@stratus.skypoint.net>
Source record: 112810

Any help would be appreciated.

73s,

Neil N0PFZ

2117. Re: Constant impedance filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3pqjt5$ifk@hpscit.sc.hp.com>
Source record: 112811

In article <19950522093052OSYSMAS@mvs.oac.ucla.edu>,
Michael Stein <osysmas@mvs.oac.ucla.edu> wrote:
>Really? Don't the two R=Zo resisters short the input to the output?
>
>I've seen something similar with only one R in it (leave out +
> this 2nd resistor). |
> |
>> Xc = Zo Xl = Zo |
>> Input -----||-----UUUUUU--------- Output |
>> | R=Zo R=Zo | |
>> |--/\/\------/\/\--| |
>> | ◆ ----------------------+
>> |
>> ------
>> | |
>> | C
>> --- C
>> Xc=Zo --- C Xl=Zo
>> | C
>> |____|
>> |
>> |
>> ---
>> /// Gnd

In fact, you can build this with one resistor, but then only
one port is constant impedance. (Zobel described that around
1923). Why put up with the headaches that causes when resistors
are cheap?

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2118. Re: HomeBrew Pagers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May22.172858.14470@ke4zv.atl.ga.us>
Source record: 112812

In article <3povh4$m5q@crl3.crl.com> jeffj@crl.com (Jeff Jones) writes:
>Zack Lester (zlester@athena.cs.uga.edu) wrote:
>: Is it possible to modify a pager to make it receive pages from ham radio
>: freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
>: Isn't that close to the cb range? It sure would be nice if I could setup
>: my own personal paging service. $20 per month is way too much for a simple
>: service like this. And no I will not be using the pager for business purposes.
>: I plan on having my email "beeped" to me.
>
>The only problem with this is you would be "broadcasting" and that is a
>no no in amateur radio. Great idea though!

No, this isn't broadcasting. Broadcasting is a transmission intended
for reception by the general public. This is a telemetry transmission,
a permitted one way transmission under the auxillary rules.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2119. Bias circuits for solid state amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: zardoz@ornews.intel.com
Message-ID: <3pqggf$5p4@ornews.intel.com>
Source record: 112813

I am getting ready to convert a class C solid state VHF amplifier
to class AB. I've been reading a few books including the RSGB
VHF/UHF manual and the Motorola RF power data book. My ARRL books
have little to say about this. It seems like there are a couple of
ways to do it:

Use a diode or transistor with base-collector tied together.
Mount it against the heat sink or power transistor. Series connect
it through a resistor adjusted to provide the desired current which
can either be predicted or tweaked.

Use some kind of active voltage regulator with a reference diode or
transistor mounted to the heat sink.

Are there other ways? Which is best and what problems are possible?
I thought I would use the base-collector tied transistor and adjust
the resistor for about 50-100 ma. idle current. My amp has an MRF6084
driving a pair of MRF4070's. I would use a separate bias circuit for
the 6084 and a common one for the 4070's. It pulls about 22 amps total
at 12 volts.
Thanks for any help.
--
zardoz@ornews.intel.com WA7LDV Greetings and Hallucinations!
I speak only for myself... >>>>>>>>>>>>>>O<<<<<<<<<<<<<

2120. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: mdf@io.org
Message-ID: <3pqivu$kel@ionews.io.org>
Source record: 112814
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>I was under the impression that SA was implemented by injecting
>pseudo-noise in the signal. While the *average* delta might be
>slowly changing, any given reading could be the maximum dither
>distance from the previous or following reading in a pseudo-random
>number fashion.

well, i'm not familiar with the exact details -- it is no doubt someone's
State Secret -- but this doesn't resemble my experience. if you watch the
a fixed receiver, the display shows a very slowly moving position. typically
under a metre per second.

this kind of "low frequency" noise allows fairly accurate course/speed
estimates. if the noise was "high frequency" it would be almost impossible
to tell if one was moving or not via GPS alone, and indeed, any dGPS
would become quite a bit more difficult -- certainly for the current US/Canada
Coast Guard system, which, i believe, transmits corrections at something
like 50bps.

(paranoia mode on) and given the claimed purpose of SA, using low-frequency
noise makes some sense too, since it pushes the integration time up for
"precise" positions. if we want, say, a position to 10m, the present system
requires almost 1000 observations (20 minutes or so for my receiver), or
equivalently, we ignore about 9 of every 10 observations. reason: successive
positions are highly correlated -- ie, not "independent".

so paradoxically as it seems, the more noise in the signal, the more useful
the system may become in a tactical environment. (paranoia mode off)

2121. Quality of automobile DC power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: griff@ssd.intel.com
Message-ID: <3pqodd$km1@news.ssd.intel.com>
Source record: 112815

I've heard there may be large voltage spikes on the 13.8 volt DC power in an automobile due to alternator/regulator switching (or something like that). Does anyone know if this is true?

I want to operate a TNC (MFJ-1270B/TNC-2 clone, laptop computer, and a GPS receiver/Garmin GPS-45) while mobile. Assuming all of these devices are designed to operate within the normal range of automotive DC, should I have any concerns about connecting them directly to the power cable that I use with my current ham transceiver which is directly wired to the automobile battery? Or, should I build a filter circuit to protect these devices from power glitches (I'm not talking about alternator wine or ignition noise)? Any plans for specific filter designs to do this job would be greatly appreciated. Do the DC filters sold by Radio Shack and others for filtering noise for automotive sound systems also remove voltage spikes?

Thanks much in advance.

73, Griff, N7ZKL
griff@ssd.intel.com

2122. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.801153914.5631.jwicklun@mycroftxxx.halcyon.com>
Source record: 112816
Cross-posted to: rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.homebrew

In article <1995May20.205726.5005@ke4zv.atl.ga.us>, <gary@ke4zv.atl.ga.us> writes:
> Newsgroups: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner
> Path: news.halcyon.com!nwfocus1.wa.com!news.sprintlink.net!gatech!news-feed-1.peachnet.edu!hobbes.cc.uga.edu!cssun.mathcs.emory.edu!wa4mei!ke4zv!gary
> From: gary@ke4zv.atl.ga.us (Gary Coffman)
> Subject: Re: 300 Khz receiver for GPS differential
> Message-ID: <1995May20.205726.5005@ke4zv.atl.ga.us>
> Reply-To: gary@ke4zv.atl.ga.us (Gary Coffman)
> Organization: Destructive Testing Systems
> References: <3p827r$cah@post.gsfc.nasa.gov> <3pdmhn$dkr@news.halcyon.com> <3pdt3g$1aro@bubba.ucc.okstate.edu> <3pibgc$mgh@post.gsfc.nasa.gov>

> I was under the impression that SA was implemented by injecting
> pseudo-noise in the signal. While the *average* delta might be
> slowly changing, any given reading could be the maximum dither
> distance from the previous or following reading in a pseudo-random
> number fashion. That means the correction transmited only applies
> to the particular coincident reading taken at both the reference
> and mobile station locations. It might represent a maximum error
> in position if applied to the preceding or following reading.
>
Don't think that's the way it works. At any one location the reading stays pretty constant, and if the error were really like noise it would seem like you could just average a lot of readings to get a more accurate fix. However, like some of the others on this thread, I don't claim to know that much about the system. In any case, as has been stated before, the reason for using LF is more likely propagation related, especially around inland waters where accuracy is more critical anyway.

Have a nice day.....Jay

2123. Re: Need info on MC145146

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-22 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3pqrc5$rdu@solaris.cc.vt.edu>
Source record: 112817

>>: I'm looking for info (application notes, pin-outs, etc.) on the
>>: Motorola MC145146 Synth. IC. Thank you.

If you don't have any books handy, try http://motserv.indirect.com. This is a Motorola on-line data project. (one of the links from http://www.mot.com) Unfortunately, it is not complete. However, one of the pages is a form to fill out and get an automatic FAX of any data sheet you may need. I have not tried that specifically, however there should also be other contacts within Motorola referenced there that could help.

-Mike KD4QDM

2124. RF / Microwave Magazines

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: Richard Girling <rgirling@rmplc.co.uk>
Message-ID: <3psd0k$m8k@news.rmplc.co.uk>
Source record: 112726
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

I currently subscribe to RF Design and find it very usefull as as souce
of new ideas and components.
What other comercial magazines do you subscribe to with relevance
to RF and microwave electronics ?

Please provide telephone number / contact address as these are
sometimes difficult to track down from the UK.

Many thanks

73 Richard G4FCD

rgirling@rmplc.co.uk

2125. Re: RF / Microwave Magazines

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: "Charles H. Reichert" <reichert>
Message-ID: <3pspqp$hhf@newdelph.cig.mot.com>
Source record: 112727
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

There's "Microwave & RF" magazine which is quite good. They do send overseas.
Editorial Phone: 201-393-6286 FAX: 201-393-6297

or write for subscription: Subscription Lockbox
P.O. Box 96732
Chicago, IL. 60693 U.S.A.

Hope this helps you out.

--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

2126. Re: Quality of automobile DC power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: gfiber@halcyon.com
Message-ID: <3psk42$5ma@news.halcyon.com>
Source record: 112728

In article <3pqodd$km1@news.ssd.intel.com>, griff@ssd.intel.com (Thomas Griffin - x7792) says:
>
>I've heard there may be large voltage spikes on the 13.8 volt DC power in
>an automobile due to alternator/regulator switching (or something like that).
>Does anyone know if this is true?
>
>I want to operate a TNC (MFJ-1270B/TNC-2 clone, laptop computer, and a
>GPS receiver/Garmin GPS-45) while mobile. Assuming all of these devices are
>designed to operate within the normal range of automotive DC, should I have
>any concerns about connecting them directly to the power cable that I use
>with my current ham transceiver which is directly wired to the automobile
>battery? Or, should I build a filter circuit to protect these devices from
>power glitches (I'm not talking about alternator wine or ignition noise)? Any
>plans for specific filter designs to do this job would be greatly appreciated.
>Do the DC filters sold by Radio Shack and others for filtering noise for
>automotive sound systems also remove voltage spikes?
>
>Thanks much in advance.
>
>
>73, Griff, N7ZKL
>griff@ssd.intel.com
Griff,

Head down to your closest marine electronics shop. They will have a real nice selection of D.C. power filters. Just get a current rating large enough to do the job. Newmar electronics filters is one company that comes to mind, there are many other good companies too. Have used these filters for removing noise and usually work fine. The automotive D.C. system is well regulated, however the starter motor can cause large voltage spikes as can other motors in the vehicle. A good D.C. power line filter will assist in elimination of there troubles. Also a good direct cable to the battery, which acts like a filter anyway.

Gary

2127. Re: Emergency Beacon Corp info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: "Kenneth M. Gianino" <gianino@sbctri.sbc.com>
Message-ID: <3pstr0$j0d@sbctri.sbc.com>
Source record: 112729

In article <3prfos$n4v@bristlecone.together.net> Michael Gladu,
mgladu@news.together.net writes:
>I am looking for a schematic or service manual for a EBC-144 Jr. 2 meter
>radio.
If you would like the schmatic/manual with another EBC144jr (mostly
working) attached, please contact me. Attempts to e-mail you have
bounced.
Ken - WB0QNA gianino@sbctri.sbc.com work (leave message):
314-529-7758
home: 314-894-1822

2128. Re: Bias circuits for solid state amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.801240614.9207.jwicklun@mycroftxxx.halcyon.com>
Source record: 112730

>
> You mention the bias diode method, and an active regulator method. I
> think it would be better to use the active regulator, because less idle
> current is drawn. The basic diode method is fine, but you have lots of
> current flowing through the series resistor and diode that is not
> destined for your transistor bases. It of course has the advantage of
> super simplicity. But I think you'll be happier with an active regulator
> with an adjustment pot so you can set bias to your liking; you'll get
> less wasted DC current to boot. I'll be building up the 140 watt amp kit
> from CCI, which uses the Motorola AN762 design.

Don't forget, the one main advantage to using a diode to provide bias is that it provides temperature compensation. As the temperature of the output transistors goes up, the base-emitter voltage drop decreases (or another way to say it, is that the bias current achieved with a constant bias voltage will go up as the temperature goes up). This can lead to thermal run away; as the transistor gets hotter, it draws more current which makes it even hotter. The bias generated by a diode which thermally tracks the temperature of the pass transistor will decrease as the diode temperature goes up, thereby providing at least some compensation.

73 de KI7RH (Jay)

2129. INFO PSE: Idiom Press

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: Tony Stalls <ras@us.net>
Message-ID: <Pine.BSI.3.91.950523133647.4484A-100000@laurel.us.net>
Source record: 112731

Does anyone have the voice and/or fax number for Idiom Press in Geyserville, CA? They are the people that produce the CMOS II keyer partial kit as described in the ARRL Handbook. LD Information does not have a listing for them.

Thanks & 73,

Tony
K4KYO

<ras@us.net>

2130. Re: Bias circuits for solid state amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3pt8a2$r3r@newsbf02.news.aol.com>
Source record: 112732

But remember that the bias current through the diode has to exceed the peak base current several times over or else the bias will wiggle around with drive. That will cause gain compression, splatter, and distortion (as many VHF/UHF operators living near people using diode biased amplifiers can attest to).

It is almost impossible to place enough standing current in a simple diode bias circuit for good linear SSB operation at power levels over a few watts. The best circuits use a temperature sensing device along with an active regulator.

If the transistor has a current gain of 10 at the operating frequency, and draws 20 amps of peak collector current, the bias diode would require at least 10 amps of standing current to remain relatively stable, since the peak base current would be 2 amps! The bias current tries to push the transistor into cutoff, so you sure don't want it to wiggle much.

73 Tom

2131. Switching florescent lights

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: aptrick@blaise.demon.co.uk
Message-ID: <aptrick-2405950004090001@blaise.demon.co.uk>
Source record: 112733

I am building a UV timed exposure unit, for exposing printed circuit boards. I have two 12 inch florescent tubes in parallel, and switched by a relay, by a timer circuit. My question to anyone who could help me, is do I need contact suppressors accross the relay contacts, and if so how are they to be wired into the circuit.

I would be very grateful for a answer to this querie.

Best Regards
Alex

2132. Re: Quality of automobile DC power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: hankc@cirrus.com
Message-ID: <3ptpbl$34a@yahoo.cirrus.com>
Source record: 112734

In <3pqodd$km1@news.ssd.intel.com> griff@ssd.intel.com (Thomas Griffin - x7792) writes:

>I've heard there may be large voltage spikes on the 13.8 volt DC power in
>an automobile due to alternator/regulator switching (or something like that).
>Does anyone know if this is true?

<delted...>

>73, Griff, N7ZKL
>griff@ssd.intel.com

I've had some personal experience with this. On my Subaru station wagon when you turn off the ignition while the lights are on, the lights go off. And the lights don't come back on until you turn the ignition back on (or to "run"). I went through about 4 headlights ($15/each) in 2 years, on both sides. Then I started turning off the lights before turning off the ignition, and I haven't had to replace a headlight in 3 years.

This may be of value to Subaru owners too.

--Hank
KE6MPQ
hankc@corp.cirrus.com

2133. Re: Need Source for TCM3105 Modem Chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: rrives@aol.com
Message-ID: <3ptr30$2nk@newsbf02.news.aol.com>
Source record: 112735

JDR Microdevices has the tcm3105 modem chips for 6.95 each 1-800-538-5000

2134. FS: HF Amplifier Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: prosper@iadfw.net
Message-ID: <3pu6ds$38u@news.iadfw.net>
Source record: 112736

I am posting the following for K4ISV, he does not have internet
access. Please reply to him via the phone number given.

73 - KI5JC

FOR SALE: Parts to build 2 X 4-1000A HF Amp. Includes tubes,
sockets, chimneys, meters, transformers, vac variables, filter caps,
etc... Everything but the cabinet, over $3K in parts.
Sell all for $1500.

Contact Bud Foster, K4ISV 1-800-467-2607

2135. Re: HomeBrew Pagers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: jeffj@crl.com
Message-ID: <3pu8i7$bnt@crl.crl.com>
Source record: 112737

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: In article <3povh4$m5q@crl3.crl.com> jeffj@crl.com (Jeff Jones) writes:
: >Zack Lester (zlester@athena.cs.uga.edu) wrote:
: >: Is it possible to modify a pager to make it receive pages from ham radio
: >: freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
: >: I plan on having my email "beeped" to me.
: >
: >The only problem with this is you would be "broadcasting" and that is a
: >no no in amateur radio. Great idea though!

: No, this isn't broadcasting. Broadcasting is a transmission intended
: for reception by the general public. This is a telemetry transmission,
: a permitted one way transmission under the auxillary rules.

I can't agree with you on this Gary. Telemetry implies information being
broadcast from things such as a weather station or such,this is his email.
A little different. Also he could transmit over someone else and that is
not allowed. I think it is a good idea for his pager but I just don't
think it is totally legal. If he checked that the frequency was clear,
then used his 220 meter radio to tell his computer to send the email, that
would work.

Jeff

Look at http://www.crl.com/~jeffj/home.html for information on the New Party,
list of worker owned businesses, other progressive causes and DX QSL
information. jeffj@crl.com AB6MB KPFA 94.1 Bay Area Progressive Radio!
Baseball WWW pages too!

2136. Re: Quality of automobile DC power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: Bob Winingham <kc5ejk@onramp.net>
Message-ID: <3prf0k$84d@news.onramp.net>
Source record: 112738

The Garmin-45 specs say it can go to about 40 V.
I use the ICOM cig power plug with filter.

Bob

kc5ejk@onramp.net

2137. Emergency Beacon Corp info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: mgladu@news.together.net
Message-ID: <3prfos$n4v@bristlecone.together.net>
Source record: 112739

I am looking for a schematic or service manual for a EBC-144 Jr. 2 meter radio. I have one which I would like to fix. I will pay for this info if the price is under $20.00. I can make a copy or will pay for a good copy. I can be reached at mgladu@together.net

2138. Kenwood KPG7D help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: "Rob Bailey", WM8S
Message-ID: <3prudp$52c@news>
Source record: 112740

Anybody know if Kenwood publishes the format of the programming files
for their KPG7D "programming program" for the TK-630/730/830 radios?
I need to generate program files for those radios on the fly from a database
in the field. I've figured most of it out but an authoritative format would be
better...

2139. Stereo/Mono Audio AmpKits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-23 00:00:00 UTC
From: Tracy.Froy@hamradio.hi.net
Message-ID: <gtgate.950523n1g268@hamradio>
Source record: 112741

I'm looking for a stereo or mono block tube audio amplifier kit to build for fun. I've heard about triode amp kits costing about $900 but I was wondering if anyone has heard about any less expensive kits. I also heard that someone is re-marketing Dynaco-like tube amp kits. I'd appreciate any info. Thanks in advance. DE WH6HR in Honolulu.

2140. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: tvr@cnmat.CNMAT.Berkeley.EDU
Message-ID: <TVR.95May23204219@cnmat.CNMAT.Berkeley.EDU>
Source record: 112742
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc

Would you like this graffitti problem in your neighborhood? The inner cities look like Hell, because no one cares. These commercial cd-rom folks will stop advertizing in our Amateur Radio Magazines and post here for Free. Do you want all the nuts and bolts magazine ads in our news groups? Hunderds of those little ads every week over and over. Then no more ham magazines...

Many good points, Bob. But i can skip over those, and i can often tell in advance of seeing by the large number of likely-to-be flaming replies attached to it. <GRIN> I can go to their WWW site if i choose to, and who knows; they might even do something cliever like include some useful things there which could encourage one to order the whole thing. What has me much more worred is junk e-mail, things that appear, unsolicited, in our e-mail (which many of us have to pay for) from these kinds of operations, simply because we posted here. Getting alot more of those really is going to be a problem.

Almost as bad as the SALE@ALLUS on amateur packet. Does anyone really read all that junk? Oh Sure! go eat a cookie.

<MUNCH> Yeah, and it won't be quite so bad if there was enough bandwidth to support it, and clever news readers. But if you get someone who hasn't connected to their packet BBS in a week or so, and merely goes to list the summary lines of everything they haven't read since then, that alone can practically saturate the pathetic 1200 bps channels that most people use in the S.F. Bay Area. It's both a bandwidth problem nationally, and in many cases locally, aggravated by junk-box human interfaces. <SIGH> [Sorry, folks, i guess i've just had a hard day]

-- KD6PAG (networking old-timer, RF newbie)

2141. The Key To Organizing Your Health Records

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: 1180185.42663942
Message-ID: <3puhoa$i26@baygull.rtd.com>
Source record: 112743
Cross-posted to: control,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

THE KEY TO ORGANIZING YOUR HEALTH RECORDS

"If you care about yourself and your children, you will do everything you can to know your family's medical history. It can save your life, and the lives of those who are dear to you." -- Dr. Aubry Milunsky, Director, Boston University's Center for Human Genetics (Life Magazine, March, 1995).

Your Lifetime Health Planner offers the simplest, most effective way to take charge of your health. Enter important facts about your health history, keep a record of the names of medications and their effects, document each doctor visit and diagnosis. You will have the information you need, and in the event of an emergency, so will your family.

Your Lifetime Health Planner, 198 pages in a compact, loose-leaf binder, contains a variety of sections which include "Doctor Visits," "Medications," "Family Health History," and "Doctors and Specialists." The Planner is a must for the busy executive who needs to stay organized, for seniors who are receiving care and for newborns who need a record of their health care.

Parents Magazine recommended the Planner to its readers (April, 1994) and MCI called it "a useful resource in managing your personal health records." Margie Smotherman, Coordinator, Employee Health and Wellness, Blue Shield/Blue Cross of Iowa, said: "The employees felt that these (Planners) were great tools to not only record their pertinent numbers, but to plan for doctor's visits."

To get your copy, send a check or money order for $19.95 (plus shipping and handling) to :

Your Lifetime Health Planner
1955 W Grant Rd., # 230
Tucson AZ 85745
USA

Shipping and handling charges: $4.95 US; $8 Canada/Mexico; $14 Europe; $18 Asia/Pacific Rim.

Include your name, address and telephone number.*

Visa/MasterCard orders, call 520-798-1530.

*Large corporate discounts available for orders of 1,000 copies or more.

Your Lifetime Health Planner
1955 West Grant Road, #230

Tucson, AZ 85747

Enclosed is $_____ for _____ copies of Your Lifetime Health Planner.

Please ship to:

YOUR NAME _____

YOUR ADDRESS _____
Street

_____
City State Zip or Postal Code Country

YOUR TELEPHONE NUMBER _____

2142. Re: Back up power source, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: (unknown)
Message-ID: <3pu39v$e99@warp10.smartdocs.com>
Source record: 112744

There is a great article and project in the latest issue of 73
magazine.
Bud

2143. master II to rpt mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: jgrey@cyberport.cyberportal.net
Message-ID: <3pu4vt$fsk@news.cyberportal.net>
Source record: 112745

[No readable article body recovered]

2144. master II to rpt mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: jgrey@cyberport.cyberportal.net
Message-ID: <3pu53e$g4n@news.cyberportal.net>
Source record: 112746

[No readable article body recovered]

2145. Re: Need Source for TCM3105 Modem Chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: fehner@cts.com
Message-ID: <D9267q.C8H@crash.cts.com>
Source record: 112747

"Neil A. Gjere" <ngjere@skypoint.com> wrote:

>Any help would be appreciated.

>73s,

>Neil N0PFZ

JDR Microdevices is a good source for this chip. They don't require a
minimum order and have a toll free order number. The TCM3105 is $8.95.

JDR Microdevices
1850 South 10th St.
San Jose, CA. 95112-4108
Sales: 1-800-538-5000
BBS: 1-408-494-1430

Hope this helps.
73's Barbara KK6IB
E-Mail: fehner@cts.com

2146. Re: Quality of automobile DC power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3puelg$a4e@misc1.microserve.net>
Source record: 112748

griff@ssd.intel.com (Thomas Griffin - x7792) wrote:
>I've heard there may be large voltage spikes on the 13.8 volt DC power in
>an automobile due to alternator/regulator switching (or something like that).
>Does anyone know if this is true?

Vehicles differ considerably in the "cleanliness" of their DC systems. Many produce spikes while starting, but there are also some which produce spikes after turning the ignition off, while the engine is stopping.

The degree of noise and spikes on the primary DC cables will also depend on battery size, its distance from the alternator and starter, location of ground points, battery cable size and the type of regulator and associated circuitry.

The best thing to do is to place a 'scope across the source you want to use (battery terminals, cigarette lighter plug, unused fuseholder etc.) and look for spikes or other irregularities while starting and stopping the engine, and while operating acessories such as power windows and air conditioning. Turn the headlights on and off, switch to high beam, pump the brakes etc.

If you see large problems with short term voltage regulation, one outlet to check for solutions might be a large mobile audio dealer. Some of these guys are into multi-KW mobile audio and have run the gamut of installations from the typical JVC in a Honda, to dual-alternator, triple battery systems destined for shows and contests.

73,

Jack WB3U

2147. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: Jon Bell <ehsjbel@ehs.ericsson.se>
Message-ID: <3pv7lo$jqm@erinews.ericsson.se>
Source record: 112749
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

> In article <3ofsbt$fem@krel.iea.com>, n0dh@comtch.iea.com (D.C. Henderson) writes:
> |> amsoft@epix.net wrote:
> |>
> |> : The World of Ham Radio CD-ROM MAY 1995 issue is now available.
> |> : For more information contact amsoft@epix.net or the new AmSoft
> |> : WWW site at: http:/hamster/business.uwo.ca:80/~amsoft/
> |>
> |> : Pete, KC3TL voice: 717-938-8249 fax: 717-938-6767
> |>
> |> Pete
> |>
> |> you guys just don't get it do you......you didn't get enough flames the
> |> last time you used the rec.radio.****** bandwidth for commercial ads?
> |>
> |> :-(
> |> N0DH
>
>
> Or perhaps "YOU guys" (the self-annointed net cops) don't get it.
>
> There are many of us out here who welcome access to ANY and ALL
> information relating to our hobby.
>
> "If you don't like it, don't read it."
>
> ... Hank
>
>
> --
>
> Hank Oredson @ Mentor Graphics Library Operations
> Internet : hank_oredson@mentorg.com "Parts 'R Us!"
> Amateur Radio: W0RLI@W0RLI.OR.USA.NOAM

You can't get it here!!! See below:

Fatal Error 500

Can't Access Document: http:/hamster/business.uwo.ca:80/~amsoft/.

Reason: No host name found:

Regards, Jon
SM0PRB

2148. Re: New CD-ROM & WWW site.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: Frank Tabor <phranc@inmind.com>
Message-ID: <3pve1b$h0p@crucible.inmind.com>
Source record: 112750
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Try http://hampster.business.uwo.ca:80/~amsoft/

--

Frank Tabor
http://www.inmind.com/people/phranc
(-: Left handers are the only ones in their right minds.

2149. Re: Need info on MC145146

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: dbashaw@synoptics.com
Message-ID: <3pvk92$565@inn.synoptics.com>
Source record: 112751

MC145146-1. 4-bit data bus input PLL frequency Synthesizer chip.
20-pin chip. Pin 7,8 form an oscillator and feed a 12-bit counter.
Pin 3 feeds a 10-bit counter. There is also a 7-bit counter with
a modulus control. See the description that starts on page 6-50 of
Motos CMOS/NMOS SPECIAL FUNCTION data book (published Q2/88).

If you have a fax I can send.

Dave
WA6QWL

2150. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: Administrator@comsys.rockwell.COM
Message-ID: <9504248013.AA801327790@SmtpSend.comsys.rockwell.com>
Source record: 112752

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA10174; Wed, 24 May 95 07:55:25 CDT
Received: by mail.ucsd.edu; id EAA05728
sendmail 8.6.12/UCSD-2.2-sun
Wed, 24 May 1995 04:30:32 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA05721
sendmail 8.6.12/UCSD-2.2-sun
Wed, 24 May 1995 04:30:31 -0700 for ham-homebrew-ddist
Message-Id: <199505241130.EAA05721@mail.ucsd.edu>
Date: Wed, 24 May 95 04:30:30 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #151
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Wed, 24 May 95 Volume 95 : Issue 151

Today's Topics:
Bias circuits for solid state amplifiers
Computer Packet Program
Constant impedance filters. (2 msgs)
Eddystone receiver 4 sale
Kenwood KPG7D help
master II to rpt mod
Need info on Mullard 7534 vacuum tube
Need Source for TCM3105 Modem Chip
New Wrekid Label
RF / Microwave Magazines

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".
```

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 22 May 1995 10:09:35 -0700
From: zardoz@ornews.intel.com (Jim Garver)
Subject: Bias circuits for solid state amplifiers

I am getting ready to convert a class C solid state VHF amplifier
to class AB. I've been reading a few books including the RSGB
VHF/UHF manual and the Motorola RF power data book. My ARRL books
have little to say about this. It seems like there are a couple of
ways to do it:

Use a diode or transistor with base-collector tied together.
Mount it against the heat sink or power transistor. Series connect
it through a resistor adjusted to provide the desired current which
can either be predicted or tweaked.

Use some kind of active voltage regulator with a reference diode or
transistor mounted to the heat sink.

Are there other ways? Which is best and what problems are possible?
I thought I would use the base-collector tied transistor and adjust
the resistor for about 50-100 ma. idle current. My amp has an MRF6084
driving a pair of MRF4070's. I would use a separate bias circuit for
the 6084 and a common one for the 4070's. It pulls about 22 amps total
at 12 volts.
Thanks for any help.
--
zardoz@ornews.intel.com WA7LDV Greetings and Hallucinations!
I speak only for myself... >>>>>>>>>>>>>>O<<<<<<<<<<<<<

Date: 22 May 1995 20:55:16 GMT
From: jwilcox@macon.com (Jim Wilcox)
Subject: Computer Packet Program

Does anyone know of a program that will provide Packet services? I don't
mean a simple term program, I am talking about something that could use
a comparator circuit like the hamcom interface to do packet.

Jim KE4IHI

Date: Mon, 22 May 1995 08:00:19 GMT
From: davek@medphys.ucl.ac.uk (Dave Kirkby)
Subject: Constant impedance filters.

Does anyone know know of the configuration, or better still design-equations or
software for designing contant impedance filters. I'm looking to make a
band-pass

filter, centre =100MHz, bandwidth = 5MHz, that presents a good match to 50 Ohms over
a wide frequency range - preferably DC to 1GHz.

Most filter types reflect the unwanted signal, so present a high VSWR in the stopband. I want a filter that absorbs (hence has resistors) the unwanted signals.

The filter is required to be on the IF port of a mixer. I dont want to reflect the
image frequencies back to the mixer. Since the receiver is wide band, I cant say

what the image frequency will be - it will vary.

dave kirkby G8WRB

Date: Mon, 22 May 1995 09:30
From: OSYSMAS@MVS.OAC.UCLA.EDU (Michael Stein)
Subject: Constant impedance filters.

Really? Don't the two R=Zo resisters short the input to the output?

I've seen something similar with only one R in it (leave out +
this 2nd resistor). |
|
> Xc = Zo Xl = Zo |
> Input -----||-----UUUUUU--------- Output |
> | R=Zo R=Zo | |
> |--/\/\/------/\/\/--| |
> | ----------------------+
> |
> ------
> | |
> | C
> --- C
> Xc=Zo --- C Xl=Zo
> | C
> |____|
> |
> |
> ---
> /// Gnd

Date: 22 May 1995 02:20:47 GMT
From: Old Man <70401.134@CompuServe.COM>
Subject: Eddystone receiver 4 sale

Eddystone 830/7 receiver in excellent condition. A few scratches
but very nice. Have a full set of spare tubes and manual.
This model last tube receiver made by Eddystone. Rare here in

USA. $600 OBO plus shipping.
Sandy W5TVW

Date: 23 May 1995 06:13:13 GMT
From: Rob.Bailey@ucsd.edu, WM8S@ucsd.edu
Subject: Kenwood KPG7D help

Anybody know if Kenwood publishes the format of the programming files
for their KPG7D "programming program" for the TK-630/730/830 radios?
I need to generate program files for those radios on the fly from a database
in the field. I've figured most of it out but an authoritative format would be
better...

Date: 24 May 1995 02:17:33 GMT
From: jgrey@cyberport.cyberportal.net (Joe Grey)
Subject: master II to rpt mod

Date: 22 May 1995 14:18:20 GMT
From: hanavin@stimpy.eecis.udel.edu (Chuck Hanavin)
Subject: Need info on Mullard 7534 vacuum tube

I am looking for specs on a Mulllard 7534 / E130C vacuum
tube. Plate dissapation, filiment voltage, pin outs would
be helpful.

Thanks-Chuck
--
Chuck Hanavin Email: hanavin@eecis.udel.edu
Senior Electronics Specialist Phone: 302-831-8403
140 Evan Hall, University of Delaware Callsign: WB3FJJ
Newark, Delaware 19716

Date: 23 May 1995 19:28:32 -0400
From: rrives@aol.com (RRives)
Subject: Need Source for TCM3105 Modem Chip

JDR Microdevices has the tcm3105 modem chips for 6.95 each 1-800-538-5000

Date: 21 May 1995 13:26:09 -0400
From: sbrymantra@aol.com (SbryMantra)
Subject: New Wrekid Label

S T R A W B E R R Y M A N T R A R E C O R D S

To get zines distributed, Email us at the Email address below with a sample article and a description of the zine, or maybe even the whole zine, so we can make sure we want to distribute it, and if we say kuul, then send us some copies of the zine and yr in the catalog.
To get yr tapes distributed-Be good, and have nice sound quality. Send a good-sounding master tape and a master cover we can make black and white copies from to the address at the bottom. If you don't send a master cover, we'll just make one. Don't expect great artwork. John's taking drawing class.
We'll see what he can do. At least send a song list. The more you rock, the better. No Extreme-Hole Hearted Mr. Big shlock rock, please. We don't want Country or Offspring or Contemporary or R & B or Reggae or Rap tapes. So don't send them to us. If we don't like them, we put them away. Have any or all (?) of the following elements in yr music: rock, catchy rock, punk, or hardcore. Don't be lame, and, like we said, have nice sound quality.

Our royalty policy is real simple: When we distribute you, for each copy of the album you sell through us, (whether it's on vinyl or tape or cd) you get a dollar. Our royalty policy on zines is simple, too. You keep 70% of the money, we keep 30% of the money. If we (as in you and us) decide yr zine will be two dollars, we keep 60 cents for each sold zine. (60 cents just about covers postage costs. the zine department is really non-profit) The remaining $1.40 is yours! Because of this policy, we don't buy wholesale copies of zines in advance. mainly cos it's risky to us and yr zine gets more money this way.

*Online Zines: Don't wanna wait for snail mail to bring the zine to you?
Kuul! We'll Email it to you. Just send the money to the label address telling what zine you want and where we Email the zine to so you can download it-and the zine will be yours within seconds of receiving the money via a download file. Available when the catalog specifies "Online Version." Some zines are available Online only, some only by mail, some both. The royalty policies for Online Zines remain the same. (yes, postage costs don't exist when you send

online zines, but really, it's not fair to the non-online zines. Some of those zines have pictures and stuff, especially art/comic-type zines, which
would be way impossible to do online. They don't have the advantage of not paying for copying costs and postage. Just cos they have pix doesn't mean they should lose money.)

SoundClips from Strawberry Mantra Records. Download 20-45 second long samples as Wave Files from Strawberry Mantra releases.

Email the screen name below to request a SoundClip. I M P O R T A N T!!!-Must
have a sound card to play these things. If you need help, after getting yr clip, email me, i'll do what i can. Realize that mucho sound quality has to
be sacrificed to make SoundClips possible, and that SoundClips do not at ALL
represent the sound quality of Strawberry Mantra releases. If AOL said "Welcome" when you signed on, then you probably, (unless yr sound runs through that internal PC speaker that the modem noise comes through) can play
these things.

All prices include tax and shipping and handling.

If you run a little label yrself, contact us. We'll trade tapes and stuff.
We make sure the sound quality is nice on our releases. And, to smaller bands, four-track recordings are just fine. There's a lot you can do with four track recordings to make them sound really nice. We focus on the music.
That's why we give the bands the extra money, to bring out new material. It's
really money out of our pockets. But we're nice. We just want to make sure we
don't make ourselves look bad by releasing poor-quality recordings. That's all we ask. So talk to us! See ya later.
From John Mulhausen and Andrew Bales-Owners

Email SbryMantra@aol.com
Send zines, tapes and orders (cheks payable to John Mulhausen) to:
Strawberry Mantra Records
P.O. Box 701805
Tulsa, OK 74170-1805

COMING SOON
about 20 new albums are scheduled to be sent to us
The Video- a VHS tape w/ atticus finch, john, and others live. sketches, and
behind the scenes looks at kitty vamp and strawberry mantra records. probably
will cost 7 bux

Psychedelicatessen- Strawberry Mantra is putting together a compilation
that
will be sent to 14 eager radio stations. (scary) and will include at least
one
song from every band we distribute. (cept the ones on the kitty vamp
compilation, of course) and if yr on the label yr on the comp. and it's
going
to 12 radio stations who happen to be rather interested in us. scary....
zines galore. zines zines zines
tell me right now if you want to be updated. we're gonna bring out good
stuff, but give us a second, the label is as of now, about 2 weeks old.

Date: 23 May 1995 10:22:12 GMT
From: Richard Girling <rgirling@rmplc.co.uk>
Subject: RF / Microwave Magazines

I currently subscribe to RF Design and find it very usefull as as souce
of new ideas and components.
What other comercial magazines do you subscribe to with relevance
to RF and microwave electronics ?

Please provide telephone number / contact address as these are
sometimes difficult to track down from the UK.

Many thanks

73 Richard G4FCD

rgirling@rmplc.co.uk

End of Ham-Homebrew Digest V95 #151
****

2151. Schematic capture for PC/Mac

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: hunter@s07.es.llnl.gov
Message-ID: <3pvmjj$5a7@lll-winken.llnl.gov>
Source record: 112753

I have gotten to the point that I need a schematic capture program for the PC or Mac. I recently bought EZ Board (or EZ-PC or something), and it does a fair job with PC boards, but it is a bear for schematics. It might be faster to draw and erase by hand.

I have used DesignWorks on the Mac and PC and found it very nice, once you get used to it, but it is a bit expensive. I may get it anyway, but I thought that I would ask here first.

What schematic capture and PC board design programs you like/dislike? Why? How much $?

Steven Hunter
KC6RKV

2152. Re: HomeBrew Pagers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: bblohm@boi.hp.com
Message-ID: <3pvpoe$97k@hpbs3591.boi.hp.com>
Source record: 112754

Jeff Jones (jeffj@crl.com) wrote:
: Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: : In article <3povh4$m5q@crl3.crl.com> jeffj@crl.com (Jeff Jones) writes:
: : >Zack Lester (zlester@athena.cs.uga.edu) wrote:
: : >: Is it possible to modify a pager to make it receive pages from ham radio
: : >: freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
: : >: I plan on having my email "beeped" to me.
: : >

I'm not gonna touch the broadcasting/telemetry issue. However, why not use procmail and a simple Korn script to have your e-mail forwarded? I have mine trim out who it is from and what the subject is and forward that to my pager. Works great. Got me out of one meeting, already. ;-) But you could just as well forward the entire thing, sans headers other than that needed From: one, if desired.

That way, you don't have to modify anything, don't have to worry about the broadcast/telemetry issue, and it won't cost anything.

Let's take it to e-mail if there isn't enough interest in the newsgroup in this, or it's thought inappropriate. I can send you a copy of my script and the relevant procmail entry in my .procmailrc file if you're interested.

Bill B.
KC7JSD
bblohm@boi.hp.com

2153. Re: Bias circuits for solid state amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: rheiss@tuba.aix.calpoly.edu
Message-ID: <3q0004$28kb@tuba.aix.calpoly.edu>
Source record: 112755

Some thoughts on the simple diode regulator...

A capacitor across the diode might reduce the wideband splatter. The impedance is already low at that point so the capacitance must be huge to significantly reduce the audio frequency ripple.

At what frequency is the ripple on the bias supply? Probably below 100 Hz with typical voices. A two-tone test with widely-spaced frequencies would tend to underestimate the problem.

What is the magnitude of the bias current swings? I was naive to suggest in an earlier posting that the drive power is rectified. Some of it is dissipated without affecting the bias current.

Robert Heiss KO6KA
rheiss@tuba.calpoly.edu

2154. Painting 10 GHZ Microwave Dishes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <212317336wnr@pacsat.demon.co.uk>
Source record: 112756

What kind of paint should I avoid when painting parabolic dishes? If
there is such a type to avoid!

Is hammerite ok or is it too paint loaded - and what abt the hammer
finish - would that have an effect on surface reflectivity?

73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland
Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk
AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP ****
|+--+

2155. Re: INFO PSE: Idiom Press

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <51605005wnr@pacsat.demon.co.uk>
Source record: 112757

In response to Tony K4KYO's request, the following is a message I received from Ray KV4K..... Quote'

I will type to you the exact letter as I got it from them *last week*. I would check with you about faxing it to you but this will be quicker. Retyped letter follows:

*****

Idiom Press Inc. MCI Mail 367-4633 TELEX 650-367-4633
P.O. Box 1025
Geyersville, CA 95441-1025

Dear friend,
Thank you for your inquiry about further information about the Super CMOS Keyer II as described originally in the Nov. 1990 issue of QST Magazine, and also featured in the 1992 and later editions of the Radio Amateur's Handbook.

Although we have no brochure for this product, the keyer semi-kit remains available as described, including the programmed IC, the PC board, and all on board parts. The builder must supply a speaker, an enclosure, a 100K linear taper pot, necessary input and output connectors, and a 4.5 volt supply, usually obtained from 3 - AA batteries. The kit now supplied does include the latest updated software offering all features of the original keyer plus additional features since added, as described in a later issue of QST. The kit also comes with a complete operating manual, a circuit diagram, and a parts placement guide for the PC board.

The price remains at $ 48.00 for US addresses, or US $ 50.00 for overseas orders, postage paid. California residents must also add $3.15 per kit for sales tax. Payment can be made in the form of checks or money orders, and must be drawn against US banks. We regret we cannot accept credit cards. Alternatively, US currency can be sent at the sender's risk. We can assure you it will be properly handled once received here - this is a very small business, and we are honest!

Orders are normally shipped on a once a week basis, so that may cause a small delay in receipt of the order. If you have any questions not covered by this letter, please do drop us a note, and please be sure to include a self addressed stamped envelope or IRC's.

Be sure to note our new address:

Idiom Press
P.O. Box 1025

Geyersville, CA 95441-1025

73,
Idiom Press

Cynthia Savard (signed)

--

+---+
| 73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland |
| Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk |
| AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP **** |
+---+

2156. Motorola Minitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: hillgen@eden.rutgers.edu
Message-ID: <3q0bpa$c2j@er7.rutgers.edu>
Source record: 112758

Hi,
I have a few Motorola Minitor Pagers (from the fire service) that I would like to change the frequency of. Is there anyone who can help in this area or should I just give up and sell them with my stacker? TNX

hillgen@eden.rutgers.edu

2157. Re: HomeBrew Pagers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: aa005@torfree.net
Message-ID: <D93J6G.5AB@torfree.net>
Source record: 112759

Jeff Jones (jeffj@crl.com) wrote:
: Zack Lester (zlester@athena.cs.uga.edu) wrote:
: : Is it possible to modify a pager to make it receive pages from ham radio
: : freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
: : Isn't that close to the cb range? It sure would be nice if I could setup
: : my own personal paging service. $20 per month is way too much for a simple
: : service like this. And no I will not be using the pager for business purposes.
: : I plan on having my email "beeped" to me.

: The only problem with this is you would be "broadcasting" and that is a
: no no in amateur radio. Great idea though!

Would it under all conditions? If the person sending was an amateur, and
the person recieving was an amateur, would this not be equal to calling
CQ?

A while back I saw a number of tone only pagers for sale (cheap) at my
favorite surplus shop. I thought it would be great for the likes of ARES
to have some way to alert everyone in a group that there was trouble
regardless as to where they were... As it was I found out just enough
about these pagers to convince me that I didn't have enough time to sort
out all the problems.

Still, I do think it would be neat.

Colin McGregor VE3ZAA

2158. Looking for low-cost PSK/DPSK demod chips...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: rffleming@aol.com
Message-ID: <3q0ifl$mco@newsbf02.news.aol.com>
Source record: 112760

I'm looking for sources of demodulator chips for biphase and quadriphase keyed digital signals with symbol rates between 19200 sps and 4.096 Msps, and anywhere inbetween. Coherent demodulation for BPSK and QPSK and differential noncoherent demodulation of the differentially encoded varieties are desirable features. I'm aware of the Stanford Telecom, Harris, Comsat, and Unisys/Paramax products, but I'm looking for alternatives. Any help in this area will be greatly appreciated. My direct email address is rffleming@aol.com.

Thanks, and 73,
Chip, N3USL

2159. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May24.141611.23078@ke4zv.atl.ga.us>
Source record: 112761
Cross-posted to: rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.homebrew

In article <NEWTNews.801153914.5631.jwicklun@mycroftxxx.halcyon.com> Jay Wicklund <jwicklun@mail.halcyon.com> writes:
>>
>Don't think that's the way it works. At any one location the reading stays
>pretty constant, and if the error were really like noise it would seem like
>you could just average a lot of readings to get a more accurate fix.

In fact you *can* do just that. The SA dither is symmetrical, and if you time average long enough, you'll come to a position fix that's at least as good as the differential method. With a single reading in SA mode, your accuracy is only +/- 100 meters, and if you watch closely, succeding position plots will wander about inside that circle in a good approximation of random order. If you average enough points, you'll get a position fix down to under the +/- 10 meters promised by differential GPS. (For most receivers, this variation is most easily watched by looking at the altitude reading, which usually reads out directly in meters above MSL.)

From a military point of view, that's fine, because all they're concerned about is someone using a civilian GPS to guide a el cheapo cruise missile. By the time you time average enough readings in that case, the missile is somewhere else, so that technique doesn't pose a threat. Time averaging is useful, however, for geodesy since you can leave the receiver at the point you are surveying long enough to get a meaningful time average of the readings.

Note that the receivers themselves use time averaging. While they only update their display once a second, that update is the result of averaging many readings internally during that second. That short an averaging period, however, won't do better than +/- 100 meters. If you average over several minutes to hours, however, then you start to tighten your fix significantly.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2160. Re: HomeBrew Pagers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May24.182017.24479@ke4zv.atl.ga.us>
Source record: 112762

In article <3pu8i7$bnt@crl.crl.com> jeffj@crl.com (Jeff Jones) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: In article <3povh4$m5q@crl3.crl.com> jeffj@crl.com (Jeff Jones) writes:
>: >Zack Lester (zlester@athena.cs.uga.edu) wrote:
>: >: Is it possible to modify a pager to make it receive pages from ham radio
>: >: freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
>: >: I plan on having my email "beeped" to me.
>: >
>: >The only problem with this is you would be "broadcasting" and that is a
>: >no no in amateur radio. Great idea though!
>
>: No, this isn't broadcasting. Broadcasting is a transmission intended
>: for reception by the general public. This is a telemetry transmission,
>: a permitted one way transmission under the auxillary rules.
>
>I can't agree with you on this Gary. Telemetry implies information being
>broadcast from things such as a weather station or such,this is his email.

It's still a point to point transmission in a closed network of stations,
the definition of auxillary operation, and one way transmissions are
specifically authorized for auxillary operation.

>A little different. Also he could transmit over someone else and that is
>not allowed.

Unfortunately, it is not forbidden, but that's basically irrelvant
for auxillary operations. They take place on *link* frequencies that
are usually coordinated. Like any other link, such as to a voter from
a remote repeater receiver, there is no obligation in practice to check
if the frequency is in use before transmitting because the frequency
is coordinated for the auxillary station's use. Ordinary "bulletin"
stations, such as W1AW, don't listen before transmitting either, nor
do beacons, nor do telemetry links from balloons, model craft, etc.
These types of one way transmissions are specifically authorized in
the rules, and there is no requirement to even have a receiver at
the transmission point that can monitor the transmitting frequency.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2161. Pkunzip problems !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: kh6ijs@mauigateway.com
Message-ID: <786562187004@mauigateway.com>
Source record: 112669

Eureeka ! Youu're right Jayson, I forgot to identify BIN. I have'nt downloaded in a while and did not realize that I could download binary files without first identifying it.....Doomo Arigato Kohatsu san.
ijs

--
>>>> Maui Gateway - 808-875-4188, 808-874-1238, or 808-879-1714 <<<<
Telnet, FTP or World Wide Web ---> mauigateway.com
Satellite imaging of Hawaii, shareware, forums, chat, USA Today News, Maui Marketplace of products from Hawaii. Call us soon!!!

2162. Pkunzip problems !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: jkohama@mauigateway.com
Message-ID: <786562188105@mauigateway.com>
Source record: 112670

Well at least you got it. Could it be old age??? I tell you this
internet stuff get crazy sometimes. I have a friend that has an address
that has some capital letters in it, so sometimes the e mail comes back
to me undelivered...This stuff will just keep us all alert...73's

--
>>>> Maui Gateway - 808-875-4188, 808-874-1238, or 808-879-1714 <<<<
Telnet, FTP or World Wide Web ---> mauigateway.com
Satellite imaging of Hawaii, shareware, forums, chat, USA Today News, Maui
Marketplace of products from Hawaii. Call us soon!!!

2163. LOOKING TO BY FM-10 OR OTHER FM TRANSMITTERS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: Scott Kramer <ringo@primenet.com>
Message-ID: <3q20p3$2m1@news4.primenet.com>
Source record: 112671

I'm intersted in purchasing a ready built kit of an FM-10
or other FM transmitter that has a range of 1/2 mile or greater.
Please E-Mail mail if you have such an item for sale.

Scott

2164. SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995May25.114918.64314@ucl.ac.uk>
Source record: 112672

Like many hams, I predominately send (when I had a TX) and receive SSB. However, to my mind, the sound quality is not as good as an AM transmission, using a 6KHz bandwidth for AM. Why?

I realsise the SSB bandwidth is less than half the AM one, but both contain only the 300-3000Hz frequencies. Sure AM takes up more space, but an AM TX just sends two copies of the sidebands. So SSB's more efficient use of bandwidth should not mean a redection in quality.

Perhaps other people disagree, but I'm convinced SSB does not sound as good as an amateur AM signal. Obviuosly one would not expect it to sound like a commercal AM signal, where the bandwidth exceeds the 300-3000Hz.

My thoughts as to a possible explanation are:

1) Would a typical AM signal send from very low frequencies (say 20Hz) to 3KHz, since there is no point restricting the lower ends? Since although the signal takes up less bandwidth, its most unlikely anyone else can use the space between the carrier and the lower limits of the sidebands. Perhaps then the 20Hz to 300Hz information makes the signal sound better.

2) Its very difficult to re-insert the carrier at precisely the correct frequency at the receiver. I've recently used a 2m transceiver as a tuneable IF for an HF receiver I'm biliding, The fact the tranceiver only steps in 100Hz steps definately causes poor quaility audio, but I've noticed this with VFO's too.

3) Perhaps there need to re-inser the carrier at the correct amplitude, or in the correct phase. I've never looked at the maths to say if this is true.

Any thoughts?

dave kirkby G8WRB.

2165. High intercept, low noise amp - wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995May25.115811.15892@ucl.ac.uk>
Source record: 112673

I'm looking to build a lowish noise (2-4 dB) amp for about 70 or 100MHz
with a 3rd order output intercept of > +50dBm . Gain about 15dB.

Getting the nosie figure is easy. Getting the IP3 is easy, but getting the two
together is beyond me. Since I dont have access to NF measuring gear, I was
idealy looking for a circuit known to work. Failing that, any pointers on how
it might be done. I can measure IP3.

dave kirkby, G8WRB.

2166. Jackson- where are they.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995May25.120148.75519@ucl.ac.uk>
Source record: 112674

Jackson ,the Cap manufacturers, have I believe moved. The phone number I have is now no longer useable. Anyone know where they have gone to?

davek G8WRB.

2167. Re: FS HV Cap. 40uf 6KV

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995May25.120523.72563@ucl.ac.uk>
Source record: 112675

In article klj@crl4.crl.com, pgerba@crl.com (Peter Gerba) writes:
> HV Cap 40uf at 6KV non PCB, new Condx. $200 + shipping.
>
> Shipping Wt. about 25 Lbs.
>
> pete
> pgerba@crl.com

Those sort of things look attractive for tube amp PSU's, but I've been told they are not designed for the ripple of a 50/60Hz supply, so fail quickly if used in that service.

I dont know the specific cap being sold - its just a general warning.

dave kirkby G8WRB.

2168. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD955n5.97G@netcom.com>
Source record: 112676

In article <1995May25.114918.64314@ucl.ac.uk> davek@medphys.ucl.ac.uk writes:
>Like many hams, I predominately send (when I had a TX) and receive SSB. However,
>to my mind, the sound quality is not as good as an AM transmission, using a 6KHz
>bandwidth for AM. Why?

Mostly this is a result of phase distortion, and massive group delay across
the passband, both on the transmit and the receive side.

I would suspect that something could be done about this by using very high
speed DSP in place of the usual phasing networks, but I haven't heard anyone
actually trying this. It could be an awful lot of fun, though.
--scott

not that cranking the ARC-5 up on AM isn't a lot of fun, too....
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

2169. Re: HomeBrew Pagers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: jms@col.hp.com
Message-ID: <3q2acq$i4a@nonews.col.hp.com>
Source record: 112677

Colin McGregor (aa005@torfree.net) wrote:

: A while back I saw a number of tone only pagers for sale (cheap) at my
: favorite surplus shop. I thought it would be great for the likes of ARES
: to have some way to alert everyone in a group that there was trouble
: regardless as to where they were... As it was I found out just enough
: about these pagers to convince me that I didn't have enough time to sort
: out all the problems.

: Still, I do think it would be neat.

Here in Colorado Springs, a number of pagers have been re-crystaled to
receive the main repeater. We arranged with the repeater controllers
to set up the repeater to output the proper paging tones upon receipt of
a DTMF code. A number of Skywarn people, working with ARES, have the
pagers. They can be alerted that way. Seems to work FB. We received
the pagers through a donation, so the only cost was to re-crystal.

Mike, K0TER

2170. Need data on TA7641BP (Toshiba)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: tyker@alfalfa.pas.rochester.edu
Message-ID: <1995May25.170010.29320@galileo.cc.rochester.edu>
Source record: 112678

Can someone point me to a source for a data sheet on a Toshiba
AM receiver chip TA7641BP. A phone number for Toshiba sould suffice
of if you have a sheet on it and want to e-mail me some specs, that
would be great too. It is the chip in Radio Shack's Flavoradio and
I think it would be neat to convert it to the 5 MHz SW band. TNX.

tyker@pas.rochester.edu

jpt

2171. sound cards and FFT etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199505251152.HAA23365@service1.uky.edu>
Source record: 112679

Some time ago I remember seeing an advertisement that had to so with using PC compatiable sound cards to do FFT's and wave form recordings. I can't recall the name of the company and would like to locate some of this software.

73
Bill ko4ww

William L. Fuqua III P.E.
Department of Physics and Astronomy
CP-177 Chem. Phys. Bldg.
University of Kentucky
Lexington, Ky 40506-0055
E-mail WLFUQU00@POP.UKY.EDU
Phone (606) 257-4155

2172. homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: alross@bmera223.bnr.ca
Message-ID: <3q2gpf$g4j@bmerhc5e.bnr.ca>
Source record: 112680

I would like to find some design data for building solid-state
equivalents for tubes. If anyone can point me towards any sources
of this information, I would appreciate it very much.

73 Al VE3DMR

2173. Quality of Automobile DC power

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: swtel@prime.COMmon.NET
Message-ID: <199505251957.OAA21256@prime.common.net>
Source record: 112681

>From: jackl@pinetree.microserve.com (WB3U)
>Subject: Quality of automobile DC power?
>
>griff@ssd.intel.com (Thomas Griffin - x7792) wrote:

>>I've heard there may be large voltage spikes on the 13.8 volt DC power in
>>an automobile due to alternator/regulator switching (or something like that).
>>Does anyone know if this is true?

I had an experience with Regency RFH252 (XL2000) mobile radios that after
they had
aged for several years became very succeptable to noise spikes on the DC line.
Recency said that some brands of alternators had a very high, 200-500 volt,
very short
duration spike. It seems the mobile cpu reacted to this spike by putting
the worst
case of alternator whine. The radios would shift frequency, over-deviate,
under-deviate
you name it. Turn of the engine, perfection.

Maintenance free batteries are a curse in this situation. Most of these
batteries
have a higher characteristic impediance to this kind of noise. Good ol'
lead acid works
just fine.

Another factor I have found in 30 years in Avionics/Land Mobile is bad grounds.
Auto engines are poorly bonded to the vehicle chassis and therfore most DC
grounds.
Measure between the alternator frame and chassis with a heavy load (heaters,
highbeams etc.)
and observe the voltage. Improve the bonding on these grounds and a lot of
your noise will vanish.
Too mush time is spent conditioning the + side of the line without
considering the negative side.

I have embarased more that a fair number of competetiors by ripping out
their "noise filters'
and cleaning an installation with bonding straps

Steve VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

2174. Re: Ham-Homebrew Digest V95 #152

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: swtel@prime.COMmon.NET
Message-ID: <199505251957.OAA21260@prime.common.net>
Source record: 112682

>From: sbrymantra@aol.com (SbryMantra)
>Subject: New Wrekid Label
>
>S T R A W B E R R Y M A N T R A R E C O R D S
>
> To get zines distributed, Email us at the Email address below with a
>sample article and a description of the zine, or maybe even the whole
>zine,
>so we can make sure we want to distribute it, and if we say kuul, then
>send
>us some copies of the zine and yr in the catalog.

I have noticed the above message, obviously a bulk mail to unwilling
receipients.
I returned the message in its entirity to their AOL number which will probably
like CompuServe incure a 25 cent charge. I would suggest that this be used
as a form
of network Moderation to discourage this kind of abuse. I have a rendering
plant for sale but
you won't see it here.

73, Steve VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

2175. Internet addresses

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: swtel@prime.COMmon.NET
Message-ID: <199505251957.OAA21262@prime.common.net>
Source record: 112683

Does anyone have manufacturer's email and web addresses.

If you have any please send them to me and I will compile a list and post to
this
forum and other suggested locations and well as to the contributors

73 Steve, VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

2176. Re: Ham-Homebrew Digest V95 #152

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: swtel@prime.COMmon.NET
Message-ID: <199505251957.OAA21264@prime.common.net>
Source record: 112684

>Date: 24 May 1995 02:17:33 GMT
>From: jgrey@cyberport.cyberportal.net (Joe Grey)
>Subject: master II to rpt mod

This is all that was posted. Do you need information?
The GE Mastar II was a building block radio that lends itself to becoming a repeater.
You need to remove the antenna switching functions and add a noise squelch switch
and an audio processor to create a repeater. If you use a commercial (re QST ads) to conversion is
simple. Just add a duplexer.

Let me know if you need more details

Steve VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

2177. Re: homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3q2pps$cil@misc1.microserve.net>
Source record: 112685

alross@bmera223.bnr.ca (Allan Ross) wrote:
>I would like to find some design data for building solid-state
>equivalents for tubes. If anyone can point me towards any sources
>of this information, I would appreciate it very much.

There were several articles on converting tube gear to solid state in one of the major ham magazines in the early 70's. The articles took the conversions a step at a time, with the approach of wiring the revised components onto the tube socket pins when possible. I even remember that the author of one of them had converted his Super Pro and claimed significant performance improvements.

I don't have these articles anymore and I'm not certain which publication they were in. If anyone has this series, I'm also interested.

73,

Jack WB3U

2178. INFO PSE: Idiom Press

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.2530.546@acenet.com>
Source record: 112686

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

TS>Does anyone have the voice and/or fax number for Idiom Press in
TS>Geyserville, CA? They are the people that produce the CMOS II keyer
TS>Tony
TS>K4KYO

Hi Tony - I just sent off for the kit this week, and hope to have it
soon.
Their address is:

Idiom Press (No phone given)
Box 1025
Geyserville, CA 95441 Computer controlled keyer kit

Let's compare notes on how the project goes if you buy one, OK?
73 de AF4K
brian.carling@acenet.com

 SLMR 2.1a Jury: A group chosen to decide who has the best lawyer.

2179. HP Counter Service Manuals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: gary@vulcan.com
Message-ID: <gusN6c1w165w@vulcan.com>
Source record: 112687

Hi,

Can anyone point me to a source for service manuals for the
HP 5300B and HP5307A (combined unit) counter ?

Thanks
Gary Tennyson
KO4CY

2180. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: Administrator@comsys.rockwell.COM
Message-ID: <9504258014.AA801414595@SmtpSend.comsys.rockwell.com>
Source record: 112688

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com (4.1/1.34)
id AA24348; Thu, 25 May 95 08:06:17 CDT
Received: by mail.ucsd.edu; id EAA29510
sendmail 8.6.12/UCSD-2.2-sun
Thu, 25 May 1995 04:30:26 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA29502
sendmail 8.6.12/UCSD-2.2-sun
Thu, 25 May 1995 04:30:24 -0700 for ham-homebrew-ddist
Message-Id: <199505251130.EAA29502@mail.ucsd.edu>
Date: Thu, 25 May 95 04:30:23 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #152
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Thu, 25 May 95 Volume 95 : Issue 152

Today's Topics:
Back up power source, how?
INFO PSE: Idiom Press
Message not deliverable
Quality of automobile DC power? (2 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------

Date: Wed, 24 May 1995 01:52:43 GMT
From: (BBWB)
Subject: Back up power source, how?
```

There is a great article and project in the latest issue of 73
magazine.
Bud

Date: Tue, 23 May 1995 13:38:40 -0400
From: Tony Stalls <ras@us.net>
Subject: INFO PSE: Idiom Press

Does anyone have the voice and/or fax number for Idiom Press in
Geyserville, CA? They are the people that produce the CMOS II keyer
partial kit as described in the ARRL Handbook. LD Information does not
have a listing for them.

Thanks & 73,

Tony
K4KYO

<ras@us.net>

Date: 24 May 95 13:59:01 GMT
From: Administrator@comsys.rockwell.COM
Subject: Message not deliverable

Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA10174; Wed, 24 May 95 07:55:25 CDT
Received: by mail.ucsd.edu; id EAA05728
sendmail 8.6.12/UCSD-2.2-sun
Wed, 24 May 1995 04:30:32 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA05721
sendmail 8.6.12/UCSD-2.2-sun
Wed, 24 May 1995 04:30:31 -0700 for ham-homebrew-ddist
Message-Id: <199505241130.EAA05721@mail.ucsd.edu>
Date: Wed, 24 May 95 04:30:30 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #151
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Wed, 24 May 95 Volume 95 : Issue 151

Today's Topics:
Bias circuits for solid state amplifiers
Computer Packet Program
Constant impedance filters. (2 msgs)
Eddystone receiver 4 sale
Kenwood KPG7D help
master II to rpt mod
Need info on Mullard 7534 vacuum tube
Need Source for TCM3105 Modem Chip
New Wrekid Label
RF / Microwave Magazines

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
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We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 22 May 1995 10:09:35 -0700
From: zardoz@ornews.intel.com (Jim Garver)
Subject: Bias circuits for solid state amplifiers

I am getting ready to convert a class C solid state VHF amplifier
to class AB. I've been reading a few books including the RSGB
VHF/UHF manual and the Motorola RF power data book. My ARRL books
have little to say about this. It seems like there are a couple of
ways to do it:

Use a diode or transistor with base-collector tied together.
Mount it against the heat sink or power transistor. Series connect
it through a resistor adjusted to provide the desired current which
can either be predicted or tweaked.

Use some kind of active voltage regulator with a reference diode or
transistor mounted to the heat sink.

Are there other ways? Which is best and what problems are possible?
I thought I would use the base-collector tied transistor and adjust
the resistor for about 50-100 ma. idle current. My amp has an MRF6084
driving a pair of MRF4070's. I would use a separate bias circuit for
the 6084 and a common one for the 4070's. It pulls about 22 amps total
at 12 volts.
Thanks for any help.
--
zardoz@ornews.intel.com WA7LDV Greetings and Hallucinations!
I speak only for myself... >>>>>>>>>>>>>>O<<<<<<<<<<<<<

Date: 22 May 1995 20:55:16 GMT
From: jwilcox@macon.com (Jim Wilcox)
Subject: Computer Packet Program

Does anyone know of a program that will provide Packet services? I don't
mean a simple term program, I am talking about something that could use
a comparator circuit like the hamcom interface to do packet.

Jim KE4IHI

Date: Mon, 22 May 1995 08:00:19 GMT
From: davek@medphys.ucl.ac.uk (Dave Kirkby)
Subject: Constant impedance filters.

Does anyone know know of the configuration, or better still design-equations or
software for designing contant impedance filters. I'm looking to make a
band-pass
filter, centre =100MHz, bandwidth = 5MHz, that presents a good match to 50 Ohms
over
a wide frequency range - preferably DC to 1GHz.

Most filter types reflect the unwanted signal, so present a high VSWR in the
stopband. I want a filter that absorbs (hence has resistors) the unwanted
signals.

The filter is required to be on the IF port of a mixer. I dont want to reflect
the
image frequencies back to the mixer. Since the receiver is wide band, I cant say

what the image frequency will be - it will vary.

dave kirkby G8WRB

Date: Mon, 22 May 1995 09:30
From: OSYSMAS@MVS.OAC.UCLA.EDU (Michael Stein)
Subject: Constant impedance filters.

Really? Don't the two R=Zo resisters short the input to the output?

I've seen something similar with only one R in it (leave out +
this 2nd resistor). |
|
> Xc = Zo Xl = Zo |
> Input -----||-----UUUUUU--------- Output |
> | R=Zo R=Zo | |
> |--/\/\/------/\/\/--| |
> | ----------------------+
> |
> ------
> | |
> | C

```
> --- C
> Xc=Zo --- C Xl=Zo
> | C
> |____|
> |
> |
> ---
> /// Gnd
```

Date: 22 May 1995 02:20:47 GMT
From: Old Man <70401.134@CompuServe.COM>
Subject: Eddystone receiver 4 sale

Eddystone 830/7 receiver in excellent condition. A few scratches
but very nice. Have a full set of spare tubes and manual.
This model last tube receiver made by Eddystone. Rare here in
USA. $600 OBO plus shipping.
Sandy W5TVW

Date: 23 May 1995 06:13:13 GMT
From: Rob.Bailey@ucsd.edu, WM8S@ucsd.edu
Subject: Kenwood KPG7D help

Anybody know if Kenwood publishes the format of the programming files
for their KPG7D "programming program" for the TK-630/730/830 radios?
I need to generate program files for those radios on the fly from a database
in the field. I've figured most of it out but an authoritative format would be
better...

Date: 24 May 1995 02:17:33 GMT
From: jgrey@cyberport.cyberportal.net (Joe Grey)
Subject: master II to rpt mod

Date: 22 May 1995 14:18:20 GMT
From: hanavin@stimpy.eecis.udel.edu (Chuck Hanavin)
Subject: Need info on Mullard 7534 vacuum tube

I am looking for specs on a Mulllard 7534 / E130C vacuum
tube. Plate dissapation, filiment voltage, pin outs would
be helpful.

Thanks-Chuck
--
Chuck Hanavin Email: hanavin@eecis.udel.edu
Senior Electronics Specialist Phone: 302-831-8403
140 Evan Hall, University of Delaware Callsign: WB3FJJ

Newark, Delaware 19716

Date: 23 May 1995 19:28:32 -0400
From: rrives@aol.com (RRives)
Subject: Need Source for TCM3105 Modem Chip

JDR Microdevices has the tcm3105 modem chips for 6.95 each 1-800-538-5000

Date: 21 May 1995 13:26:09 -0400
From: sbrymantra@aol.com (SbryMantra)
Subject: New Wrekid Label

S T R A W B E R R Y M A N T R A R E C O R D S

To get zines distributed, Email us at the Email address below with a sample article and a description of the zine, or maybe even the whole zine, so we can make sure we want to distribute it, and if we say kuul, then send us some copies of the zine and yr in the catalog. To get yr tapes distributed-Be good, and have nice sound quality. Send a good-sounding master tape and a master cover we can make black and white copies from to the address at the bottom. If you don't send a master cover, we'll just make one. Don't expect great artwork. John's taking drawing class. We'll see what he can do. At least send a song list. The more you rock, the better. No Extreme-Hole Hearted Mr. Big shlock rock, please. We don't want Country or Offspring or Contemporary or R & B or Reggae or Rap tapes. So don't send them to us. If we don't like them, we put them away. Have any or all (?) of the following elements in yr music: rock, catchy rock, punk, or hardcore. Don't be lame, and, like we said, have nice sound quality.

Our royalty policy is real simple: When we distribute you, for each copy of the album you sell through us, (whether it's on vinyl or tape or cd) you get a dollar. Our royalty policy on zines is simple, too. You keep 70% of the money, we keep 30% of the money. If we (as in you and us) decide yr zine will be two dollars, we keep 60 cents for each sold zine. (60 cents just about covers postage costs. the zine department is really non-profit) The remaining $1.40 is yours! Because of this policy, we don't buy wholesale copies of

zines in advance. mainly cos it's risky to us and yr zine gets more money this way.

*Online Zines: Don't wanna wait for snail mail to bring the zine to you?
Kuul! We'll Email it to you. Just send the money to the label address telling
what zine you want and where we Email the zine to so you can download it-and
the zine will be yours within seconds of receiving the money via a download
file. Available when the catalog specifies "Online Version." Some zines are
available Online only, some only by mail, some both. The royalty policies for
Online Zines remain the same. (yes, postage costs don't exist when you send
online zines, but really, it's not fair to the non-online zines. Some of those zines have pictures and stuff, especially art/comic-type zines, which
would be way impossible to do online. They don't have the advantage of not paying for copying costs and postage. Just cos they have pix doesn't mean they should lose money.)

SoundClips from Strawberry Mantra Records. Download 20-45 second long samples as Wave Files from Strawberry Mantra releases.

Email the screen name below to request a SoundClip. I M P O R T A N T!!!-Must
have a sound card to play these things. If you need help, after getting yr clip, email me, i'll do what i can. Realize that mucho sound quality has to
be sacrificed to make SoundClips possible, and that SoundClips do not at ALL
represent the sound quality of Strawberry Mantra releases. If AOL said "Welcome" when you signed on, then you probably, (unless yr sound runs through that internal PC speaker that the modem noise comes through) can play
these things.

All prices include tax and shipping and handling.

If you run a little label yrself, contact us. We'll trade tapes and stuff.
We make sure the sound quality is nice on our releases. And, to smaller bands, four-track recordings are just fine. There's a lot you can do with four track recordings to make them sound really nice. We focus on the music.
That's why we give the bands the extra money, to bring out new material. It's
really money out of our pockets. But we're nice. We just want to make sure we

don't make ourselves look bad by releasing poor-quality recordings. That's all we ask. So talk to us! See ya later.
From John Mulhausen and Andrew Bales-Owners

Email SbryMantra@aol.com
Send zines, tapes and orders (cheks payable to John Mulhausen) to:
Strawberry Mantra Records
P.O. Box 701805
Tulsa, OK 74170-1805

COMING SOON
about 20 new albums are scheduled to be sent to us
The Video- a VHS tape w/ atticus finch, john, and others live. sketches, and
behind the scenes looks at kitty vamp and strawberry mantra records. probably
will cost 7 bux
Psychedelicatessen- Strawberry Mantra is putting together a compilation that
will be sent to 14 eager radio stations. (scary) and will include at least one
song from every band we distribute. (cept the ones on the kitty vamp compilation, of course) and if yr on the label yr on the comp. and it's going
to 12 radio stations who happen to be rather interested in us. scary....
zines galore. zines zines zines
tell me right now if you want to be updated. we're gonna bring out good stuff, but give us a second, the label is as of now, about 2 weeks old.

Date: 23 May 1995 10:22:12 GMT
From: Richard Girling <rgirling@rmplc.co.uk>
Subject: RF / Microwave Magazines

I currently subscribe to RF Design and find it very usefull as as souce of new ideas and components.
What other comercial magazines do you subscribe to with relevance to RF and microwave electronics ?

Please provide telephone number / contact address as these are sometimes difficult to track down from the UK.

Many thanks

73 Richard G4FCD

rgirling@rmplc.co.uk

End of Ham-Homebrew Digest V95 #151
****

Date: 22 May 1995 19:24:29 GMT
From: griff@ssd.intel.com (Thomas Griffin - x7792)
Subject: Quality of automobile DC power?

I've heard there may be large voltage spikes on the 13.8 volt DC power in an automobile due to alternator/regulator switching (or something like that). Does anyone know if this is true?

I want to operate a TNC (MFJ-1270B/TNC-2 clone, laptop computer, and a GPS receiver/Garmin GPS-45) while mobile. Assuming all of these devices are designed to operate within the normal range of automotive DC, should I have any concerns about connecting them directly to the power cable that I use with my current ham transceiver which is directly wired to the automobile battery? Or, should I build a filter circuit to protect these devices from power glitches (I'm not talking about alternator wine or ignition noise)? Any plans for specific filter designs to do this job would be greatly appreciated. Do the DC filters sold by Radio Shack and others for filtering noise for automotive sound systems also remove voltage spikes?

Thanks much in advance.

73, Griff, N7ZKL
griff@ssd.intel.com

Date: Wed, 24 May 95 04:59:58 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Quality of automobile DC power?

griff@ssd.intel.com (Thomas Griffin - x7792) wrote:
>I've heard there may be large voltage spikes on the 13.8 volt DC power in
>an automobile due to alternator/regulator switching (or something like that).
>Does anyone know if this is true?

Vehicles differ considerably in the "cleanliness" of their DC systems. Many produce spikes while starting, but there are also some which produce spikes after turning the ignition off, while the engine is stopping.

The degree of noise and spikes on the primary DC cables will also depend on battery size, its distance from the alternator and starter, location of ground points, battery cable size and the type of regulator and associated circuitry.

The best thing to do is to place a 'scope across the source you want to use (battery terminals, cigarette lighter plug, unused fuseholder etc.) and look for spikes or other irregularities while starting and stopping the engine, and while operating acessories such as power windows and air conditioning. Turn the headlights on and off, switch to high beam, pump the brakes etc.

If you see large problems with short term voltage regulation, one outlet to check for solutions might be a large mobile audio dealer. Some of these guys are into multi-KW mobile audio and have run the gamut of installations from the typical JVC in a Honda, to dual-alternator, triple battery systems destined for

shows and contests.

73,

Jack WB3U

Date: Mon, 22 May 95 07:40:52 PDT
From: Jay Wicklund <jwicklun@mail1.halcyon.com>

References<3pdt3g$1aro@bubba.ucc.okstate.edu> <3pibgc$mgh@post.gsfc.nasa.gov>,
<1995May20.205726.5005@ke4zv.atl.ga.us>
Subject: Re: 300 Khz receiver for GPS differential

In article <1995May20.205726.5005@ke4zv.atl.ga.us>, <gary@ke4zv.atl.ga.us> writes:
> Newsgroups: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner
> Path: news.halcyon.com!nwfocus1.wa.com!news.sprintlink.net!gatech!news-feed-1.peachnet.edu!hobbes.cc.uga.edu!cssun.mathcs.emory.edu!wa4mei!ke4zv!gary
> From: gary@ke4zv.atl.ga.us (Gary Coffman)
> Subject: Re: 300 Khz receiver for GPS differential
> Message-ID: <1995May20.205726.5005@ke4zv.atl.ga.us>
> Reply-To: gary@ke4zv.atl.ga.us (Gary Coffman)
> Organization: Destructive Testing Systems
> References: <3p827r$cah@post.gsfc.nasa.gov> <3pdmhn$dkr@news.halcyon.com>
<3pdt3g$1aro@bubba.ucc.okstate.edu> <3pibgc$mgh@post.gsfc.nasa.gov>

> I was under the impression that SA was implemented by injecting
> pseudo-noise in the signal. While the *average* delta might be
> slowly changing, any given reading could be the maximum dither
> distance from the previous or following reading in a pseudo-random
> number fashion. That means the correction transmited only applies
> to the particular coincident reading taken at both the reference
> and mobile station locations. It might represent a maximum error
> in position if applied to the preceding or following reading.
>
Don't think that's the way it works. At any one location the reading stays
pretty constant, and if the error were really like noise it would seem like
you could just average a lot of readings to get a more accurate fix. However,
like some of the others on this thread, I don't claim to know that much about
the system. In any case, as has been stated before, the reason for using LF
is more likely propagation related, especially around inland waters where
accuracy is more critical anyway.

Have a nice day.....Jay

Date: 22 May 1995 13:51:58 -0400
From: mdf@io.org (Matthew Francey)

References<3pdt3g$1aro@bubba.ucc.okstate.edu> <3pibgc$mgh@post.gsfc.nasa.gov>,
<1995May20.205726.5005@ke4zv.atl.ga.us>
Subject: Re: 300 Khz receiver for GPS differential

gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>I was under the impression that SA was implemented by injecting
>pseudo-noise in the signal. While the *average* delta might be
>slowly changing, any given reading could be the maximum dither
>distance from the previous or following reading in a pseudo-random
>number fashion.

well, i'm not familiar with the exact details -- it is no doubt someone's
State Secret -- but this doesn't resemble my experience. if you watch the
a fixed receiver, the display shows a very slowly moving position. typically
under a metre per second.

this kind of "low frequency" noise allows fairly accurate course/speed
estimates. if the noise was "high frequency" it would be almost impossible
to tell if one was moving or not via GPS alone, and indeed, any dGPS
would become quite a bit more difficult -- certainly for the current US/Canada
Coast Guard system, which, i believe, transmits corrections at something
like 50bps.

(paranoia mode on) and given the claimed purpose of SA, using low-frequency
noise makes some sense too, since it pushes the integration time up for
"precise" positions. if we want, say, a position to 10m, the present system
requires almost 1000 observations (20 minutes or so for my receiver), or
equivalently, we ignore about 9 of every 10 observations. reason: successive
positions are highly correlated -- ie, not "independent".

so paradoxically as it seems, the more noise in the signal, the more useful
the system may become in a tactical environment. (paranoia mode off)

End of Ham-Homebrew Digest V95 #152
****

2181. Re: Bias circuits for solid state amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3q31sk$1vs@abyss.West.Sun.COM>
Source record: 112689

In article <NEWTNews.801240614.9207.jwicklun@mycroftxxx.halcyon.com>,
Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
>
>>
>> You mention the bias diode method, and an active regulator method. I
>> think it would be better to use the active regulator, because less idle
>> current is drawn. The basic diode method is fine, but you have lots of
>> current flowing through the series resistor and diode that is not
>> destined for your transistor bases. It of course has the advantage of
>> super simplicity. But I think you'll be happier with an active regulator
>> with an adjustment pot so you can set bias to your liking; you'll get
>> less wasted DC current to boot. I'll be building up the 140 watt amp kit
>> from CCI, which uses the Motorola AN762 design.
>
>Don't forget, the one main advantage to using a diode to provide bias is that
>it provides temperature compensation. As the temperature of the output
>transistors goes up, the base-emitter voltage drop decreases (or another way
>to say it, is that the bias current achieved with a constant bias voltage will
>go up as the temperature goes up). This can lead to thermal run away; as the
>transistor gets hotter, it draws more current which makes it even hotter. The
>bias generated by a diode which thermally tracks the temperature of the pass
>transistor will decrease as the diode temperature goes up, thereby providing
>at least some compensation.

This is why you have to arrange for the active regulator output to be
temperature compensated. Usually a silicon diode is thermally bonded to
the power transistor/heat sink and incorporated as either part of the
regulator reference voltage or in the feedback loop. The AN762 design
mentioned above does this, as I recall.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

2182. Please help my son!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: jhschutt@figmnt.tayloru.edu
Message-ID: <1995May25.215715.2121@figmnt.tayloru.edu>
Source record: 112690

My son is a ham and is interested in building electronic circuitry. He wants to build a QRP rig for 40M. Can you help with the following:

1. What's your favorite source for parts? He has JDR Microdevices' catalog and Radio Shack's catalog.

2. Do you have a favorite circuit? He's been looking in the ARRL handbook and in QRP.

Thanks in advance!! Pls e-mail to the address below.--

John Robert Schutt /\ jhschutt@tayloru.edu
Taylor University- Fort Wayne //\\ (219) 456-9061
1025 W. Rudisill Blvd. ///\\\ FAX: (219) 456-2119
Fort Wayne, IN 46807 ||

2183. Re: Painting 10 GHZ Microwave Dishes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May25.145107.28496@ke4zv.atl.ga.us>
Source record: 112691

In article <212317336wnr@pacsat.demon.co.uk> slewis@pacsat.demon.co.uk writes:
>What kind of paint should I avoid when painting parabolic dishes? If
>there is such a type to avoid!

Most ordinary spray paints, such as the Krylon brand, work fine. Of course the best paints are labeled as radome paints and are properly characterized for RF use. Not cheap. The ordinary paints work nearly as well, as long as they aren't metalized. You want to avoid paints with "metalflake" because they will scatter the desired signal.

Strive for an even coat so that the dielectric constant over the face of the dish will be uniform. Painting reflectors has minimal effect on their electrical properties of interest. Painting linear elements, such as yagi elements, does have an effect on their electrical length due to the change in dielectric constant from air to that of the paint. This has a shortening effect on the elements, IE resonance will occur with slightly shorter painted elements than with bare elements since paint has a dielectric constant greater than 1.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2184. Re: cordless ph and freq change

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: tvr@cnmat.CNMAT.Berkeley.EDU
Message-ID: <TVR.95May25021848@cnmat.CNMAT.Berkeley.EDU>
Source record: 112763

However, you _can_ easy convert the RF section up to the 6 meter amateur
radio band, add a PTT switch for simplex, and have yourself a nice little
very-low-power 6M HT.

Maybe, but be aware that if they use the 46/49 MHz synthesizer chips, they
have ten pairs of frequencies in mask-programmed ROM. You can change the
reference crystal, but then it probably won't line up with anything in the
6M band.
I added a 2N2222 output stage on mine and boosted
the power up to almost 200 mW, which is enough for me to regularly talk
to friends across town, and sometimes do a bit of DXing in good conditions.

That sounds like a neat thing to do with something else, like a Radio Shack
49 MHz short-range HT. But if you do that, watch out about spectral purity.
At the original power level, the OEM didn't have to worry that much, but
if you amplify it, you do.

-- KD6PAG (networking old-timer, RF newbie)

2185. re: Need info on MC145146

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: tvr@cnmat.CNMAT.Berkeley.EDU
Message-ID: <TVR.95May25022921@cnmat.CNMAT.Berkeley.EDU>
Source record: 112764

If you don't have any books handy, try http://motserv.indirect.com. This is a Motorola on-line data project. (one of the links from http://www.mot.com) Unfortunately, it is not complete. However, one of the pages is a form to fill out and get an automatic FAX of any data sheet you may need. I have not tried that specifically, however there should also be other contacts within Motorola referenced there that could help.

I have gotten data sheets for other chips in that series, it works very nicely. (Thanks, Motorola!) They also have some application notes as well. You might just spring for the databook if you're serious, and they probably have an 800 number where they can help you figure out which one to order.

There are other neat things out there, like VHF/UHF power modules, and it appears that they have some kind of retail mechanism?? (Has anyone tried that?) [No connection with Motorola -- they're just one of the better WWW sites i've found.]
-- KD6PAG

2186. WOT NO FAQ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: A.Vilches@eee.salford.ac.uk
Message-ID: <3q2dfh$cg0_002@salford.ac.uk>
Source record: 112765

COULD ANYONE TELL ME WHERE THE FAQ IS FOR THIS PLEASE?

Thanks,
A.Vilches.

2187. Pkunzip problems !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: kh6ijs@mauigateway.com
Message-ID: <786562183202@mauigateway.com>
Source record: 112766

Jayson,
Have you had any problems unzipping files you FTPed ? I am
having problems only recently with zipped files from SimTel and Western
Digital. All are zipped files and not gzipped. Tell me what you know
if anything. I am using version 2.04g of pkunzip.
I will attatche a copy of a zipped file that I am unable to
unzip. Try see if you can unzip it, thanks..... ijs

--
>>>> Maui Gateway - 808-875-4188, 808-874-1238, or 808-879-1714 <<<<
Telnet, FTP or World Wide Web ---> mauigateway.com
Satellite imaging of Hawaii, shareware, forums, chat, USA Today News, Maui
Marketplace of products from Hawaii. Call us soon!!!

2188. Pkunzip problems !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-25 00:00:00 UTC
From: jkohama@mauigateway.com
Message-ID: <786562185403@mauigateway.com>
Source record: 112767

Haven't had any problems yet. I can see you are using the lastest version. When you transfered the file did you set the transfer to bin first? Because if not then it would be screwed up. I'll try to unzip the attached file later it seems it has not been approved for download as of yet....bxk

--
>>>> Maui Gateway - 808-875-4188, 808-874-1238, or 808-879-1714 <<<<
Telnet, FTP or World Wide Web ---> mauigateway.com
Satellite imaging of Hawaii, shareware, forums, chat, USA Today News, Maui Marketplace of products from Hawaii. Call us soon!!!

2189. Re: Quality of automobile DC power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: geertj@ripe.net
Message-ID: <D95sIK.9sC@inter.NL.net>
Source record: 112692

In <3pqodd$km1@news.ssd.intel.com> griff@ssd.intel.com (Thomas Griffin - x7792) writes:

>I want to operate a TNC (MFJ-1270B/TNC-2 clone, laptop computer, and a
>GPS receiver/Garmin GPS-45) while mobile. Assuming all of these devices are
>designed to operate within the normal range of automotive DC, should I have
>any concerns about connecting them directly to the power cable that I use
>with my current ham transceiver which is directly wired to the automobile
>battery?

The automotive electrical system is ususlly very noisy (peaks of a few
hundred volts are common), and you must filter for that reason.
Others have already suggested where such filters can be bought.

Tapping in on the battary directly is a good approach, as the battary
is a large capacitor that will filter a lot of junk.

HOWEVER, YOU MUST INSERT FUSES IN BOTH PLUS AND GROUND LEADS.

The fuse in the positive lead has a clear reason - we all know about
the short current of an automotive battary, but the one in the ground
lead is required because if the wire between the min of the battary
and the card would fail, then the car would feed itself
using your rig, and whatever path it takes to get to ground.
These wires are NOT built for these currents.

The ARRL handbook also has some valuable suggestions on how to do this.

Geert Jan

2190. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: jrovero@q.continuum.net
Message-ID: <3q39a2$ar6@news.continuum.net>
Source record: 112693
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.homebrew

In <1995May24.141611.23078@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>In fact you *can* do just that. The SA dither is symmetrical, and if
>you time average long enough, you'll come to a position fix that's at
>least as good as the differential method. With a single reading in SA
>mode, your accuracy is only +/- 100 meters, and if you watch closely,
>succeding position plots will wander about inside that circle in a
>good approximation of random order. If you average enough points, you'll
>get a position fix down to under the +/- 10 meters promised by differential
>GPS. (For most receivers, this variation is most easily watched by looking
>at the altitude reading, which usually reads out directly in meters
>above MSL.)
>

While the U.S. Coast Guard advertises 5 meter accuracy 95% of the time,
for many periods the 3-sigma accuracy is less than 1 meter.

We routinely obtain sub-meter DGPS accuracy with
our reference stations. Among other providers, DCI also has a
1 meter service available in many areas of the U.S>

P.J. "Josh" Rovero work: provero@connix.com
Ocean Surveys, Inc. play: jrovero@q.continuum.com
Old Saybrook, CT 06475 USA Amateur Radio: KK1D

2191. Re: homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3q3dsp$qgk@parsifal.nando.net>
Source record: 112694

jackl@pinetree.microserve.com (WB3U) wrote:
>
> alross@bmera223.bnr.ca (Allan Ross) wrote:
> >I would like to find some design data for building solid-state
> >equivalents for tubes. If anyone can point me towards any sources
> >of this information, I would appreciate it very much.
> ....
> they were in. If anyone has this series, I'm also interested.
> 73,
> Jack WB3U

From the Ham Radio magazine index published Dec 1973, I found the
following:
Converting a vacuum tube receiver to solid state p. 26 Feb 69
Short circuit p. 76 Jul 69
Converting vacuum tube equipment to solid state p. 30 Aug 68
Fetrons, solid state replacemnents for tubes p. 4 Aug 72
Pentode replacement p. 70 Feb 70

I had a listing of similar stuff in QST a while back, but I don't
know where I put it. Maybe someone with access to a composite
QST index can dig it out for us. I would also like to have
the references.

A long time ago (back in the 70s) I did successfully convert a
receiver (SX-99) to all solid state. It worked like a champ
after I cured all the gremlins due to the feedback in the IF
stages. More recently I reworked an old BC band command receiver
to cover 1.5 to 2 MHz and replaced the tubes with 40673 MOSFETS
and MPF102 FETs. Works like a champ. Never did get the AGC and
product detector put into it though. Maybe someday when I have
time, but alas, no source for the 40673 - RCA quit making them.
Does anyone have a stockpile? I'm interested in about a dozen,

73,
Don W3FPR

2192. OPINION WANTED : MFJ 949E

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: Jeff Krul <JKrul@equist.com>
Message-ID: <3q57ea$jir@noc.tor.hookup.net>
Source record: 112695

I am planning to purchase a used MFJ 949E. If you have used this
product, could you please let me know what you thought of it? Thanks!

Please e-mail your responses to
JKRUL @ EQUIST.COM

Jeff
VE3QED

2193. Re: FS HV Cap. 40uf 6KV

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <116239912wnr@ifwtech.demon.co.uk>
Source record: 112696

Dave Kirkby G8WRB writes:
:
: In article klj@crl4.crl.com, pgerba@crl.com (Peter Gerba) writes:
: > HV Cap 40uf at 6KV non PCB, new Condx. $200 + shipping.
: >
: > Shipping Wt. about 25 Lbs.
: >
: > pete
: > pgerba@crl.com
:
: Those sort of things look attractive for tube amp PSU's, but I've been told they are
: not designed for the ripple of a 50/60Hz supply, so fail quickly if used in that
: service.
:
: I dont know the specific cap being sold - its just a general warning.

There were some plastic-dielectric HV caps around in Britain that had
this problem. They were designed for photoflash use - charge from DC,
and discharge in one big wallop - and they actually worked very well in
a HV PSU... for a time.

I had two, and each one lasted between one and two years before failing
internally short-circuit (resistance too low to measure).

The commonly available photoflash caps were quite compact, and thus
very attractive for PSU builders. The ones I had were much bigger,
but still broke down. One failed on standby, a few minutes after
switching on, so it was something more subtle than short-term heating
due to ripple current.

However, these aren't the same as the big old paper caps, which seem
very reliable (YMMV). There are also some very compact modern HV caps
around, which came out of TV transmitters and likewise look like a
good buy.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

2194. Nelson - Ross Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: cliff52@aol.com
Message-ID: <3q4l98$kem@newsbf02.news.aol.com>
Source record: 112697

Need info, source of info, manual, source of manual, etc. for Nelson Ross Spectrum Analyzer MF-9 mainframe, Model 235 (on plug-in and back of mainframe.) Also - anyone know of other relevant newsgroup for such a posting? --- TNX and 73 / Cliff KC4HGR

2195. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: Administrator@comsys.rockwell.COM
Message-ID: <9504268015.AA801503414@SmtpSend.comsys.rockwell.com>
Source record: 112698

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA08028; Fri, 26 May 95 08:47:32 CDT
Received: by mail.ucsd.edu; id EAA23689
sendmail 8.6.12/UCSD-2.2-sun
Fri, 26 May 1995 04:30:33 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA23676
sendmail 8.6.12/UCSD-2.2-sun
Fri, 26 May 1995 04:30:31 -0700 for ham-homebrew-ddist
Message-Id: <199505261130.EAA23676@mail.ucsd.edu>
Date: Fri, 26 May 95 04:30:28 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #153
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Fri, 26 May 95 Volume 95 : Issue 153

Today's Topics:
Bias circuits for solid state amplifiers
Emergency Beacon Corp info needed
Ham-Homebrew Digest V95 #152 (2 msgs)
homebrew (2 msgs)
Internet addresses
Need data on TA7641BP (Toshiba)
Need info on MC145146
Quality of Automobile DC power
sound cards and FFT etc.

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
```

policies or positions of any party. Your mileage may vary. So there.

Date: 23 May 1995 14:08:02 -0400
From: w8jitom@aol.com (W8JI Tom)
Subject: Bias circuits for solid state amplifiers

But remember that the bias current through the diode has to exceed the peak base current several times over or else the bias will wiggle around with drive. That will cause gain compression, splatter, and distortion (as many VHF/UHF operators living near people using diode biased amplifiers can attest to).

It is almost impossible to place enough standing current in a simple diode bias circuit for good linear SSB operation at power levels over a few watts. The best circuits use a temperature sensing device along with an active regulator.

If the transistor has a current gain of 10 at the operating frequency, and draws 20 amps of peak collector current, the bias diode would require at least 10 amps of standing current to remain relatively stable, since the peak base current would be 2 amps! The bias current tries to push the transistor into cutoff, so you sure don't want it to wiggle much.

73 Tom

Date: 23 May 1995 15:09:20 GMT
From: "Kenneth M. Gianino" <gianino@sbctri.sbc.com>
Subject: Emergency Beacon Corp info needed

In article <3prfos$n4v@bristlecone.together.net> Michael Gladu, mgladu@news.together.net writes:
>I am looking for a schematic or service manual for a EBC-144 Jr. 2 meter
>radio.
If you would like the schmatic/manual with another EBC144jr (mostly working) attached, please contact me. Attempts to e-mail you have bounced.
Ken - WB0QNA gianino@sbctri.sbc.com work (leave message):
314-529-7758
home: 314-894-1822

Date: 25 May 95 19:57:24 GMT
From: swtel@prime.COMmon.NET (Steve Lenaghan)
Subject: Ham-Homebrew Digest V95 #152

>Date: 24 May 1995 02:17:33 GMT
>From: jgrey@cyberport.cyberportal.net (Joe Grey)
>Subject: master II to rpt mod

This is all that was posted. Do you need information?
The GE Mastar II was a building block radio that lends itself to becoming a repeater.
You need to remove the antenna switching functions and add a noise squelch switch
and an audio processor to create a repeater. If you use a commercial (re QST ads) to conversion is
simple. Just add a duplexer.

Let me know if you need more details

Steve VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

Date: 25 May 95 19:57:16 GMT
From: swtel@prime.COMmon.NET (Steve Lenaghan)
Subject: Ham-Homebrew Digest V95 #152

>From: sbrymantra@aol.com (SbryMantra)
>Subject: New Wrekid Label
>
>S T R A W B E R R Y M A N T R A R E C O R D S
>
> To get zines distributed, Email us at the Email address below with a
>sample article and a description of the zine, or maybe even the whole
>zine,
>so we can make sure we want to distribute it, and if we say kuul, then
>send
>us some copies of the zine and yr in the catalog.

I have noticed the above message, obviously a bulk mail to unwilling receipients.
I returned the message in its entirity to their AOL number which will probably like CompuServe incure a 25 cent charge. I would suggest that this be used as a form
of network Moderation to discourage this kind of abuse. I have a rendering plant for sale but
you won't see it here.

73, Steve VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

Date: 25 May 1995 18:03:27 GMT
From: alross@bmera223.bnr.ca (Allan Ross)
Subject: homebrew

I would like to find some design data for building solid-state
equivalents for tubes. If anyone can point me towards any sources
of this information, I would appreciate it very much.

73 Al VE3DMR

Date: 26 May 1995 02:20:09 GMT
From: DB Wilhelm <w3fpr@nando.net>
Subject: homebrew

jackl@pinetree.microserve.com (WB3U) wrote:
>
> alross@bmera223.bnr.ca (Allan Ross) wrote:
> >I would like to find some design data for building solid-state
> >equivalents for tubes. If anyone can point me towards any sources
> >of this information, I would appreciate it very much.
> ....
> they were in. If anyone has this series, I'm also interested.
> 73,
> Jack WB3U

From the Ham Radio magazine index published Dec 1973, I found the
following:
Converting a vacuum tube receiver to solid state p. 26 Feb 69
Short circuit p. 76 Jul 69
Converting vacuum tube equipment to solid state p. 30 Aug 68
Fetrons, solid state replacemnents for tubes p. 4 Aug 72
Pentode replacement p. 70 Feb 70

I had a listing of similar stuff in QST a while back, but I don't
know where I put it. Maybe someone with access to a composite
QST index can dig it out for us. I would also like to have
the references.

A long time ago (back in the 70s) I did successfully convert a
receiver (SX-99) to all solid state. It worked like a champ
after I cured all the gremlins due to the feedback in the IF
stages. More recently I reworked an old BC band command receiver
to cover 1.5 to 2 MHz and replaced the tubes with 40673 MOSFETS
and MPF102 FETs. Works like a champ. Never did get the AGC and
product detector put into it though. Maybe someday when I have
time, but alas, no source for the 40673 - RCA quit making them.
Does anyone have a stockpile? I'm interested in about a dozen,

73,
Don W3FPR

Date: 25 May 95 19:57:20 GMT
From: swtel@prime.COMmon.NET (Steve Lenaghan)
Subject: Internet addresses

Does anyone have manufacturer's email and web addresses.

If you have any please send them to me and I will compile a list and post to this
forum and other suggested locations and well as to the contributors

73 Steve, VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

Date: Thu, 25 May 95 17:00:10 GMT
From: tyker@alfalfa.pas.rochester.edu (J. Patrick Tyker)
Subject: Need data on TA7641BP (Toshiba)

Can someone point me to a source for a data sheet on a Toshiba
AM receiver chip TA7641BP. A phone number for Toshiba sould suffice
of if you have a sheet on it and want to e-mail me some specs, that
would be great too. It is the chip in Radio Shack's Flavoradio and
I think it would be neat to convert it to the 5 MHz SW band. TNX.

tyker@pas.rochester.edu

jpt

Date: 24 May 1995 15:44:33 GMT
From: dbashaw@synoptics.com (David Bashaw)
Subject: Need info on MC145146

MC145146-1. 4-bit data bus input PLL frequency Synthesizer chip.
20-pin chip. Pin 7,8 form an oscillator and feed a 12-bit counter.
Pin 3 feeds a 10-bit counter. There is also a 7-bit counter with
a modulus control. See the description that starts on page 6-50 of
Motos CMOS/NMOS SPECIAL FUNCTION data book (published Q2/88).

If you have a fax I can send.

Dave
WA6QWL

Date: 25 May 95 19:57:00 GMT
From: swtel@prime.COMmon.NET (Steve Lenaghan)
Subject: Quality of Automobile DC power

>From: jackl@pinetree.microserve.com (WB3U)
>Subject: Quality of automobile DC power?
>
>griff@ssd.intel.com (Thomas Griffin - x7792) wrote:

>>I've heard there may be large voltage spikes on the 13.8 volt DC power in
>>an automobile due to alternator/regulator switching (or something like that).
>>Does anyone know if this is true?

I had an experience with Regency RFH252 (XL2000) mobile radios that after
they had
aged for several years became very succeptable to noise spikes on the DC line.
Recency said that some brands of alternators had a very high, 200-500 volt,
very short
duration spike. It seems the mobile cpu reacted to this spike by putting
the worst
case of alternator whine. The radios would shift frequency, over-deviate,
under-deviate
you name it. Turn of the engine, perfection.

Maintenance free batteries are a curse in this situation. Most of these
batteries
have a higher characteristic impediance to this kind of noise. Good ol'
lead acid works
just fine.

Another factor I have found in 30 years in Avionics/Land Mobile is bad grounds.
Auto engines are poorly bonded to the vehicle chassis and therfore most DC
grounds.
Measure between the alternator frame and chassis with a heavy load (heaters,
highbeams etc.)
and observe the voltage. Improve the bonding on these grounds and a lot of
your noise will vanish.
Too mush time is spent conditioning the + side of the line without
considering the negative side.

I have embarased more that a fair number of competetiors by ripping out
their "noise filters'
and cleaning an installation with bonding straps

Steve VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

Date: 25 May 95 11:52:21 GMT
From: wlfuqu00@service1.UKy.EDU (Bill Fuqua)
Subject: sound cards and FFT etc.

Some time ago I remember seeing an advertisement that had to so with
using PC compatiable sound cards to do FFT's and wave form recordings. I
can't recall the name of the company and would like to locate some of this
software.

73
Bill ko4ww

William L. Fuqua III P.E.
Department of Physics and Astronomy
CP-177 Chem. Phys. Bldg.
University of Kentucky
Lexington, Ky 40506-0055
E-mail WLFUQU00@POP.UKY.EDU
Phone (606) 257-4155

Date: Wed, 24 May 1995 14:16:11 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)

References<3pibgc$mgh@post.gsfc.nasa.gov>
<1995May20.205726.5005@ke4zv.atl.ga.us>,
<NEWTNews.801153914.5631.jwicklun@mycroftxxx.halcyon.com>
Reply-To: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Re: 300 Khz receiver for GPS differential

In article <NEWTNews.801153914.5631.jwicklun@mycroftxxx.halcyon.com> Jay
Wicklund <jwicklun@mail.halcyon.com> writes:
>>
>Don't think that's the way it works. At any one location the reading stays
>pretty constant, and if the error were really like noise it would seem like
>you could just average a lot of readings to get a more accurate fix.

In fact you *can* do just that. The SA dither is symmetrical, and if
you time average long enough, you'll come to a position fix that's at
least as good as the differential method. With a single reading in SA
mode, your accuracy is only +/- 100 meters, and if you watch closely,
succeding position plots will wander about inside that circle in a
good approximation of random order. If you average enough points, you'll
get a position fix down to under the +/- 10 meters promised by differential
GPS. (For most receivers, this variation is most easily watched by looking
at the altitude reading, which usually reads out directly in meters
above MSL.)

From a military point of view, that's fine, because all they're concerned
about is someone using a civilian GPS to guide a el cheapo cruise missile.
By the time you time average enough readings in that case, the missile
is somewhere else, so that technique doesn't pose a threat. Time averaging
is useful, however, for geodesy since you can leave the receiver at the
point you are surveying long enough to get a meaningful time average of
the readings.

Note that the receivers themselves use time averaging. While they only
update their display once a second, that update is the result of averaging
many readings internally during that second. That short an averaging
period, however, won't do better than +/- 100 meters. If you average
over several minutes to hours, however, then you start to tighten your
fix significantly.

Gary
--

Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Wed, 24 May 1995 18:20:17 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)

References<3povh4$m5q@crl3.crl.com> <1995May22.172858.14470@ke4zv.atl.ga.us>,
<3pu8i7$bnt@crl.crl.com>
Reply-To: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Re: HomeBrew Pagers

In article <3pu8i7$bnt@crl.crl.com> jeffj@crl.com (Jeff Jones) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: In article <3povh4$m5q@crl3.crl.com> jeffj@crl.com (Jeff Jones) writes:
>: >Zack Lester (zlester@athena.cs.uga.edu) wrote:
>: >: Is it possible to modify a pager to make it receive pages from ham radio
>: >: freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
>: >: I plan on having my email "beeped" to me.
>: >
>: >The only problem with this is you would be "broadcasting" and that is a
>: >no no in amateur radio. Great idea though!
>
>: No, this isn't broadcasting. Broadcasting is a transmission intended
>: for reception by the general public. This is a telemetry transmission,
>: a permitted one way transmission under the auxillary rules.
>
>I can't agree with you on this Gary. Telemetry implies information being
>broadcast from things such as a weather station or such,this is his email.

It's still a point to point transmission in a closed network of stations,
the definition of auxillary operation, and one way transmissions are
specifically authorized for auxillary operation.

>A little different. Also he could transmit over someone else and that is
>not allowed.

Unfortunately, it is not forbidden, but that's basically irrelvant
for auxillary operations. They take place on *link* frequencies that
are usually coordinated. Like any other link, such as to a voter from
a remote repeater receiver, there is no obligation in practice to check
if the frequency is in use before transmitting because the frequency
is coordinated for the auxillary station's use. Ordinary "bulletin"
stations, such as W1AW, don't listen before transmitting either, nor
do beacons, nor do telemetry links from balloons, model craft, etc.
These types of one way transmissions are specifically authorized in
the rules, and there is no requirement to even have a receiver at
the transmission point that can monitor the transmitting frequency.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

End of Ham-Homebrew Digest V95 #153
****

2196. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: kirkland@bnr.ca
Message-ID: <3q4tja$gf4@bcarh8ab.bnr.ca>
Source record: 112699

In article <1995May25.114918.64314@ucl.ac.uk>,
Dave Kirkby <davek@medphys.ucl.ac.uk> wrote:
>Like many hams, I predominately send (when I had a TX) and receive SSB. However,
>to my mind, the sound quality is not as good as an AM transmission, using a 6KHz
>bandwidth for AM. Why?
>

I don't know about AM but I do find SSB speech quality very poor.
Note: Before digital transmission SSB used to be one way of multiplexing multiple
phone calls over a telephone cable.
>My thoughts as to a possible explanation are:
>
>1) Would a typical AM signal send from very low frequencies (say 20Hz) to 3KHz,
since
>there is no point restricting the lower ends?
I doubt it. I do like the phase distortion theory that is presented in a reply
to this article. Traditionaly not much attention has been paid to the phase
distortion introduced by filters, the concern has generally been on magnitude
response. Phase is very important especially when using digital transmission
modes (QAM, PSK)
>
>2) Its very difficult to re-insert the carrier at precisely the correct frequency at
>the receiver. I've recently used a 2m transceiver as a tuneable IF for an HF receiver
>I'm biliding, The fact the tranceiver only steps in 100Hz steps definately causes
>poor quaility audio, but I've noticed this with VFO's too.

>3) Perhaps there need to re-inser the carrier at the correct amplitude, or
>in the correct phase. I've never looked at the maths to say if this is true.
>
Amplitude doesn't matter, except in obtaining proper performance of the
demoduator, i.e. too much/too little carrier power. In my text books
they always perform synchronous detection, i.e. the phase of the carrier
at the receiver is identical to that at the transmitter. If the phase
is not identical then when demodulation takes place the amplitude of
the demodulated signal is weighted by the cos/sin of the phase error.
This requires a phase tracking loop (& frequency) which greatly increases
the complexity of the receiver as opposed to a simple VFO. I have never
understood how we get rid of the "phase error" with our equipment - unless
it is done by "manually tuning in" the signal. Anyway, a resolution of
better than 10 Hz is needed to get satisfactory performance (unless using
a channelized system, e.g. like the 5 kHz steps on the 2 mtr band).

Any thoughts on the phase problem ?

Bill Kirkland

2197. Component Values for Parasitic Suppressors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3q4sns$e0e@misc1.microserve.net>
Source record: 112700

One of the projects I need to tackle soon will be to tame a parasitic oscillation in an old Gonset GSB-201 KW HF amplifier. This job was started a number of years ago, but I moved before completing the work and have not been active again until now. Any advice or comments will be appreciated.

To begin, the amplifier uses (4) 811A's in GG and the oscillation was (roughly) measured with a scope as a low-level parasitic at approximately 60-65 MHz. It is present on every band, regardless of tune or load capacitor settings. The amplifier circuit includes a (factory) non-adjustable neutralizing circuit and a parasitic suppressor at the plate lead of each tube. Grids float to allow application of DC bias, but are bypassed for RF directly at the tube sockets. I have added a small-value disc cap at each grid pin, but changes to the grid circuit do not seem to affect the parasitic to any significant degree.

This brings me to the subject of parasitic suppressors . . .

The upper frequency range of 811A's does not extend nearly as far as 3-500Z's and other later-style tubes. The upper limit for full ratings is 60 MHz, which leads me to believe that parasitics would be unlikely to occur (or to need suppression) above perhaps 70 MHz or so.

For the sake of argument, let's say that the typical suppressor in an amplifier of this type consists of 6 turns at a diameter of 0.3", and with a total length of 0.5". This provides a coil with an inductance of approximately 0.13 uH, which is wound on a 100 ohm resistor. In comparing the effect of this parallel L/R circuit at the desired and undesired frequencies, I arrive at the folowing numbers:

30 MHz 70 MHz
XL 24.0 ohms 56.1 ohms
Z 23.4 ohms 48.9 ohms

From these results, I have the following questions:

1. Given the potential for high circulating currents on the higher bands, the impedance of the network at 30 MHz seems excessive. Why is this not more of a concern in high power amplifiers?

2. The impedance of the network at 70 MHz is only a little more than twice the value at 30 MHz. If the impedance at 30 MHz does not impair the efficiency of the amplifier to a significant

degree, how can this modest increase be effective in suppressing the parasitic?

3. It has previously been suggested on this newsgroup that to resolve stubborn parasitics, a capacitor can be placed in parallel with the inductor, with the pair tuned to the undesired frequency. Given my assumption that 811A's are unlikely to oscillate above 70 MHz, should this perhaps be a routine technique for these particular tubes?

4. Again, with a capacitor in parallel, should the resistor be removed or increased in value, in order to improve the Q of the suppressor? Wouldn't this improve its rejection of the parasitic, while minimizing its effect on signals at the desired frequencies?

5. Finally, regardless of whether the resistor is removed, what type of series capacitor should be used (disc, sm etc.)? My calculations of the suppressor as an independent network indicate that resonating the coil at 60 MHz would require a 55 pf capacitor.

Thanks for taking time to read this. Any and all input on this subject will be appreciated.

73,

Jack WB3U

2198. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: mbarts@vt.edu
Message-ID: <3q510p$a3v@solaris.cc.vt.edu>
Source record: 112701

kirkland@bnr.ca (Bill Kirkland) wrote:
> Any thoughts on the phase problem ?

>Bill Kirkland

I've had the same thoughts about group delay distortion through the crystal filters used for SSB. In Saben's book on SSB he mentions that group delay distortion can result in distorted audio since speech is made up of many frequency components, if the individual frequency components do not arrive in time synch, due to group delay distortion, the result is distorted audio. That's roughly the explaination from memory. I've been wanting to get my hands on some crystal filters to measure group delay through them to get a feel for the effect. Anybody done these measurements already so I don't have to re-invent the wheel? The real question is whether or not the group delay distortion problem is on the order of the same magnitude of the non-linearities in the circuit. A friend and I have had this discussion. He thinks the circuit non-linearities are greater but I'm still waiting to be convinced.

Mike Barts
KB4NT
mbarts@vt.edu

2199. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.801505919.2125.jwicklun@mycroftxxx.halcyon.com>
Source record: 112702
Cross-posted to: rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.homebrew

> In fact you *can* do just that. The SA dither is symmetrical, and if
> you time average long enough, you'll come to a position fix that's at
> least as good as the differential method. With a single reading in SA
> mode, your accuracy is only +/- 100 meters, and if you watch closely,
> succeding position plots will wander about inside that circle in a
> good approximation of random order. If you average enough points, you'll
> get a position fix down to under the +/- 10 meters promised by differential
> GPS. (For most receivers, this variation is most easily watched by looking
> at the altitude reading, which usually reads out directly in meters
> above MSL.)

Thanks for the information, I thought that they were getting a lot trickier than that. don't know that I'll ever have occasion to make use of it, but its always better to know more than you need. I don't as yet have a GPS xcvr, but it would be nice. (just don't have a good enough need).

Have a nice day....Jay

2200. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD974z0.9nw@netcom.com>
Source record: 112703

In article <3q510p$a3v@solaris.cc.vt.edu> mbarts@vt.edu (Michael Barts) writes:
>kirkland@bnr.ca (Bill Kirkland) wrote:
>> Any thoughts on the phase problem ?
>
>>Bill Kirkland
>
>I've had the same thoughts about group delay distortion through the
>crystal filters used for SSB. In Saben's book on SSB he mentions that
>group delay distortion can result in distorted audio since speech is
>made up of many frequency components, if the individual frequency
>components do not arrive in time synch, due to group delay distortion,
>the result is distorted audio. That's roughly the explaination from
>memory.

You got it. And, this is pretty much going to happen if you use any
sort of infinite impulse response filter. Note that also the phase-shift
networks on the transmit side do not have an even phase response, and they
are also responsible for a lot of the distortion.

>I've been wanting to get my hands on some crystal filters to
>measure group delay through them to get a feel for the effect. Anybody
>done these measurements already so I don't have to re-invent the
>wheel?

Yes, there is a bunch of stuff in the IRE journals in the forties and
fifties on the subject, mostly talking about filters for AM listening
but which still should be useful. Remember that the group delay at
the edges of the passband is directly related to the slope of the
cutoff. If you think the crystal filters are bad, you should just
listen to something like the Collins receivers with the mechanical
filters. They do an amazing job of cutting out interference, but
the group delay is awful. Incidentally, has anyone out there tried
building an all-pass network on the audio output to compensate for
somet of this?

The real question is whether or not the group delay distortion
>problem is on the order of the same magnitude of the non-linearities
>in the circuit. A friend and I have had this discussion. He thinks the
>circuit non-linearities are greater but I'm still waiting to be
>convinced.

The nonlinearities are significant. The group delay distortion is
also significant. Which one is dominant depends on your transmitter
and your receiver, but with good equipment, the group delay is dominant.

Tight filters are good things in that they reduce interference, but they are bad things in that they induce phase distortion. Likewise the phasing networks on the transmitter are essential to get proper modulation, but building good ones is expensive and building perfect ones is impossible.

If you want to do a measurement on a crystal filter yourself, just get a colorburst crystal from your local TV supplier, a signal generator, and a scope, and rig it up as a series resonant filter. (Yes, I know that isn't an optimum configuration, but it's easy to do and it works well enough for a demonstration).
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

2201. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.801507634@melpar>
Source record: 112704

Those wishing to pursue the "whys" of the problem of poor fidelity in SSB voice transmission might want to consider that in FM stereo broadcasting the L-R audio is broadcast as a DSBSC (double sideband suppressed carrier) signal centered at 38 kHz. In the receiver, this DSBSC signal is demodulated (using the 19 kHz pilot tone as a frequency and phase reference) and the resulting L-R audio combined with the L+R audio from the main channel, resulting in separate L & R signals. The FCC technical standard for phase coherence between the main channel and stereophonic subchannel is +/- 3 degrees (which is satisfied by achieving a stereo separation of 29.7 dB) (Paragraph 73.322(m) of Part 73).

The key differences are (a) a DSB signal requires no filtering, and (b) in FM broadcasting a 19 kHz pilot tone is transmitted which must have a frequency accuracy of +/- 2 Hz. In addition, there is a phase-coherency requirement which is "built in" to the transmitter, and requires careful attention throughout the entire audio chain since the FCC specification applies to the entire path from microphone input to transmitter output.

As far as determining which of the two components (filter group delay or TX to RX phase incoherency) is the biggest culprit, that might be difficult to pin down. I would be tempted to try DSB with a SSB transmitter by perhaps bypassing the filter and doing an "empirical audio quality comparison." This would take filter group delay out of consideration. Trying to come up with some kind of phase-coherent detection in your average ham rig would, I suspect, be a much nastier problem to attack.

73,

Paul, K4MSG

2202. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.801509595@melpar>
Source record: 112705

mbarts@vt.edu (Michael Barts) writes:

>memory. I've been wanting to get my hands on some crystal filters to
>measure group delay through them to get a feel for the effect. Anybody
>done these measurements already so I don't have to re-invent the
>wheel? The real question is whether or not the group delay distortion
>problem is on the order of the same magnitude of the non-linearities

About 3 years ago we did a study on this problem as related to the use of VHF/UHF receivers for signal collection. We examined a number of different filter types including Gaussian, 6 and 12 dB transistional, Chebychev, Elliptic, and Equiripple Phase 0.5 degree. The last type had the best combination of group delay and ringdown characteristics (the latter being of most importance when dealing with pulse signals).

The tradeoff for the more common filter architectures is that the better the group delay and ringdown, the worse the shape factor. The Chebychev is nice and sharp but is by far the worst in terms of group delay. Since USB and LSB filters tend to have a very sharp slope on the side adjacent to the center frequency (for unwanted sideband rejection) I'm confident that their group delay characteristics are horrendous.

BTW, regarding the "tradeoff" noted above, in applications where a low ultimate rejection (<50 dB) and high insertion loss can be tolerated, a SAW filter is the best choice; near-vertical skirts and nice, flat group delay.

Of course, none of this answers the question of "what's doing the most damage".............

Paul, K4MSG

2203. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3q5852$spp@hpscit.sc.hp.com>
Source record: 112706

In article <3q510p$a3v@solaris.cc.vt.edu>, Michael Barts <mbarts@vt.edu> wrote:
>kirkland@bnr.ca (Bill Kirkland) wrote:
>> Any thoughts on the phase problem ?
>
>>Bill Kirkland
>
>I've had the same thoughts about group delay distortion through the
>crystal filters used for SSB. In Saben's book on SSB he mentions that
>group delay distortion can result in distorted audio since speech is
>made up of many frequency components, if the individual frequency
>components do not arrive in time synch, due to group delay distortion,
>the result is distorted audio. That's roughly the explaination from

The distortion from unequal group delay affects modems (which is one
reason why they have adaptive phase equalizers) but is not audible
by ear when listening to speech. What *is* audible vis a vis filters
is amplitude ripple, at least if it is bad enough.

The SSB filters the phone companies used in the old analog FDM
systems had flat amplitude response, and lots of phase distortion,
and they sounded much better than anything you hear on the air,
except for SWBC station point to point SSB links, which sound as good
as AM on a good receiver.

I suspect the main culprit is the nonlinear distortion
in the average SSB transmitter.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2204. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3q58dj$t2m@hpscit.sc.hp.com>
Source record: 112707

In article <phb.801509595@melpar>,
Paul H. Bock <phb@syseng1.melpar.esys.com> wrote:
>mbarts@vt.edu (Michael Barts) writes:
>
> BTW, regarding the "tradeoff" noted above, in applications where
>a low ultimate rejection (<50 dB) and high insertion loss can be
>tolerated, a SAW filter is the best choice; near-vertical skirts and
>nice, flat group delay.
>Paul, K4MSG

You can also do this with digital (FIR) filters. I have listened
to such FIR filters and they don't sound any better than the old
phone company analog filters, because group delay distortion is generally
inaudible. They are, of course, kinder and gentler to modems.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2205. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3q5917$6j@hpscit.sc.hp.com>
Source record: 112708

In article <kludgeD974z0.9nw@netcom.com>,
Scott Dorsey <kludge@netcom.com> wrote:

>the group delay is awful. Incidentally, has anyone out there tried
>building an all-pass network on the audio output to compensate for
>somet of this?

I once built an adjustable audio all pass network, where I could
adjust the center frequency from 20 Hz to 20 kHz. with a pot.
I put music thru it (from a decent stereo system) and listened
to it with high quality headphones. I A/B'ed the music with and
without the network at various frequency settings, and was never
able to detect any difference. I took it into work here and hooked
in up to a function generator and tried square waves, triangle waves,
etc. No audible effect. On the other hand, the waveform, as
displayed on a scope went totally nuts, as you'd expect.
I let some of the guys here try it too and they couldn't hear any
difference either.

The all pass in question was a first order type:

```
s-a
F(s) = -------
s+a
```

The conclusion is that you can't hear delay distortion. I later
found out about a JAES paper that essentially agreed with my findings.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2206. Re: Need info on MC145146

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3q57lg$ikv@abyss.West.Sun.COM>
Source record: 112709

In article <TVR.95May25022921@cnmat.CNMAT.Berkeley.EDU>,
Tovar <tvr@cnmat.CNMAT.Berkeley.EDU> wrote:
> If you don't have any books handy, try http://motserv.indirect.com. This is
> a Motorola on-line data project. (one of the links from http://www.mot.com)
> Unfortunately, it is not complete. However, one of the pages is a form to
> fill out and get an automatic FAX of any data sheet you may need. I have not
> tried that specifically, however there should also be other contacts within
> Motorola referenced there that could help.
>
>I have gotten data sheets for other chips in that series, it works very
>nicely. (Thanks, Motorola!) They also have some application notes as
>well. You might just spring for the databook if you're serious, and they
>probably have an 800 number where they can help you figure out which one
>to order.

You want to order the Communications book, DL136/D. It is very valuable,
it also includes reprints of articles and app notes on synth design.
Classic, useful stuff.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

2207. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3q5bni$t6@misc1.microserve.net>
Source record: 112710

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:

>I realsise the SSB bandwidth is less than half the AM one, but both contain only the
300-3000Hz frequencies. Sure AM takes up more space, but an AM TX just sends two
>copies of the sidebands. So SSB's more efficient use of bandwidth should not mean
>a redection in quality.

Do you mean that AM sounds better when you listen to a commercial broadcaster using a
modern receiver with a 6 KHz xtal filter, or that Amateur AM in the old days sounded
better?
I'm asking this because I agree with you, but only as it relates to the old rigs. I think
the
difference occurs for two reasons. First, older transmitters (AM) used audio filtering to
rolloff the audio outside the 300 - 3000 range. In most cases, the rolloff was *very* slow
and still had significant energy outside this band. Second, older AM receivers had a
passband much broader than 6 KHz, and with kinder, gentler rolloff than today's filters.
I can still remember how bad they sounded on AM, relatively speaking, when the crystal
filter (usually only two crystals) was activated. Try this sometime with an SX-28 and
you'll see what I mean.

>Perhaps other people disagree, but I'm convinced SSB does not sound as good as an
>amateur AM signal. Obviuosly one would not expect it to sound like a commercal AM
>signal, where the bandwidth exceeds the 300-3000Hz.

To say that it doesn't sound as good is an understatement. Personally, I find it extremely
tiring, which is just one more reason I work more CW than 'phone <g>.

>My thoughts as to a possible explanation are:
>
>1) <snip> Perhaps then the 20Hz to 300Hz information makes the signal sound better.

Yep.

>2) Its very difficult to re-insert the carrier at precisely the correct frequency at
>the receiver. <snip>
>
>3) Perhaps there need to re-inser the carrier at the correct amplitude, or
>in the correct phase. I've never looked at the maths to say if this is true.

I don't think 2) and 3) have a significant impact. As evidence of this, I recall several
friends of mine in the 60's who converted their ARC-5 transmitters to DSB and who
achieved very respectable carrier suppression. Using a receiver at the time which
couldn't even keep 100 Hz accuracy (let alone 10 Hz), I can tell you that the fidelity
of their signals was *almost* as good as standard AM.

73,

Jack WB3U

2208. Re: Component Values for Parasitic Suppressors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3q5c0k$t6@misc1.microserve.net>
Source record: 112711

Correction:

Question (5) in my previous post should read " . . . what type of *parallel* capacitor . . ."

73,

jack WB3U

2209. Re: sound cards and FFT etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <801519186snz@lfheller.demon.co.uk>
Source record: 112712

In article <199505251152.HAA23365@service1.uky.edu>
wlfuqu00@service1.UKy.EDU "Bill Fuqua" writes:

> Some time ago I remember seeing an advertisement that had to so with
> using PC compatiable sound cards to do FFT's and wave form recordings. I
> can't recall the name of the company and would like to locate some of this
> software.

It's probably Spectra Plus, Pioneer Hill Software, 24460 Mason Rd. NW,
Poulsbo, WA 98370, USA. I downloaded a demo copy of the software from
somewhere. It costs $395.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

2210. Re: High intercept, low noise amp - wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: "Charles H. Reichert" <reichert>
Message-ID: <3q5ds5$msh@newdelph.cig.mot.com>
Source record: 112713

Dave,

You can FTP a freeware Preamp program for DOS from oak.oakland.edu
located under /SimTel/msdos/hamradio under file KD9JQ_95.ZIP. You need pkunzip
(Ver 204G) to unzip.

I included a number of options you might like.

Cheers...Chuck
--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

2211. Re: Component Values for Parasitic Suppressors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3q5h4f$qb0@newsbf02.news.aol.com>
Source record: 112714

Subject: Component Values for Parasitic Suppressors?

Jack,

Some of this will be similar to something I posted under a *SB-220 heading in equipment newsgroup.

>To begin, the amplifier uses (4) 811A's in GG and the oscillation was (roughly) measured with a scope as a low-level parasitic at approximately 60-65 MHz. It is present on every band, regardless of tune or load capacitor settings.<

That is typical for tubes with long grid leads like 811's, 572's, 3-1000's, 3CX1200's , and so on.

>The amplifier circuit includes a (factory) non-adjustable neutralizing circuit and a parasitic suppressor at the plate lead of each tube. Grids float to allow application of DC bias, but are bypassed for RF directly
at the tube sockets. I have added a small-value disc cap at each grid pin, but changes to the grid circuit do not seem to affect the parasitic to any significant degree.<

Keeping the grid inductance as low as possible moves the parasitic up as high as possible in freq. The best idea is to ground the grids directly, and if they must float to use a very low inductance cap that has negligible reactance at the lowest operating frequency from each grid pin to ground. I would use a small monolithic or multi-layer chip of at least .01 mFd with "zero" lead length. It is critical that the caps series resonant freq be close to or above the tube's self neutralizing freq.

>This brings me to the subject of parasitic suppressors . . .<

>The upper frequency range of 811A's does not extend nearly as far as 3-500Z's and other later-style tubes. The upper limit for full ratings is 60 MHz, which leads me to believe that parasitics would be unlikely to occur (or to need suppression) above perhaps 70 MHz or so.<

The oscillation occurs, IF it occurs, around or just above the maximum useful frequency of the tube.

>For the sake of argument, let's say that the typical suppressor in an amplifier of this type consists of 6 turns at a diameter of 0.3", and with a total length of 0.5". This provides a coil with an inductance of approximately 0.13 uH, which is wound on a

100 ohm resistor. In comparing the effect of this parallel L/R
circuit at the desired and undesired frequencies, I arrive at the
folowing numbers:

30 MHz 70 MHz
XL 24.0 ohms 56.1 ohms
Z 23.4 ohms 48.9 ohms

From these results, I have the following questions:<

>1. Given the potential for high circulating currents on the
higher bands, the impedance of the network at 30 MHz seems
excessive. Why is this not more of a concern in high power
amplifiers?<

It is a huge concern. The anode capacitance of the tube usually
forms the bulk of the input capacitance of the tank circuit. Very high
current appears across the parasitic suppressor at ten and fifteen
meters, since it is in the path of the tank circuit circulating currents.
The ideal suppressor coil would have a very high Z at the frequency
of the parasitic, and no appreciable R or Z at the operating
frequency to prevent a loss of harmonic suppression and tank Q.

>2. The impedance of the network at 70 MHz is only a little more
than twice the value at 30 MHz. If the impedance at 30 MHz does
not impair the efficiency of the amplifier to a significant
degree, how can this modest increase be effective in suppressing
the parasitic?<

That is why the tubes mentioned above are often such headaches to
stabilize. A failure to do an analysis (like you did) can lead to some
erroneous efforts to remove parasitics, and cause some real voodoo
cures. You've analyzed and pointed out the real problem correctly
Jack, and without using gongs or sudden burst of unexplained
energy! That's something self proclaimed gurus often fail to do.
Great job, Jack. That should have been done in QST.

>3. It has previously been suggested on this newsgroup that to
resolve stubborn parasitics, a capacitor can be placed in
parallel with the inductor, with the pair tuned to the undesired
frequency. Given my assumption that 811A's are unlikely to
oscillate above 70 MHz, should this perhaps be a routine
technique for these particular tubes?<

I have a patent applied for the first method I am outlining. But two
methods can work very well.

The first is to place a capacitor in series with an inductor and series
tune the circuit at the parasitic frequency. The resistor goes in series
with this combination, and the series RLC combination goes across
a slightly larger parasitic coil in series with the anode lead. This
inductance can even be "built into" the resistor by using a
conventional carbon film or metal film resistor. The capacitor series

resonates the resistor's VHF path, and the high series reactance at the operating frequency prevents the resistor from dissipating much fundamental power. This offers a broader suppression bandwidth and improved parasitic suppressor performance.

A word of caution, cut a resistor open or inspect it on a network analyzer before using it. Most carbon and metal film resistors use a spiral winding of resistive material that decreases the effectiveness of the suppressor unless the unwanted reactance is series tuned out by a small fixed capacitor.

The second is to place a capacitor across the coil in a conventional suppressor, that will allow the use of less turns and still have a very high impedance at the parasitic frequency. This method is best if you are operating very close to the frequency of the parasitic, especially if used in conjunction with the series RLC dissipating circuit mentioned above.

>4. Again, with a capacitor in parallel, should the resistor be removed or increased in value, in order to improve the Q of the suppressor?<

No, actually the inductance should be decreased! Remember the impedance goes very high at the parallel resonant frequency, so the L doesn't need to be nearly as big. The R is determined by the ratio of the anode circuit reactance to the series R value. A higher value R works better in high impedance VHF anode paths.

> Wouldn't this improve its rejection of the parasitic, while minimizing its effect on signals at the desired frequencies?<

Yes, all of this does.

>5. Finally, regardless of whether the resistor is removed, what type of series capacitor should be used (disc, sm, etc.)? My calculations of the suppressor as an independent network indicate that resonating the coil at 60 MHz would require a 55 pF capacitor.<

Not much current or voltage appears across the suppressor if it is doing it's job and properly designed. A 500 volt DM 05 case size is generally large enough. The size would depend on the exact circuit used. The key is to make the resistor entirely dominate the anode load at the parasitic frequency, and the path to appear as a very low impedance at the highest operating frequency. The resistor can't be removed though.

This has always been my biggest problem with the use of nichrome. The nichrome coil is in the LF signal path (the coil) and has the largest effect on the signal at the operating frequency. The resistor is the path for the VHF currents and that doesn't change. Nichrome primarily lowers the Q at HF, and hardly changes it at all at UHF! Exactly the opposite of some popular claims.

73, Tom W8JI

2212. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May26.211232.6519@ke4zv.atl.ga.us>
Source record: 112715

In article <3q4tja$gf4@bcarh8ab.bnr.ca> kirkland@bnr.ca (Bill Kirkland) writes:
>>
>>2) Its very difficult to re-insert the carrier at precisely the correct frequency at
>>the receiver. I've recently used a 2m transceiver as a tuneable IF for an HF receiver
>>I'm biliding, The fact the tranceiver only steps in 100Hz steps definately causes
>>poor quaility audio, but I've noticed this with VFO's too.

Bingo! It's the frequency translation error that gets you. If you have
any frequency translation error, the harmonic relationships of the
speech (or music) components no longer line up. So instead of nice
harmonies, you have dissonance which is very grating to the ear.
It's like listening to a musical instrument that isn't tuned on a
well tempered scale.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2213. Re: Bias circuits for solid state amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkD97IA6.DsC@netcom.com>
Source record: 112716

Jay Wicklund <jwicklun@mail.halcyon.com> writes:

>> I (John Seboldt, rohrwerk@netcom.com) wrote:

>> You mention the bias diode method, and an active regulator method. I
>> think it would be better to use the active regulator, because less idle
>> current is drawn. The basic diode method is fine, but you have lots of
>> current flowing through the series resistor and diode that is not
>> destined for your transistor bases. It of course has the advantage of
>> super simplicity. But I think you'll be happier with an active regulator
>> with an adjustment pot so you can set bias to your liking; you'll get
>> less wasted DC current to boot. I'll be building up the 140 watt amp kit
>> from CCI, which uses the Motorola AN762 design.

>Don't forget, the one main advantage to using a diode to provide bias is that
>it provides temperature compensation. As the temperature of the output

>73 de KI7RH (Jay)

Addendum: Yes, you're right, Jay, and the circuit I mentioned includes a
diode junction placed right at the power transistors to do that very
thing. Probably does it better :-)

The circuit is based on the venerable 723 regulator, with added pass
transistor; the temp sensing diode is in the voltage adjustment leg.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di dah, di dah, di dah...
: Minneapolis / (sorry, Duke!)

2214. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkD97IpM.EDG@netcom.com>
Source record: 112717

The group delay of the crystal filters is one good reason; it intuitively makes sense to me. Other reasons: SSB transmitters may be less concerned with low audio distortion because they know a lot of the distortion components will end up filtered out. This is true of harmonic components, of course, but still leaves various intermodulation components audible.

Also, I'll bet many of the old AM transmitters did not filter the speech bandwidth quite as sharply as a modern filter-type SSB rig; thus a little more lows and highs creep through, despite the nominal frequency response of 300-3000 Hz.

It's a real kick to use my Campbell R2 receiver design -- the Jan. 93 QST direct conversion RX that phases out the other sideband. All the audio is low distortion -- and if you switch out the audio filters, you have a nice broad response that gently rolls off outside the speech bandwidth, making for very good zero-beat broadcast reception, and a reasonably objective evaluation tool for audioquality evaluation. I can't wait to hook up the companion T2 phasing exciter -- I could run it on AM without filters and go true hi-fi :-)

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di dah, di dah, di dah...
: Minneapolis / (sorry, Duke!)

2215. Re: 300 Khz receiver for GPS differential

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-26 00:00:00 UTC
From: mbrinkho@falcon.inetnebr.com
Message-ID: <3q5fpj$n77@duck.inetnebr.com>
Source record: 112718
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.scanner

-Knudsen,M.J. (knudsen@ihurry.ih.att.com) wrote:
: Well, guess what I just found in the Chicago area.
: A signal on 322 kHz, transmitting some kind of low-rate FSK

This is the coast guard beacon from St. Louis, MO.

: Baud rate seems to be around 100 or maybe a tad more.
: Might this be a GPS differential broadcaster?

It's MSK-ed @200bps.

--
Matt C. Brinkhoff (KB0RXC)
mbrinkho@inetnebr.com
Lincoln, Nebraska (EN10PT)

2216. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995May27.101324.9183@ke4zv.atl.ga.us>
Source record: 112620

In article <3q5852$spp@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist) writes:
>In article <3q510p$a3v@solaris.cc.vt.edu>, Michael Barts <mbarts@vt.edu> wrote:
>>
>>I've had the same thoughts about group delay distortion through the
>>crystal filters used for SSB. In Saben's book on SSB he mentions that
>>group delay distortion can result in distorted audio since speech is
>>made up of many frequency components, if the individual frequency
>>components do not arrive in time synch, due to group delay distortion,
>>the result is distorted audio. That's roughly the explaination from
>
>The distortion from unequal group delay affects modems (which is one
>reason why they have adaptive phase equalizers) but is not audible
>by ear when listening to speech. What *is* audible vis a vis filters
>is amplitude ripple, at least if it is bad enough.

Group delay is audible if it is bad enough. This is the *click-boom*
effect that plagues some loudspeaker designs, IE the path for the
high frequency components is a different length than the path for low
frequency components with the high frequency components typically
arriving first. This causes the "click" of a percussive drum strike
to arrive before the "boom" of the drum. Instead of kaboom, you hear
click <pause> boom. It's less noticable on speech, but it's there,
and adds to listener fatigue. However, the group delay through an
RF filter is so small compared to the time of an *audio* cycle
as to be insignificant. You can't hear it.

The much more serious effect for SSB is frequency mistranslation.
This causes harmonic dissonance, and the ear is very sensitive
to that. For example, a speech component that has a 16 Hz, 32 Hz,
and 64 Hz harmony, will be dissonant if the frequency translation
error is 10 Hz so that you now have the sequence 26 Hz, 42 Hz,
and 74 Hz. The tones are no longer harmonically related, and
sound dissonant to the ear. This is still noticable to the ear
at higher frequencies where the error is a smaller percentage.
You have to get the error down under a couple of Hertz for the
ear not to detect it. Otherwise, the harmonic "beat" will cause
a warble that's noticable to the ear. An example is a guitar that
is slightly out of tune, you can notice the beat even though it's
at a frequency below the audible range.

>I suspect the main culprit is the nonlinear distortion
>in the average SSB transmitter.

This is certainly a factor with amateur gear. The frequency
response of the entire chain, microphone, speech amp, compressor,

DSB generator, filter, and linear amplifiers, all have an effect on speech quality. And similarly, all the stages of the receiver also contribute. Aside from frequency mistranslation, the most striking effects occur in the audio stages at both ends. For some reason, amateur manufacturers seem to think 10% THD is a *desirable* specification for the audio sections of their radios.

One of the best things you can do to improve the fidelity of your radio is to improve and flatten the response of your audio stages. A receiver audio stage that has flat response from 20 Hz to 20,000 Hz, and that has 0.01% THD, will sound worlds better than one that is constricted and distorted, and will lead to *much* less listener fatigue. The same can be said for the transmitter audio stages. In this regard, the use of audio filters on receivers should strongly be discouraged. The group delay through such filters *is* significant compared to an audio cycle, and *is* audible. Do your selective filtering at RF where the group delay is an insignificant portion of an audio cycle.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2217. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: Administrator_at@comsys.rockwell.COM
Message-ID: <9504278015.AA801582526@SmtpSend.comsys.rockwell.com>
Source record: 112621

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA21248; Sat, 27 May 95 06:45:43 CDT
Received: by mail.ucsd.edu; id EAA07246
sendmail 8.6.12/UCSD-2.2-sun
Sat, 27 May 1995 04:30:25 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA07234
sendmail 8.6.12/UCSD-2.2-sun
Sat, 27 May 1995 04:30:22 -0700 for ham-homebrew-ddist
Message-Id: <199505271130.EAA07234@mail.ucsd.edu>
Date: Sat, 27 May 95 04:30:21 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #155
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Sat, 27 May 95 Volume 95 : Issue 155

Today's Topics:
Component Values for Parasitic Suppressors?
High intercept, low noise amp - wanted.
Painting 10 GHZ Microwave Dishes
Pkunzip problems ! (3 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------

Date: Fri, 26 May 95 15:36:36 GMT
From: jackl@pinetree.microserve.com (WB3U)
```

Subject: Component Values for Parasitic Suppressors?

One of the projects I need to tackle soon will be to tame a parasitic oscillation in an old Gonset GSB-201 KW HF amplifier. This job was started a number of years ago, but I moved before completing the work and have not been active again until now. Any advice or comments will be appreciated.

To begin, the amplifier uses (4) 811A's in GG and the oscillation was (roughly) measured with a scope as a low-level parasitic at approximately 60-65 MHz. It is present on every band, regardless of tune or load capacitor settings. The amplifier circuit includes a (factory) non-adjustable neutralizing circuit and a parasitic suppressor at the plate lead of each tube. Grids float to allow application of DC bias, but are bypassed for RF directly at the tube sockets. I have added a small-value disc cap at each grid pin, but changes to the grid circuit do not seem to affect the parasitic to any significant degree.

This brings me to the subject of parasitic suppressors . . .

The upper frequency range of 811A's does not extend nearly as far as 3-500Z's and other later-style tubes. The upper limit for full ratings is 60 MHz, which leads me to believe that parasitics would be unlikely to occur (or to need suppression) above perhaps 70 MHz or so.

For the sake of argument, let's say that the typical suppressor in an amplifier of this type consists of 6 turns at a diameter of 0.3", and with a total length of 0.5". This provides a coil with an inductance of approximately 0.13 uH, which is wound on a 100 ohm resistor. In comparing the effect of this parallel L/R circuit at the desired and undesired frequencies, I arrive at the folowing numbers:

30 MHz 70 MHz
XL 24.0 ohms 56.1 ohms
Z 23.4 ohms 48.9 ohms

From these results, I have the following questions:

1. Given the potential for high circulating currents on the higher bands, the impedance of the network at 30 MHz seems excessive. Why is this not more of a concern in high power amplifiers?

2. The impedance of the network at 70 MHz is only a little more than twice the value at 30 MHz. If the impedance at 30 MHz does not impair the efficiency of the amplifier to a significant degree, how can this modest increase be effective in suppressing the parasitic?

3. It has previously been suggested on this newsgroup that to resolve stubborn parasitics, a capacitor can be placed in parallel with the inductor, with the pair tuned to the undesired frequency. Given my assumption that 811A's are unlikely to oscillate above 70 MHz, should this perhaps be a routine technique for these particular tubes?

4. Again, with a capacitor in parallel, should the resistor be removed or increased in value, in order to improve the Q of the suppressor? Wouldn't this improve its rejection of the parasitic, while minimizing its effect on signals at the desired frequencies?

5. Finally, regardless of whether the resistor is removed, what type of series capacitor should be used (disc, sm etc.)? My calculations of the suppressor as an independent network indicate that resonating the coil at 60 MHz would require a 55 pf capacitor.

Thanks for taking time to read this. Any and all input on this subject will be appreciated.

73,

Jack WB3U

Date: 26 May 1995 20:32:05 GMT
From: "Charles H. Reichert" <reichert@ucsd.edu>
Subject: High intercept, low noise amp - wanted.

Dave,

You can FTP a freeware Preamp program for DOS from oak.oakland.edu located under /SimTel/msdos/hamradio under file KD9JQ_95.ZIP. You need pkunzip (Ver 204G) to unzip.

I included a number of options you might like.

Cheers...Chuck
--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!

==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

Date: Thu, 25 May 1995 14:51:07 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Painting 10 GHZ Microwave Dishes

In article <212317336wnr@pacsat.demon.co.uk> slewis@pacsat.demon.co.uk writes:
>What kind of paint should I avoid when painting parabolic dishes? If
>there is such a type to avoid!

Most ordinary spray paints, such as the Krylon brand, work fine. Of course the best paints are labeled as radome paints and are properly characterized for RF use. Not cheap. The ordinary paints work nearly as well, as long as they aren't metalized. You want to avoid paints with "metalflake" because they will scatter the desired signal.

Strive for an even coat so that the dielectric constant over the face of the dish will be uniform. Painting reflectors has minimal effect on their electrical properties of interest. Painting linear elements, such as yagi elements, does have an effect on their electrical length due to the change in dielectric constant from air to that of the paint. This has a shortening effect on the elements, IE resonance will occur with slightly shorter painted elements than with bare elements since paint has a dielectric constant greater than 1.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 25 May 95 03:02:21 EST
From: jkohama@mauigateway.com
Subject: Pkunzip problems !

Well at least you got it. Could it be old age??? I tell you this internet stuff get crazy sometimes. I have a friend that has an address that has some capital letters in it, so sometimes the e mail comes back to me undelivered...This stuff will just keep us all alert...73's

--
>>>> Maui Gateway - 808-875-4188, 808-874-1238, or 808-879-1714 <<<<
Telnet, FTP or World Wide Web ---> mauigateway.com
Satellite imaging of Hawaii, shareware, forums, chat, USA Today News, Maui Marketplace of products from Hawaii. Call us soon!!!

Date: Thu, 25 May 95 03:02:21 EST
From: jkohama@mauigateway.com
Subject: Pkunzip problems !

Haven't had any problems yet. I can see you are using the lastest
version. When you transfered the file did you set the transfer to bin
first? Because if not then it would be screwed up. I'll try to unzip the
attached file later it seems it has not been approved for download as of
yet....bxk

--
>>>> Maui Gateway - 808-875-4188, 808-874-1238, or 808-879-1714 <<<<
Telnet, FTP or World Wide Web ---> mauigateway.com
Satellite imaging of Hawaii, shareware, forums, chat, USA Today News, Maui
Marketplace of products from Hawaii. Call us soon!!!

Date: Thu, 25 May 95 03:02:21 EST
From: kh6ijs@mauigateway.com
Subject: Pkunzip problems !

Jayson,
Have you had any problems unzipping files you FTPed ? I am
having problems only recently with zipped files from SimTel and Western
Digital. All are zipped files and not gzipped. Tell me what you know
if anything. I am using version 2.04g of pkunzip.
I will attatche a copy of a zipped file that I am unable to
unzip. Try see if you can unzip it, thanks..... ijs

--
>>>> Maui Gateway - 808-875-4188, 808-874-1238, or 808-879-1714 <<<<
Telnet, FTP or World Wide Web ---> mauigateway.com
Satellite imaging of Hawaii, shareware, forums, chat, USA Today News, Maui
Marketplace of products from Hawaii. Call us soon!!!

End of Ham-Homebrew Digest V95 #155
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2218. YIG spheres Where ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: ik5edy@ik5edy.ampr.org
Message-ID: <3q6van$89b@sun.uakom.sk>
Source record: 112622

Where can i find YIG spheres in small quantities ????

2219. Re: Painting 10 GHZ Microwave Dishes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD98qFJ.DHw@netcom.com>
Source record: 112623

In article <1995May25.145107.28496@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>In article <212317336wnr@pacsat.demon.co.uk> slewis@pacsat.demon.co.uk writes:
>>What kind of paint should I avoid when painting parabolic dishes? If
>>there is such a type to avoid!
>
>Most ordinary spray paints, such as the Krylon brand, work fine. Of
>course the best paints are labeled as radome paints and are properly
>characterized for RF use. Not cheap. The ordinary paints work nearly
>as well, as long as they aren't metalized. You want to avoid paints
>with "metalflake" because they will scatter the desired signal.

Also, avoid flat black paints which generally use carbon black as a
pigment. The "Barbecue black" high temperature paint is really bad news
too.
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

2220. Need help with VuData Scope manual/schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: Devarney <devarney@delphi.com>
Message-ID: <pG18M+6.devarney@delphi.com>
Source record: 112624

I am looking for a manual or schematic for a VuData model PS935A portable oscilloscope I recently purchased at a hamfest. It is not in working, so I am particularly interested in a service manaul or schematic. If anyoone has either, please contact me at DEVARNEY@delphi.com, or via packet at WE1U@KD2AJ. I am willing to pay any reasonable shipping/copying costs.
Thanks in advance,
Bob
WE1U

2221. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: Administrator_at@comsys.rockwell.COM
Message-ID: <9504278016.AA801608930@SmtpSend.comsys.rockwell.com>
Source record: 112625

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com (4.1/1.34)
id AA24813; Sat, 27 May 95 14:05:18 CDT
Received: by mail.ucsd.edu; id KAA01499
sendmail 8.6.12/UCSD-2.2-sun
Sat, 27 May 1995 10:42:21 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id KAA01486
sendmail 8.6.12/UCSD-2.2-sun
Sat, 27 May 1995 10:42:20 -0700 for ham-homebrew-ddist
Message-Id: <199505271742.KAA01486@mail.ucsd.edu>
Date: Sat, 27 May 95 10:42:19 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #156
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Sat, 27 May 95 Volume 95 : Issue 156

Today's Topics:
Component Values for Parasitic Suppressors?
INFO PSE: Idiom Press
Message not deliverable
Painting 10 GHZ Microwave Dishes
SSB - why poor sound quality?
Wanted: someone to test RF power tubes
YIG spheres Where ????

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------
```

Date: 26 May 1995 17:27:43 -0400
From: w8jitom@aol.com (W8JI Tom)
Subject: Component Values for Parasitic Suppressors?

Subject: Component Values for Parasitic Suppressors?

Jack,

Some of this will be similar to something I posted under a *SB-220 heading in equipment newsgroup.

>To begin, the amplifier uses (4) 811A's in GG and the oscillation was (roughly) measured with a scope as a low-level parasitic at approximately 60-65 MHz. It is present on every band, regardless of tune or load capacitor settings.<

That is typical for tubes with long grid leads like 811's, 572's, 3-1000's, 3CX1200's , and so on.

>The amplifier circuit includes a (factory) non-adjustable neutralizing circuit and a parasitic suppressor at the plate lead of each tube. Grids float to allow application of DC bias, but are bypassed for RF directly
at the tube sockets. I have added a small-value disc cap at each grid pin, but changes to the grid circuit do not seem to affect the parasitic to any significant degree.<

Keeping the grid inductance as low as possible moves the parasitic up as high as possible in freq. The best idea is to ground the grids directly, and if they must float to use a very low inductance cap that has negligible reactance at the lowest operating frequency from each grid pin to ground. I would use a small monolithic or multi-layer chip of at least .01 mFd with "zero" lead length. It is critical that the caps series resonant freq be close to or above the tube's self neutralizing freq.

>This brings me to the subject of parasitic suppressors . . .<

>The upper frequency range of 811A's does not extend nearly as far as 3-500Z's and other later-style tubes. The upper limit for full ratings is 60 MHz, which leads me to believe that parasitics would be unlikely to occur (or to need suppression) above perhaps 70 MHz or so.<

The oscillation occurs, IF it occurs, around or just above the maximum useful frequency of the tube.

>For the sake of argument, let's say that the typical suppressor in an amplifier of this type consists of 6 turns at a diameter of 0.3", and with a total length of 0.5". This provides a coil with an inductance of approximately 0.13 uH, which is wound on a 100 ohm resistor. In comparing the effect of this parallel L/R circuit at the desired and undesired frequencies, I arrive at the folowing numbers:

30 MHz 70 MHz
XL 24.0 ohms 56.1 ohms
Z 23.4 ohms 48.9 ohms

From these results, I have the following questions:<

>1. Given the potential for high circulating currents on the
higher bands, the impedance of the network at 30 MHz seems
excessive. Why is this not more of a concern in high power
amplifiers?<

It is a huge concern. The anode capacitance of the tube usually forms the bulk of the input capacitance of the tank circuit. Very high current appears across the parasitic suppressor at ten and fifteen meters, since it is in the path of the tank circuit circulating currents. The ideal suppressor coil would have a very high Z at the frequency of the parasitic, and no appreciable R or Z at the operating frequency to prevent a loss of harmonic suppression and tank Q.

>2. The impedance of the network at 70 MHz is only a little more
than twice the value at 30 MHz. If the impedance at 30 MHz does
not impair the efficiency of the amplifier to a significant
degree, how can this modest increase be effective in suppressing
the parasitic?<

That is why the tubes mentioned above are often such headaches to stabilize. A failure to do an analysis (like you did) can lead to some erroneous efforts to remove parasitics, and cause some real voodoo cures. You've analyzed and pointed out the real problem correctly Jack, and without using gongs or sudden burst of unexplained energy! That's something self proclaimed gurus often fail to do. Great job, Jack. That should have been done in QST.

>3. It has previously been suggested on this newsgroup that to
resolve stubborn parasitics, a capacitor can be placed in
parallel with the inductor, with the pair tuned to the undesired
frequency. Given my assumption that 811A's are unlikely to
oscillate above 70 MHz, should this perhaps be a routine
technique for these particular tubes?<

I have a patent applied for the first method I am outlining. But two methods can work very well.

The first is to place a capacitor in series with an inductor and series tune the circuit at the parasitic frequency. The resistor goes in series with this combination, and the series RLC combination goes across a slightly larger parasitic coil in series with the anode lead. This inductance can even be "built into" the resistor by using a conventional carbon film or metal film resistor. The capacitor series resonates the resistor's VHF path, and the high series reactance at the operating frequency prevents the resistor from dissipating much fundamental power. This offers a broader suppression bandwidth and improved parasitic suppressor performance.

A word of caution, cut a resistor open or inspect it on a network analyzer before using it. Most carbon and metal film resistors use a spiral winding of resistive material that decreases the effectiveness of the suppressor unless the unwanted reactance is series tuned out by a small fixed capacitor.

The second is to place a capacitor across the coil in a conventional suppressor, that will allow the use of less turns and still have a very high impedance at the parasitic frequency. This method is best if you are operating very close to the frequency of the parasitic, especially if used in conjunction with the series RLC dissipating circuit mentioned above.

>4. Again, with a capacitor in parallel, should the resistor be removed or increased in value, in order to improve the Q of the suppressor?<

No, actually the inductance should be decreased! Remember the impedance goes very high at the parallel resonant frequency, so the L doesn't need to be nearly as big. The R is determined by the ratio of the anode circuit reactance to the series R value. A higher value R works better in high impedance VHF anode paths.

> Wouldn't this improve its rejection of the parasitic, while minimizing its effect on signals at the desired frequencies?<

Yes, all of this does.

>5. Finally, regardless of whether the resistor is removed, what type of series capacitor should be used (disc, sm, etc.)? My calculations of the suppressor as an independent network indicate that resonating the coil at 60 MHz would require a 55 pF capacitor.<

Not much current or voltage appears across the suppressor if it is doing it's job and properly designed. A 500 volt DM 05 case size is generally large enough. The size would depend on the exact circuit used. The key is to make the resistor entirely dominate the anode load at the parasitic frequency, and the path to appear as a very low impedance at the highest operating frequency. The resistor can't be removed though.

This has always been my biggest problem with the use of nichrome. The nichrome coil is in the LF signal path (the coil) and has the largest effect on the signal at the operating frequency. The resistor is the path for the VHF currents and that doesn't change. Nichrome primarily lowers the Q at HF, and hardly changes it at all at UHF! Exactly the opposite of some popular claims.

73, Tom W8JI

Date: 24 May 1995 23:15:06 +0100
From: Simon Lewis <slewis@pacsat.demon.co.uk>

Subject: INFO PSE: Idiom Press

In response to Tony K4KYO's request, the following is a message I
received from Ray KV4K..... Quote'

I will type to you the exact letter as I got it from them *last week*.
I would check with you about faxing it to you but this will be quicker.
Retyped letter follows:

*****

Idiom Press Inc. MCI Mail 367-4633 TELEX 650-367-4633
P.O. Box 1025
Geyersville, CA 95441-1025

Dear friend,
Thank you for your inquiry about further information about the Super
CMOS Keyer II as described originally in the Nov. 1990 issue of QST
Magazine, and also featured in the 1992 and later editions of the Radio
Amateur's Handbook.

Although we have no brochure for this product, the keyer semi-kit
remains available as described, including the programmed IC, the PC
board, and all on board parts. The builder must supply a speaker, an
enclosure, a 100K linear taper pot, necessary input and output
connectors, and a 4.5 volt supply, usually obtained from 3 - AA
batteries. The kit now supplied does include the latest updated
software offering all features of the original keyer plus additional
features since added, as described in a later issue of QST. The kit
also comes with a complete operating manual, a circuit diagram, and a
parts placement guide for the PC board.

The price remains at $ 48.00 for US addresses, or US $ 50.00 for
overseas orders, postage paid. California residents must also add
$3.15 per kit for sales tax. Payment can be made in the form of checks
or money orders, and must be drawn against US banks. We regret we
cannot accept credit cards. Alternatively, US currency can be sent at
the sender's risk. We can assure you it will be properly handled once
received here - this is a very small business, and we are honest!

Orders are normally shipped on a once a week basis, so that may cause a
small delay in receipt of the order. If you have any questions not
covered by this letter, please do drop us a note, and please be sure
to include a self addressed stamped envelope or IRC's.

Be sure to note our new address:

Idiom Press
P.O. Box 1025
Geyersville, CA 95441-1025

73,
Idiom Press

Cynthia Savard (signed)

--
+---+
| 73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland |
| Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk |
| AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP **** |
+---+

Date: 27 May 95 12:48:01 GMT
From: Administrator_at@comsys.rockwell.COM
Subject: Message not deliverable

Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA21248; Sat, 27 May 95 06:45:43 CDT
Received: by mail.ucsd.edu; id EAA07246
sendmail 8.6.12/UCSD-2.2-sun
Sat, 27 May 1995 04:30:25 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA07234
sendmail 8.6.12/UCSD-2.2-sun
Sat, 27 May 1995 04:30:22 -0700 for ham-homebrew-ddist
Message-Id: <199505271130.EAA07234@mail.ucsd.edu>
Date: Sat, 27 May 95 04:30:21 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #155
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Sat, 27 May 95 Volume 95 : Issue 155

Today's Topics:
Component Values for Parasitic Suppressors?
High intercept, low noise amp - wanted.
Painting 10 GHZ Microwave Dishes
Pkunzip problems ! (3 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text herein consists of personal comments and does not represent the official policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 26 May 95 15:36:36 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Component Values for Parasitic Suppressors?

One of the projects I need to tackle soon will be to tame a parasitic oscillation in an old Gonset GSB-201 KW HF amplifier. This job was started a number of years ago, but I moved before completing the work and have not been active again until now. Any advice or comments will be appreciated.

To begin, the amplifier uses (4) 811A's in GG and the oscillation was (roughly) measured with a scope as a low-level parasitic at approximately 60-65 MHz. It is present on every band, regardless of tune or load capacitor settings. The amplifier circuit includes a (factory) non-adjustable neutralizing circuit and a parasitic suppressor at the plate lead of each tube. Grids float to allow application of DC bias, but are bypassed for RF directly at the tube sockets. I have added a small-value disc cap at each grid pin, but changes to the grid circuit do not seem to affect the parasitic to any significant degree.

This brings me to the subject of parasitic suppressors . . .

The upper frequency range of 811A's does not extend nearly as far as 3-500Z's and other later-style tubes. The upper limit for full ratings is 60 MHz, which leads me to believe that parasitics would be unlikely to occur (or to need suppression) above perhaps 70 MHz or so.

For the sake of argument, let's say that the typical suppressor in an amplifier of this type consists of 6 turns at a diameter of 0.3", and with a total length of 0.5". This provides a coil with an inductance of approximately 0.13 uH, which is wound on a 100 ohm resistor. In comparing the effect of this parallel L/R circuit at the desired and undesired frequencies, I arrive at the folowing numbers:

30 MHz 70 MHz
XL 24.0 ohms 56.1 ohms
Z 23.4 ohms 48.9 ohms

From these results, I have the following questions:

1. Given the potential for high circulating currents on the higher bands, the impedance of the network at 30 MHz seems excessive. Why is this not more of a concern in high power amplifiers?

2. The impedance of the network at 70 MHz is only a little more
than twice the value at 30 MHz. If the impedance at 30 MHz does
not impair the efficiency of the amplifier to a significant
degree, how can this modest increase be effective in suppressing
the parasitic?

3. It has previously been suggested on this newsgroup that to
resolve stubborn parasitics, a capacitor can be placed in
parallel with the inductor, with the pair tuned to the undesired
frequency. Given my assumption that 811A's are unlikely to
oscillate above 70 MHz, should this perhaps be a routine
technique for these particular tubes?

4. Again, with a capacitor in parallel, should the resistor be
removed or increased in value, in order to improve the Q of the
suppressor? Wouldn't this improve its rejection of the
parasitic, while minimizing its effect on signals at the desired
frequencies?

5. Finally, regardless of whether the resistor is removed, what
type of series capacitor should be used (disc, sm etc.)? My
calculations of the suppressor as an independent network indicate
that resonating the coil at 60 MHz would require a 55 pf
capacitor.

Thanks for taking time to read this. Any and all input on this subject
will be appreciated.

73,

Jack WB3U

Date: 26 May 1995 20:32:05 GMT
From: "Charles H. Reichert" <reichert@ucsd.edu>
Subject: High intercept, low noise amp - wanted.

Dave,

You can FTP a freeware Preamp program for DOS from oak.oakland.edu
located under /SimTel/msdos/hamradio under file KD9JQ_95.ZIP. You need pkunzip
(Ver 204G) to unzip.

I included a number of options you might like.

Cheers...Chuck
--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |

| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

Date: Thu, 25 May 1995 14:51:07 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Painting 10 GHZ Microwave Dishes

In article <212317336wnr@pacsat.demon.co.uk> slewis@pacsat.demon.co.uk writes:
>What kind of paint should I avoid when painting parabolic dishes? If
>there is such a type to avoid!

Most ordinary spray paints, such as the Krylon brand, work fine. Of course the best paints are labeled as radome paints and are properly characterized for RF use. Not cheap. The ordinary paints work nearly as well, as long as they aren't metalized. You want to avoid paints with "metalflake" because they will scatter the desired signal.

Strive for an even coat so that the dielectric constant over the face of the dish will be uniform. Painting reflectors has minimal effect on their electrical properties of interest. Painting linear elements, such as yagi elements, does have an effect on their electrical length due to the change in dielectric constant from air to that of the paint. This has a shortening effect on the elements, IE resonance will occur with slightly shorter painted elements than with bare elements since paint has a dielectric constant greater than 1.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 25 May 95 03:02:21 EST
From: jkohama@mauigateway.com
Subject: Pkunzip problems !

Well at least you got it. Could it be old age??? I tell you this internet stuff get crazy sometimes. I have a friend that has an address that has some capital letters in it, so sometimes the e mail comes back to me undelivered...This stuff will just keep us all alert...73's

--
>>>> Maui Gateway - 808-875-4188, 808-874-1238, or 808-879-1714 <<<<
Telnet, FTP or World Wide Web ---> mauigateway.com
Satellite imaging of Hawaii, shareware, forums, chat, USA Today News, Maui

Marketplace of products from Hawaii. Call us soon!!!

Date: Thu, 25 May 95 03:02:21 EST
From: jkohama@mauigateway.com
Subject: Pkunzip problems !

Haven't had any problems yet. I can see you are using the lastest
version. When you transfered the file did you set the transfer to bin
first? Because if not then it would be screwed up. I'll try to unzip the
attached file later it seems it has not been approved for download as of
yet....bxk

--
>>>> Maui Gateway - 808-875-4188, 808-874-1238, or 808-879-1714 <<<<
Telnet, FTP or World Wide Web ---> mauigateway.com
Satellite imaging of Hawaii, shareware, forums, chat, USA Today News, Maui
Marketplace of products from Hawaii. Call us soon!!!

Date: Thu, 25 May 95 03:02:21 EST
From: kh6ijs@mauigateway.com
Subject: Pkunzip problems !

Jayson,
Have you had any problems unzipping files you FTPed ? I am
having problems only recently with zipped files from SimTel and Western
Digital. All are zipped files and not gzipped. Tell me what you know
if anything. I am using version 2.04g of pkunzip.
I will attatche a copy of a zipped file that I am unable to
unzip. Try see if you can unzip it, thanks..... ijs

--
>>>> Maui Gateway - 808-875-4188, 808-874-1238, or 808-879-1714 <<<<
Telnet, FTP or World Wide Web ---> mauigateway.com
Satellite imaging of Hawaii, shareware, forums, chat, USA Today News, Maui
Marketplace of products from Hawaii. Call us soon!!!

End of Ham-Homebrew Digest V95 #155
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Date: 24 May 1995 23:15:06 +0100
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Subject: Painting 10 GHZ Microwave Dishes

What kind of paint should I avoid when painting parabolic dishes? If
there is such a type to avoid!

Is hammerite ok or is it too paint loaded - and what abt the hammer
finish - would that have an effect on surface reflectivity?

73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland
Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk
AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP ****
|+--+

Date: Fri, 26 May 1995 21:12:32 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: SSB - why poor sound quality?

In article <3q4tja$gf4@bcarh8ab.bnr.ca> kirkland@bnr.ca (Bill Kirkland) writes:
>>
>>2) Its very difficult to re-insert the carrier at precisely the correct frequency at
>>the receiver. I've recently used a 2m transceiver as a tuneable IF for an HF receiver
>>I'm biliding, The fact the tranceiver only steps in 100Hz steps definately causes
>>poor quaility audio, but I've noticed this with VFO's too.

Bingo! It's the frequency translation error that gets you. If you have
any frequency translation error, the harmonic relationships of the
speech (or music) components no longer line up. So instead of nice
harmonies, you have dissonance which is very grating to the ear.
It's like listening to a musical instrument that isn't tuned on a
well tempered scale.

Gary

--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Sat, 27 May 1995 07:04:56 GMT
From: ebarbour@netcom.com (Eric Barbour)
Subject: Wanted: someone to test RF power tubes

VACUUM TUBE VALLEY needs someone with experience in building
Class C tube amps. You would need to construct (or use, if you
already have one) a test box for RF power tube exercising.
This would just have a fixed plate supply and variable grid bias
to allow testing anything from 811s to 3-500zs to (perhaps) 833s.
Frequency anywhere from 10 MHz to 100 MHz, latter preferable..

You would be sent sample tubes to test and (usually) keep for
your own use. Just tabulate the peak RF output into a dummy
load of 75 ohms and note any problems (bias instability etc)
and possibly help with writing article text (most of this
would be my responsibility).

There may be some money in this, usually $100-200 for each
published article. Each article will focus on a single tube
type and have tests of various versions of it.

If interested (and serious), e-mail me.

Eric Barbour
GLASS AUDIO, VTV NEWS
ebarbour@netcom.com (408)733-6146 fax

Date: 27 May 1995 10:36:07 GMT
From: ik5edy@ik5edy.ampr.org (ik5edy)
Subject: YIG spheres Where ????

Where can i find YIG spheres in small quantities ????

Date: Fri, 26 May 1995 22:25:18 GMT
From: rohrwerk@netcom.com (John Seboldt)

References<3pqggf$5p4@ornews.intel.com> <rohrwerkD8zyq7.6LF@netcom.com>,
<NEWTNews.801240614.9207.jwicklun@mycroftxxx.halcyon.com>
Subject: Re: Bias circuits for solid state amplifiers

Jay Wicklund <jwicklun@mail.halcyon.com> writes:

>> I (John Seboldt, rohrwerk@netcom.com) wrote:

>> You mention the bias diode method, and an active regulator method. I
>> think it would be better to use the active regulator, because less idle
>> current is drawn. The basic diode method is fine, but you have lots of
>> current flowing through the series resistor and diode that is not
>> destined for your transistor bases. It of course has the advantage of
>> super simplicity. But I think you'll be happier with an active regulator
>> with an adjustment pot so you can set bias to your liking; you'll get
>> less wasted DC current to boot. I'll be building up the 140 watt amp kit
>> from CCI, which uses the Motorola AN762 design.

>Don't forget, the one main advantage to using a diode to provide bias is that
>it provides temperature compensation. As the temperature of the output

>73 de KI7RH (Jay)

Addendum: Yes, you're right, Jay, and the circuit I mentioned includes a
diode junction placed right at the power transistors to do that very
thing. Probably does it better :-)

The circuit is based on the venerable 723 regulator, with added pass
transistor; the temp sensing diode is in the voltage adjustment leg.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di dah, di dah, di dah...

: Minneapolis / (sorry, Duke!)

Date: Sat, 27 May 1995 10:13:24 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)

References<3q4tja$gf4@bcarh8ab.bnr.ca> <3q510p$a3v@solaris.cc.vt.edu>,
<3q5852$spp@hpscit.sc.hp.com>
Reply-To: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Re: SSB - why poor sound quality?

In article <3q5852$spp@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist) writes:
>In article <3q510p$a3v@solaris.cc.vt.edu>, Michael Barts <mbarts@vt.edu> wrote:
>>
>>I've had the same thoughts about group delay distortion through the
>>crystal filters used for SSB. In Saben's book on SSB he mentions that
>>group delay distortion can result in distorted audio since speech is
>>made up of many frequency components, if the individual frequency
>>components do not arrive in time synch, due to group delay distortion,
>>the result is distorted audio. That's roughly the explaination from
>
>The distortion from unequal group delay affects modems (which is one
>reason why they have adaptive phase equalizers) but is not audible
>by ear when listening to speech. What *is* audible vis a vis filters
>is amplitude ripple, at least if it is bad enough.

Group delay is audible if it is bad enough. This is the *click-boom*
effect that plagues some loudspeaker designs, IE the path for the
high frequency components is a different length than the path for low
frequency components with the high frequency components typically
arriving first. This causes the "click" of a percussive drum strike
to arrive before the "boom" of the drum. Instead of kaboom, you hear
click <pause> boom. It's less noticable on speech, but it's there,
and adds to listener fatigue. However, the group delay through an
RF filter is so small compared to the time of an *audio* cycle
as to be insignificant. You can't hear it.

The much more serious effect for SSB is frequency mistranslation.
This causes harmonic dissonance, and the ear is very sensitive
to that. For example, a speech component that has a 16 Hz, 32 Hz,
and 64 Hz harmony, will be dissonant if the frequency translation
error is 10 Hz so that you now have the sequence 26 Hz, 42 Hz,
and 74 Hz. The tones are no longer harmonically related, and
sound dissonant to the ear. This is still noticable to the ear
at higher frequencies where the error is a smaller percentage.
You have to get the error down under a couple of Hertz for the
ear not to detect it. Otherwise, the harmonic "beat" will cause
a warble that's noticable to the ear. An example is a guitar that
is slightly out of tune, you can notice the beat even though it's
at a frequency below the audible range.

>I suspect the main culprit is the nonlinear distortion
>in the average SSB transmitter.

This is certainly a factor with amateur gear. The frequency
response of the entire chain, microphone, speech amp, compressor,
DSB generator, filter, and linear amplifiers, all have an effect
on speech quality. And similarly, all the stages of the receiver
also contribute. Aside from frequency mistranslation, the most
striking effects occur in the audio stages at both ends. For some
reason, amateur manufacturers seem to think 10% THD is a *desirable*
specification for the audio sections of their radios.

One of the best things you can do to improve the fidelity of your
radio is to improve and flatten the response of your audio stages. A
receiver audio stage that has flat response from 20 Hz to 20,000 Hz,
and that has 0.01% THD, will sound worlds better than one that is
constricted and distorted, and will lead to *much* less listener
fatigue. The same can be said for the transmitter audio stages.
In this regard, the use of audio filters on receivers should
strongly be discouraged. The group delay through such filters *is*
significant compared to an audio cycle, and *is* audible. Do your
selective filtering at RF where the group delay is an insignificant
portion of an audio cycle.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

End of Ham-Homebrew Digest V95 #156
****

2222. Re: sound cards and FFT etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: Gene Mason <gmason@iadfw.net>
Message-ID: <3q7vjm$i58@news.iadfw.net>
Source record: 112626

There are lots of programs available now...I have some pgm from CD ROM's...Your best bet is to do a search on FFT or Soubd Blaster etc. Do you know how to use FTTP ? yo can search there too..I have sever and will help you if you E-MAIL me and tell me what Sound card you have...I used to be the regional Techie for Hewlett Packard FFT stuff. And still have an interest in it and would do it all the time if I could get the time. I am currently doing some research on very low freq stuff and sotimes too low for the equip as it does have filtering...Are you looking at an Astronomy applic ? Regards -Gene

2223. Remote coax switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: clinton.peebles@saloon.bcbbs.net
Message-ID: <9505270601012065@saloon.bcbbs.net>
Source record: 112627

Does anyone have plans for a remote coax switch suitable for HF bands?

Thanks.

□□□

2224. Help with Homebrew Plate Choke

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3q89bv$2lg@misc1.microserve.net>
Source record: 112628

Yesterday evening I began experimenting with construction of homebrew RF plate chokes. The object was to determine the optimum number of turns and spacing, within the constraints of minimum required inductance, in order to eliminate series resonances within the ham bands. Measurements with a GDO have produced results that I can't explain - perhaps someone can help me with this.

To begin, the form used for all my experiments is 1" diameter styrene. The windings consist of a single layer of close-wound enameled magnet wire.

The first series of chokes I wound were made of #26 wire, initially wound with 115 turns (approximately 2-1/4" long). Measurements indicated internal series resonances at 26 MHz and 35 MHz. To move the lower resonance out of the 1.8 - 30 MHz range, I gradually removed turns from the coil. By the time I was down to 80 turns (about 1-1/2" long), the lower resonance had moved up to 33 MHz.

Here's where it gets odd. Not satisfied with a resonance that was still so close to the 10 M band, I decided to try splitting the coil into two sections rather than removing more turns. So, at a point about 3/4 of the way from one end, I added a 1/2" space. The coil still had the same number of turns and was still close wound, but was now 1/2" longer than before, due to this space. To my surprise, the lower series resonance point went *down* to about 30 MHz, rather than moving up as I had planned.

I later repeated this experiment using #22 wire on the same form. With 100 turns close wound, the lowest resonance was 29 MHz. Adding a 1/2" gap at approximately the midpoint caused this to shift down to about 27 Mhz.

Does anyone know why this is happening? Isn't the series resonance supposed to be the result of coil inductance and distributed capacitance? Shouldn't both of these factors be reduced by adding a gap between the windings, and shouldn't this cause the resonant frequency to increase?

Any opinions or explanations for this will be appreciated.

73 & Thanks,

Jack WB3U

2225. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: rheiss@tuba.aix.calpoly.edu
Message-ID: <3q89fd$o2o@tuba.aix.calpoly.edu>
Source record: 112629

Nonlinear distortion doesn't necessarily sound bad. Witness the Aphex box used by professional audio engineers to add distortion to certain musical tracks before the mix. Note also that some ham transmitters are reported to have subjectively better audio with the processor turned on. The gently saturating kind of distortion is similar to that produced in the ear itself and is perceived as loud, not distorted.

Phase distortion is not audible, but may change the character of subsequent nonlinear distortion. The result may be an unfamiliar sound which is perceived as rude or ugly.

Another important kind of distortion, which I did not see mentioned, is unintentional angle modulation. The worst example is an old modulated oscillator AM rig, which has FM as well as AM. Audiophiles know about this and prefer a separate tweeter to a whizzer cone mounted on a woofer. You don't want the tweeter moving back and forth with the bass sounds and changing the delay of the treble sounds. In a transmitter we don't want microphonics or poor supply regulation to chirp one of the oscillators or reactance-modulate a narrowband amplifier. What happens to SSB theory when the transmitter carrier is not frequency and phase stable?

Nitpicking aside, I disagree that SSB has to sound bad. Like many hams I sometimes use a receiver with good audio, so I can hear the difference between transmitters. Some are at least as clear as a digital telephone connection -- am I too easily pleased? If it matters, the receiver has a broad four-pole crystal lattice filter, no synthesizer, external DC power, and cheap LM380 class-B audio output.
--
73, Rob KO6KA
rheiss@tuba.calpoly.edu

2226. PCB Programs for the PC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: mchenry@sneezy.sri.com
Message-ID: <3q8e5g$ki9@unix.sri.com>
Source record: 112630

What is the best printed circuit board (PCB) program
for the PC for less than $500? Is BoardmakerII a good program?

2227. Re: Help with Homebrew Plate Choke

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3q8mif$hd1@newsbf02.news.aol.com>
Source record: 112631

Jack, Are you measuring the resonance with the choke shorted? 73 Tom

2228. Re: Help with Homebrew Plate Choke

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: jeff@wa1hco.mv.com
Message-ID: <D99ou0.AuM@mv.mv.com>
Source record: 112632

jackl@pinetree.microserve.com (WB3U) wrote:

>Yesterday evening I began experimenting with construction of
>homebrew RF plate chokes. The object was to determine the
>optimum number of turns and spacing, within the constraints
>of minimum required inductance, in order to eliminate series
>resonances within the ham bands. Measurements with a GDO
>have produced results that I can't explain - perhaps someone
>can help me with this.
<stuff deleted>

Please describe the test setup. GDO placement, connections to choke,
etc.

jeff, wa1hco

2229. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD97sCK.8ED@netcom.com>
Source record: 112633

In article <1995May26.211232.6519@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>Bingo! It's the frequency translation error that gets you. If you have
>any frequency translation error, the harmonic relationships of the
>speech (or music) components no longer line up. So instead of nice
>harmonies, you have dissonance which is very grating to the ear.
>It's like listening to a musical instrument that isn't tuned on a
>well tempered scale.

Maybe I just don't see this as very much of a problem, since I use a continuously tuned receiver with a BFO. If the tuning isn't spot on, the frequency translation error is very audible and offensive, but even with it set perfectly, the audio quality is poor.

Now, I am assuming that there is some sort of error such that there is still not linear translation of frequencies across the band, and that with the BFO set for 1:1 translation of midrange frequencies, the high and low end may still be offset somewhat.

However, I don't have my copy of Terman handy here, or the ability to do the math without. But are we getting close here?
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

2230. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: Administrator_at@comsys.rockwell.COM
Message-ID: <9504268015.AA801553999@SmtpSend.comsys.rockwell.com>
Source record: 112634

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com (4.1/1.34)
id AA17498; Fri, 26 May 95 22:50:07 CDT
Received: by mail.ucsd.edu; id UAA27466
sendmail 8.6.12/UCSD-2.2-sun
Fri, 26 May 1995 20:09:13 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id UAA27429
sendmail 8.6.12/UCSD-2.2-sun
Fri, 26 May 1995 20:09:11 -0700 for ham-homebrew-ddist
Message-Id: <199505270309.UAA27429@mail.ucsd.edu>
Date: Fri, 26 May 95 20:09:07 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #154
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Fri, 26 May 95 Volume 95 : Issue 154

Today's Topics:
FS: HF Amplifier Parts
FS HV Cap. 40uf 6KV
High intercept, low noise amp - wanted.
HomeBrew Pagers
Jackson- where are they.
master II to rpt mod
Message not deliverable
Pkunzip problems !
Please help my son!!
SSB - why poor sound quality?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
```

policies or positions of any party. Your mileage may vary. So there.

Date: Tue, 23 May 1995 21:40:59 -0700 (PDT)
From: prosper@iadfw.net (Brent Childers)
Subject: FS: HF Amplifier Parts

I am posting the following for K4ISV, he does not have internet
access. Please reply to him via the phone number given.

73 - KI5JC

FOR SALE: Parts to build 2 X 4-1000A HF Amp. Includes tubes,
sockets, chimneys, meters, transformers, vac variables, filter caps,
etc... Everything but the cabinet, over $3K in parts.
Sell all for $1500.

Contact Bud Foster, K4ISV 1-800-467-2607

Date: Thu, 25 May 1995 12:05:23 GMT
From: davek@medphys.ucl.ac.uk (Dave Kirkby)
Subject: FS HV Cap. 40uf 6KV

In article klj@crl4.crl.com, pgerba@crl.com (Peter Gerba) writes:
> HV Cap 40uf at 6KV non PCB, new Condx. $200 + shipping.
>
> Shipping Wt. about 25 Lbs.
>
> pete
> pgerba@crl.com

Those sort of things look attractive for tube amp PSU's, but I've been told they are
not designed for the ripple of a 50/60Hz supply, so fail quickly if used in that
service.

I dont know the specific cap being sold - its just a general warning.

dave kirkby G8WRB.

Date: Thu, 25 May 1995 11:58:11 GMT
From: davek@medphys.ucl.ac.uk (Dave Kirkby)
Subject: High intercept, low noise amp - wanted.

I'm looking to build a lowish noise (2-4 dB) amp for about 70 or 100MHz
with a 3rd order output intercept of > +50dBm . Gain about 15dB.

Getting the nosie figure is easy. Getting the IP3 is easy, but getting the two
together is beyond me. Since I dont have access to NF measuring gear, I was
idealy looking for a circuit known to work. Failing that, any pointers on how
it might be done. I can measure IP3.

dave kirkby, G8WRB.

Date: Wed, 24 May 1995 18:54:14 GMT
From: aa005@torfree.net (Colin McGregor)
Subject: HomeBrew Pagers

Jeff Jones (jeffj@crl.com) wrote:
: Zack Lester (zlester@athena.cs.uga.edu) wrote:
: : Is it possible to modify a pager to make it receive pages from ham radio
: : freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
: : Isn't that close to the cb range? It sure would be nice if I could setup
: : my own personal paging service. $20 per month is way too much for a simple
: : service like this. And no I will not be using the pager for business purposes.
: : I plan on having my email "beeped" to me.

: The only problem with this is you would be "broadcasting" and that is a
: no no in amateur radio. Great idea though!

Would it under all conditions? If the person sending was an amateur, and
the person recieving was an amateur, would this not be equal to calling
CQ?

A while back I saw a number of tone only pagers for sale (cheap) at my
favorite surplus shop. I thought it would be great for the likes of ARES
to have some way to alert everyone in a group that there was trouble
regardless as to where they were... As it was I found out just enough
about these pagers to convince me that I didn't have enough time to sort
out all the problems.

Still, I do think it would be neat.

Colin McGregor VE3ZAA

Date: Thu, 25 May 1995 12:01:48 GMT
From: davek@medphys.ucl.ac.uk (Dave Kirkby)
Subject: Jackson- where are they.

Jackson ,the Cap manufacturers, have I believe moved. The phone number I have is now
no longer useable. Anyone know where they have gone to?

davek G8WRB.

Date: 24 May 1995 02:19:26 GMT
From: jgrey@cyberport.cyberportal.net (Joe Grey)
Subject: master II to rpt mod

Date: 26 May 95 14:50:01 GMT
From: Administrator@comsys.rockwell.COM

Subject: Message not deliverable

Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA08028; Fri, 26 May 95 08:47:32 CDT
Received: by mail.ucsd.edu; id EAA23689
sendmail 8.6.12/UCSD-2.2-sun
Fri, 26 May 1995 04:30:33 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA23676
sendmail 8.6.12/UCSD-2.2-sun
Fri, 26 May 1995 04:30:31 -0700 for ham-homebrew-ddist
Message-Id: <199505261130.EAA23676@mail.ucsd.edu>
Date: Fri, 26 May 95 04:30:28 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #153
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Fri, 26 May 95 Volume 95 : Issue 153

Today's Topics:
Bias circuits for solid state amplifiers
Emergency Beacon Corp info needed
Ham-Homebrew Digest V95 #152 (2 msgs)
homebrew (2 msgs)
Internet addresses
Need data on TA7641BP (Toshiba)
Need info on MC145146
Quality of Automobile DC power
sound cards and FFT etc.

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 23 May 1995 14:08:02 -0400
From: w8jitom@aol.com (W8JI Tom)
Subject: Bias circuits for solid state amplifiers

But remember that the bias current through the diode has to exceed the peak base current several times over or else the bias will wiggle around with drive. That will cause gain compression, splatter, and distortion (as many VHF/UHF operators living near people using diode biased amplifiers can attest to).

It is almost impossible to place enough standing current in a simple diode bias circuit for good linear SSB operation at power levels over a few watts. The best circuits use a temperature sensing device along with an active regulator.

If the transistor has a current gain of 10 at the operating frequency, and draws 20 amps of peak collector current, the bias diode would require at least 10 amps of standing current to remain relatively stable, since the peak base current would be 2 amps! The bias current tries to push the transistor into cutoff, so you sure don't want it to wiggle much.

73 Tom

Date: 23 May 1995 15:09:20 GMT
From: "Kenneth M. Gianino" <gianino@sbctri.sbc.com>
Subject: Emergency Beacon Corp info needed

In article <3prfos$n4v@bristlecone.together.net> Michael Gladu, mgladu@news.together.net writes:
>I am looking for a schematic or service manual for a EBC-144 Jr. 2 meter >radio.
If you would like the schmatic/manual with another EBC144jr (mostly working) attached, please contact me. Attempts to e-mail you have bounced.
Ken - WB0QNA gianino@sbctri.sbc.com work (leave message): 314-529-7758
home: 314-894-1822

Date: 25 May 95 19:57:24 GMT
From: swtel@prime.COMmon.NET (Steve Lenaghan)
Subject: Ham-Homebrew Digest V95 #152

>Date: 24 May 1995 02:17:33 GMT
>From: jgrey@cyberport.cyberportal.net (Joe Grey)
>Subject: master II to rpt mod

This is all that was posted. Do you need information?
The GE Mastar II was a building block radio that lends itself to becoming a repeater.
You need to remove the antenna switching functions and add a noise squelch switch

and an audio processor to create a repeater. If you use a commercial (re
QST ads) to conversion is
simple. Just add a duplexer.

Let me know if you need more details

Steve VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

Date: 25 May 95 19:57:16 GMT
From: swtel@prime.COMmon.NET (Steve Lenaghan)
Subject: Ham-Homebrew Digest V95 #152

>From: sbrymantra@aol.com (SbryMantra)
>Subject: New Wrekid Label
>
>S T R A W B E R R Y M A N T R A R E C O R D S
>
> To get zines distributed, Email us at the Email address below with a
>sample article and a description of the zine, or maybe even the whole
>zine,
>so we can make sure we want to distribute it, and if we say kuul, then
>send
>us some copies of the zine and yr in the catalog.

I have noticed the above message, obviously a bulk mail to unwilling
receipients.
I returned the message in its entirity to their AOL number which will probably
like CompuServe incure a 25 cent charge. I would suggest that this be used
as a form
of network Moderation to discourage this kind of abuse. I have a rendering
plant for sale but
you won't see it here.

73, Steve VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

Date: 25 May 1995 18:03:27 GMT
From: alross@bmera223.bnr.ca (Allan Ross)
Subject: homebrew

I would like to find some design data for building solid-state
equivalents for tubes. If anyone can point me towards any sources
of this information, I would appreciate it very much.

73 Al VE3DMR

Date: 26 May 1995 02:20:09 GMT
From: DB Wilhelm <w3fpr@nando.net>
Subject: homebrew

jackl@pinetree.microserve.com (WB3U) wrote:
>
> alross@bmera223.bnr.ca (Allan Ross) wrote:
> >I would like to find some design data for building solid-state
> >equivalents for tubes. If anyone can point me towards any sources
> >of this information, I would appreciate it very much.
> ....
> they were in. If anyone has this series, I'm also interested.
> 73,
> Jack WB3U

From the Ham Radio magazine index published Dec 1973, I found the
following:
Converting a vacuum tube receiver to solid state p. 26 Feb 69
Short circuit p. 76 Jul 69
Converting vacuum tube equipment to solid state p. 30 Aug 68
Fetrons, solid state replacemnents for tubes p. 4 Aug 72
Pentode replacement p. 70 Feb 70

I had a listing of similar stuff in QST a while back, but I don't
know where I put it. Maybe someone with access to a composite
QST index can dig it out for us. I would also like to have
the references.

A long time ago (back in the 70s) I did successfully convert a
receiver (SX-99) to all solid state. It worked like a champ
after I cured all the gremlins due to the feedback in the IF
stages. More recently I reworked an old BC band command receiver
to cover 1.5 to 2 MHz and replaced the tubes with 40673 MOSFETS
and MPF102 FETs. Works like a champ. Never did get the AGC and
product detector put into it though. Maybe someday when I have
time, but alas, no source for the 40673 - RCA quit making them.
Does anyone have a stockpile? I'm interested in about a dozen,

73,
Don W3FPR

Date: 25 May 95 19:57:20 GMT
From: swtel@prime.COMmon.NET (Steve Lenaghan)
Subject: Internet addresses

Does anyone have manufacturer's email and web addresses.

If you have any please send them to me and I will compile a list and post to
this
forum and other suggested locations and well as to the contributors

73 Steve, VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

Date: Thu, 25 May 95 17:00:10 GMT
From: tyker@alfalfa.pas.rochester.edu (J. Patrick Tyker)
Subject: Need data on TA7641BP (Toshiba)

Can someone point me to a source for a data sheet on a Toshiba
AM receiver chip TA7641BP. A phone number for Toshiba sould suffice
of if you have a sheet on it and want to e-mail me some specs, that
would be great too. It is the chip in Radio Shack's Flavoradio and
I think it would be neat to convert it to the 5 MHz SW band. TNX.

tyker@pas.rochester.edu

jpt

Date: 24 May 1995 15:44:33 GMT
From: dbashaw@synoptics.com (David Bashaw)
Subject: Need info on MC145146

MC145146-1. 4-bit data bus input PLL frequency Synthesizer chip.
20-pin chip. Pin 7,8 form an oscillator and feed a 12-bit counter.
Pin 3 feeds a 10-bit counter. There is also a 7-bit counter with
a modulus control. See the description that starts on page 6-50 of
Motos CMOS/NMOS SPECIAL FUNCTION data book (published Q2/88).

If you have a fax I can send.

Dave
WA6QWL

Date: 25 May 95 19:57:00 GMT
From: swtel@prime.COMmon.NET (Steve Lenaghan)
Subject: Quality of Automobile DC power

>From: jackl@pinetree.microserve.com (WB3U)
>Subject: Quality of automobile DC power?
>
>griff@ssd.intel.com (Thomas Griffin - x7792) wrote:

>>I've heard there may be large voltage spikes on the 13.8 volt DC power in
>>an automobile due to alternator/regulator switching (or something like that).
>>Does anyone know if this is true?

I had an experience with Regency RFH252 (XL2000) mobile radios that after
they had
aged for several years became very succeptable to noise spikes on the DC line.

Recency said that some brands of alternators had a very high, 200-500 volt, very short
duration spike. It seems the mobile cpu reacted to this spike by putting the worst
case of alternator whine. The radios would shift frequency, over-deviate, under-deviate
you name it. Turn of the engine, perfection.

Maintenance free batteries are a curse in this situation. Most of these batteries
have a higher characteristic impediance to this kind of noise. Good ol' lead acid works
just fine.

Another factor I have found in 30 years in Avionics/Land Mobile is bad grounds.
Auto engines are poorly bonded to the vehicle chassis and therfore most DC grounds.
Measure between the alternator frame and chassis with a heavy load (heaters, highbeams etc.)
and observe the voltage. Improve the bonding on these grounds and a lot of your noise will vanish.
Too mush time is spent conditioning the + side of the line without considering the negative side.

I have embarased more that a fair number of competetiors by ripping out their "noise filters'
and cleaning an installation with bonding straps

Steve VE4RSL
Steve Lenaghan, Manager
Southwest Telephone,
Brandon, Manitoba, Canada

Date: 25 May 95 11:52:21 GMT
From: wlfuqu00@service1.UKy.EDU (Bill Fuqua)
Subject: sound cards and FFT etc.

Some time ago I remember seeing an advertisement that had to so with using PC compatiable sound cards to do FFT's and wave form recordings. I can't recall the name of the company and would like to locate some of this software.

73
Bill ko4ww

William L. Fuqua III P.E.
Department of Physics and Astronomy
CP-177 Chem. Phys. Bldg.
University of Kentucky
Lexington, Ky 40506-0055
E-mail WLFUQU00@POP.UKY.EDU

Phone (606) 257-4155

Date: Wed, 24 May 1995 14:16:11 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)

References<3pibgc$mgh@post.gsfc.nasa.gov>
<1995May20.205726.5005@ke4zv.atl.ga.us>,
<NEWTNews.801153914.5631.jwicklun@mycroftxxx.halcyon.com>
Reply-To: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Re: 300 Khz receiver for GPS differential

In article <NEWTNews.801153914.5631.jwicklun@mycroftxxx.halcyon.com> Jay
Wicklund <jwicklun@mail.halcyon.com> writes:
>>
>Don't think that's the way it works. At any one location the reading stays
>pretty constant, and if the error were really like noise it would seem like
>you could just average a lot of readings to get a more accurate fix.

In fact you *can* do just that. The SA dither is symmetrical, and if
you time average long enough, you'll come to a position fix that's at
least as good as the differential method. With a single reading in SA
mode, your accuracy is only +/- 100 meters, and if you watch closely,
succeding position plots will wander about inside that circle in a
good approximation of random order. If you average enough points, you'll
get a position fix down to under the +/- 10 meters promised by differential
GPS. (For most receivers, this variation is most easily watched by looking
at the altitude reading, which usually reads out directly in meters
above MSL.)

From a military point of view, that's fine, because all they're concerned
about is someone using a civilian GPS to guide a el cheapo cruise missile.
By the time you time average enough readings in that case, the missile
is somewhere else, so that technique doesn't pose a threat. Time averaging
is useful, however, for geodesy since you can leave the receiver at the
point you are surveying long enough to get a meaningful time average of
the readings.

Note that the receivers themselves use time averaging. While they only
update their display once a second, that update is the result of averaging
many readings internally during that second. That short an averaging
period, however, won't do better than +/- 100 meters. If you average
over several minutes to hours, however, then you start to tighten your
fix significantly.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Wed, 24 May 1995 18:20:17 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)

References<3povh4$m5q@crl3.crl.com> <1995May22.172858.14470@ke4zv.atl.ga.us>,
<3pu8i7$bnt@crl.crl.com>
Reply-To: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Re: HomeBrew Pagers

In article <3pu8i7$bnt@crl.crl.com> jeffj@crl.com (Jeff Jones) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: In article <3povh4$m5q@crl3.crl.com> jeffj@crl.com (Jeff Jones) writes:
>: >Zack Lester (zlester@athena.cs.uga.edu) wrote:
>: >: Is it possible to modify a pager to make it receive pages from ham radio
>: >: freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
>: >: I plan on having my email "beeped" to me.
>: >
>: >The only problem with this is you would be "broadcasting" and that is a
>: >no no in amateur radio. Great idea though!
>
>: No, this isn't broadcasting. Broadcasting is a transmission intended
>: for reception by the general public. This is a telemetry transmission,
>: a permitted one way transmission under the auxillary rules.
>
>I can't agree with you on this Gary. Telemetry implies information being
>broadcast from things such as a weather station or such,this is his email.

It's still a point to point transmission in a closed network of stations,
the definition of auxillary operation, and one way transmissions are
specifically authorized for auxillary operation.

>A little different. Also he could transmit over someone else and that is
>not allowed.

Unfortunately, it is not forbidden, but that's basically irrelvant
for auxillary operations. They take place on *link* frequencies that
are usually coordinated. Like any other link, such as to a voter from
a remote repeater receiver, there is no obligation in practice to check
if the frequency is in use before transmitting because the frequency
is coordinated for the auxillary station's use. Ordinary "bulletin"
stations, such as W1AW, don't listen before transmitting either, nor
do beacons, nor do telemetry links from balloons, model craft, etc.
These types of one way transmissions are specifically authorized in
the rules, and there is no requirement to even have a receiver at
the transmission point that can monitor the transmitting frequency.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

End of Ham-Homebrew Digest V95 #153
****

Date: Thu, 25 May 95 03:02:21 EST
From: kh6ijs@mauigateway.com
Subject: Pkunzip problems !

Eureeka ! Youu're right Jayson, I forgot to identify BIN. I have'nt
downloaded in a while and did not realize that I could download binary
files without first identifying it.....Doomo Arigato Kohatsu san.
ijs

--
>>>> Maui Gateway - 808-875-4188, 808-874-1238, or 808-879-1714 <<<<
Telnet, FTP or World Wide Web ---> mauigateway.com
Satellite imaging of Hawaii, shareware, forums, chat, USA Today News, Maui
Marketplace of products from Hawaii. Call us soon!!!

Date: 25 May 95 21:57:15 -0500
From: jhschutt@figmnt.tayloru.edu
Subject: Please help my son!!

My son is a ham and is interested in building electronic circuitry. He wants
to build a QRP rig for 40M. Can you help with the following:

1. What's your favorite source for parts? He has JDR Microdevices' catalog
and Radio Shack's catalog.

2. Do you have a favorite circuit? He's been looking in the ARRL handbook and
in QRP.

Thanks in advance!! Pls e-mail to the address below.--
____
John Robert Schutt /\ jhschutt@tayloru.edu
Taylor University- Fort Wayne //\\ (219) 456-9061
1025 W. Rudisill Blvd. ///\\\ FAX: (219) 456-2119
Fort Wayne, IN 46807 ||

Date: Thu, 25 May 1995 11:49:18 GMT
From: davek@medphys.ucl.ac.uk (Dave Kirkby)
Subject: SSB - why poor sound quality?

Like many hams, I predominately send (when I had a TX) and receive SSB. However,
to my mind, the sound quality is not as good as an AM transmission, using a 6KHz
bandwidth for AM. Why?

I realsise the SSB bandwidth is less than half the AM one, but both contain only the 300-3000Hz frequencies. Sure AM takes up more space, but an AM TX just sends two copies of the sidebands. So SSB's more efficient use of bandwidth should not mean a redection in quality.

Perhaps other people disagree, but I'm convinced SSB does not sound as good as an amateur AM signal. Obviuosly one would not expect it to sound like a commercal AM signal, where the bandwidth exceeds the 300-3000Hz.

My thoughts as to a possible explanation are:

1) Would a typical AM signal send from very low frequencies (say 20Hz) to 3KHz, since there is no point restricting the lower ends? Since although the signal takes up less bandwidth, its most unlikely anyone else can use the space between the carrier and the lower limits of the sidebands. Perhaps then the 20Hz to 300Hz information makes the signal sound better.

2) Its very difficult to re-insert the carrier at precisely the correct frequency at the receiver. I've recently used a 2m transceiver as a tuneable IF for an HF receiver I'm biliding, The fact the tranceiver only steps in 100Hz steps definately causes poor quaility audio, but I've noticed this with VFO's too.

3) Perhaps there need to re-inser the carrier at the correct amplitude, or in the correct phase. I've never looked at the maths to say if this is true.

Any thoughts?

dave kirkby G8WRB.

Date: 23 May 1995 20:18:31 -0700
From: jeffj@crl.com (Jeff Jones)

References<3pll31$2l7@hobbes.cc.uga.edu> <3povh4$m5q@crl3.crl.com>,
<1995May22.172858.14470@ke4zv.atl.ga.us>
Subject: Re: HomeBrew Pagers

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: In article <3povh4$m5q@crl3.crl.com> jeffj@crl.com (Jeff Jones) writes:
: >Zack Lester (zlester@athena.cs.uga.edu) wrote:
: >: Is it possible to modify a pager to make it receive pages from ham radio
: >: freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
: >: I plan on having my email "beeped" to me.
: >
: >The only problem with this is you would be "broadcasting" and that is a
: >no no in amateur radio. Great idea though!

: No, this isn't broadcasting. Broadcasting is a transmission intended
: for reception by the general public. This is a telemetry transmission,
: a permitted one way transmission under the auxillary rules.

I can't agree with you on this Gary. Telemetry implies information being broadcast from things such as a weather station or such,this is his email. A little different. Also he could transmit over someone else and that is

not allowed. I think it is a good idea for his pager but I just don't
think it is totally legal. If he checked that the frequency was clear,
then used his 220 meter radio to tell his computer to send the email, that
would work.

Jeff

Look at http://www.crl.com/~jeffj/home.html for information on the New Party,
list of worker owned businesses, other progressive causes and DX QSL
information. jeffj@crl.com AB6MB KPFA 94.1 Bay Area Progressive Radio!
Baseball WWW pages too!

End of Ham-Homebrew Digest V95 #154
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2231. Wanted: someone to test RF power tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: ebarbour@netcom.com
Message-ID: <ebarbourD986C8.E5v@netcom.com>
Source record: 112635

VACUUM TUBE VALLEY needs someone with experience in building
Class C tube amps. You would need to construct (or use, if you
already have one) a test box for RF power tube exercising.
This would just have a fixed plate supply and variable grid bias
to allow testing anything from 811s to 3-500zs to (perhaps) 833s.
Frequency anywhere from 10 MHz to 100 MHz, latter preferable..

You would be sent sample tubes to test and (usually) keep for
your own use. Just tabulate the peak RF output into a dummy
load of 75 ohms and note any problems (bias instability etc)
and possibly help with writing article text (most of this
would be my responsibility).

There may be some money in this, usually $100-200 for each
published article. Each article will focus on a single tube
type and have tests of various versions of it.

If interested (and serious), e-mail me.

Eric Barbour
GLASS AUDIO, VTV NEWS
ebarbour@netcom.com (408)733-6146 fax

2232. Re: Component Values for Parasitic Suppressors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3q6n29$1q6@misc1.microserve.net>
Source record: 112636

w8jitom@aol.com (W8JI Tom) wrote:
>Subject: Component Values for Parasitic Suppressors?

Thanks for the info and the kind words. Believe me, these calculations are purely for my own survival. I've learned from experience that there's a fine line between cut and try, and cut and give up.

There are a few of your answers that I don't fully understand and I'd like to go over the fine points one more time. Bear with me on this - I spent a lot of time on this amplifier during the last go 'round. I want to start the next session with my eyes open.

>Keeping the grid inductance as low as possible moves the parasitic up
>as high as possible in freq. The best idea is to ground the grids
>directly, and if they must float to use a very low inductance cap that
>has negligible reactance at the lowest operating frequency from each
>grid pin to ground. I would use a small monolithic or multi-layer
>chip of at least .01 mFd with "zero" lead length. It is critical that
>the caps series resonant freq be close to or above the tube's self
>neutralizing freq.

The original capacitors are .0047 disc ceramics with *very* short leads. To these I added 100 pf discs with even shorter leads. When you say "multi-layer chip", are you describing leadless capacitors? If so, I would worry that the stress of inserting and removing the tubes would eventually break the capacitors. These aren't the type of sockets that have pin holders riveted to the ceramic - the pins in these are free to move side-to-side like sockets for receiving tubes. Regarding the resonant frequency of the caps, doesn't the 60-70 MHz limit of the tubes allow the luxury of *moderately* greater lead lengths than would be the case for tubes like 3-500Z's?

>The ideal suppressor coil would have a very high Z at the frequency
>of the parasitic, and no appreciable R or Z at the operating
>frequency to prevent a loss of harmonic suppression and tank Q.

To me, this sounds like a suppressor that would consist of a parallel-resonant L/C network with no resistor. You later state, however, that the resistor cannot be removed. This means that perhaps I don't understand what's happening at the plate, relative to the parasitic. To help clear this up, I will describe my logic regarding this circuit as follows:

In order to reduce gain at the frequency of the parasitic, two things should be done. First, the internal feedback path must be neutralized,

and second, the external feedback path (plate to cathode or output to input) must be broken or at least impeded. The external path can be disrupted by either shunting the undesired frequency to ground, or by selectively routing undesired frequencies to a higher-impedance path.

The typical L/R parasitic suppressor attempts to do the latter, but because many types of amplifier tubes can oscillate over a fairly wide range of frequencies, the network must have a relatively low Q. This is moderately effective at suppressing the undesired frequency band, but because of the compromise between bandwidth and Q, the suppressor cannot provide significant loss to the undesired frequencies without also introducing loss to signals within the desired range.

The situation with 811A's is somewhat different, insofar as the undesired frequency band is relatively narrow due to the upper frequency limit of the tubes. Therefore, increasing the Q of the suppressor may be an effective means of reducing loss on desired frequencies, as well as providing additional attenuation of undesired oscillations.

Rather than constructing a L/R network that exhibits 23 ohms at 30 MHz and 50 ohms at 60 MHz (see previous calculations), why not increase the value of the resistor significantly (or eliminate it altogether), decrease the inductance of the suppressor coil, and add a capacitor across the coil sufficient to achieve a high Q L/C suppressor?

By way of example, say that we eliminate the resistor from the suppressor, then reduce the coil from 6 turns to 3 turns (0.032 uH). This will reduce the XL at 30 MHz from 24 ohms to only 6 ohms. If a 220 pf capacitor is now paralleled with the coil, the network will resonate at 60 MHz. Assuming a (conservative) Q of 10, the parallel resonant impedance at 60 MHz will increase from 49 ohms to approximately 120 ohms.

To go a step further, the half-power bandwidth of the suppressor would be approximately 6 Mhz, with significant suppression of undesired frequencies extending a considerable distance beyond that range. If the bandwidth *had* to be increased, a parallel resistor could be added, bearing in mind that it will reduce the impedance to undesired frequencies.

In summary, the above example reduces the impedance seen on the desired frequency from approximately 23 ohms to 6 ohms. It further increases the impedance presented to the parasitic from 49 ohms to approximately 120 ohms. The latter number could be much higher, depending on network Q, or lower if wider bandwidth is required.

BTW, now that I've done these calculations, I understand the fallacy of the nichrome. Considering how little impedance difference there is in an L/R suppressor between desired and undesired frequencies, the last thing the circuit needs is a further lowering of Q.

So, comments on the above? Is this workable, or am I misinterpreting the workings of the parasitic tank? Given the numbers I came up with previously, I'd sure like to get rid of those resistors!

73,

Jack WB3U

2233. Remote coax switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-27 00:00:00 UTC
From: clinton.peebles@saloon.bcbbs.net
Message-ID: <9506051403212167@saloon.bcbbs.net>
Source record: 112637

Does anyone have plans for a remote coax switch suitable for HF bands?

Thanks.

□□□

2234. Re: Component Values for Parasitic Suppressors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3q9e6a$lqn@newsbf02.news.aol.com>
Source record: 112638

>Subject: Component Values for Parasitic Suppressors?

>The original capacitors are .0047 disc ceramics with *very* short
>leads. To these I added 100 pf discs with even shorter leads.

100 pF may only be a change at high VHF, and not at HF or low VHF.
With the 100 pF you may have been better with long leads, so the cap
was series tuned at the parasitic frequency!

>When you say "multi-layer chip", are you describing leadless
>capacitors?

You can get them with leads. The main point is to avoid adding an
unwanted parallel resonance from the grid to the chassis. That would
aggravate instability (like the grid chokes in parallel with the grid
bypass caps in the TL-922 and SB-220 do).

>If so, I would worry that the stress of inserting and removing the
>tubes would eventually break the capacitors. These aren't the type of
>sockets that have pin holders riveted to the ceramic - the pins in
>these are free to move side-to-side like sockets for receiving tubes.

That is a problem, but you could add a flexible lead as short and as
wide as practical to eliminate the breaking problem.

>Regarding the resonant frequency of the caps, doesn't the 60-70 MHz
>limit of the tubes allow the luxury of *moderately* greater lead
>lengths than would be the case for tubes like 3-500Z's?

Ahh, that's a very good point you brought out. You've got a good
understanding of the problem!

What you say is true. But I was giving the easiest explanation and the
best "general rule". So while you probably can be a good bit less
careful with the 811's external grid lead lengths because they are so
LONG in the tube already, I wouldn't make that a habit for other tubes.
Better to make it a safe general statement that won't get someone else
in trouble.

>The ideal suppressor coil would have a very high Z at the frequency
>of the parasitic, and no appreciable R or Z at the operating
>frequency to prevent a loss of harmonic suppression and tank Q.

Read it this way...The ideal suppressor COIL (not the whole
suppressor, just the COIL) would have a very high Z at the frequency
of the parasitic. The COIL would have no appreciable INTERNAL
R (and minimal Z) at the operating frequency to prevent a loss of
harmonic suppression and tank Q. In other words the coil would look

infinitely large at the parasitic frequency, and like an absolute short at
the operating frequency. I'm not talking about the entire suppressor,
just the coil of the normal suppressor. A resistor must still be in
parallel with this coil, or there will be no VHF dampening.

>In order to reduce gain at the frequency of the parasitic, two things
>should be done. First, the internal feedback path must be neutralized,
>and second, the external feedback path (plate to cathode or output to
>input) must be broken or at least impeded. The external path can be
>disrupted by either shunting the undesired frequency to ground, or by
>selectively routing undesired frequencies to a higher-impedance path.

No, the undesired frequency must be dampened with degeneration or
dissipative loading that reduces the gain at the oscillation frequency.
The remaining (suppressor loaded) gain must be less than the amount
of regenerative feedback.

>The typical L/R parasitic suppressor attempts to do the latter, but
>because many types of amplifier tubes can oscillate over a fairly wide
>range of frequencies, the network must have a relatively low Q.

That's correct. But the circuit parameters affecting this Q are too
complicated to explain without drawings.

What it boils down to is keeping the anode lead short and wide
between the tube and the tuning capacitor, mounting and grounding the
tuning capacitor as near the tube as possible and to the same sheet
metal to ground all the RF grounds (including the grids). That lets you
use the lowest value of R, and values between 30 and 150 ohms almost
always work fine for the tubes amateur power levels require. Finally
the resistor must be the dominate thing in the anode to tank path at the
frequency where instability occurs. That requires a low reactance in
series with the R, and a high parallel reactance shunting the R.

>is moderately effective at suppressing the undesired frequency band,
>but because of the compromise between bandwidth and Q, the
>suppressor cannot provide significant loss to the undesired
>frequencies without also introducing loss to signals within the desired
>range.

That's why I suggest using tuned suppressors if the tube oscillates near
the operating frequency, shunt L / series C suppressors if the tube
oscillates at moderate distances from the operating frequency, and a
conventional suppressor if the tube oscillates a good distance above the
operating frequency.

Try your calculations again for a suppressor like this...Put a coil in
series
with the anode lead. Connect a capacitor in series with the suppressor
resistor and connect that across the coil. Now the current shift to the
resistor happens twice as fast, so the loading goes up at the square of
the frequency ratio, instead of at a linear rate. In other words, with the

coil in parallel with the R, the current shift from the coil to the R is linear, doubling the freq. will only double the circuit loading by R.

If I have a series RC circuit paralleling the suppressor's coil, the capacitive reactance can be used to decrease the impedance of the path through R as the normal suppressor coil's reactance increases with frequency. The loading increases twice as fast as with the basic suppressor, and fundamental current through the lossy R is reduced!

You can model or calculate the effects of a series RLC circuit resonant near the parasitic frequency placed in parallel with the regular suppressor coil. In severe cases you could even parallel tune the conventional coil while series tuning the dissipating RLC path at the parasitic frequency.

>The situation with 811A's is somewhat different, insofar as the
>undesired frequency band is relatively narrow due to the upper
>frequency limit of the tubes. Therefore, increasing the Q of the
>suppressor may be an effective means of reducing loss on desired
>frequencies, as well as providing additional attenuation of undesired
>oscillations.

Actually the "undesired frequency band" is usually pretty narrow with all tubes. There is usually a narrow range of frequencies where instability occurs. Remember the grid resonance *usually* dominates the frequency of the oscillation, and the anode resonance must *usually* match the grid for a problem to occur. So if we just dampen the anode at the frequency where the grid "floats", we will usually be OK. Some tubes (like 8877's) won't ever oscillate if the grid is grounded correctly no matter what is done in the anode.

>Rather than constructing a L/R network that exhibits 23 ohms at 30
>MHz and 50 ohms at 60 MHz (see previous calculations), why not
>increase the value of the resistor significantly (or eliminate it
>altogether), decrease the inductance of the suppressor coil, and add a
>capacitor across the coil sufficient to achieve a high Q L/C
>suppressor?

Because that won't suppress at all. There would be little or NO dampening loss! That would actually make it worse, because now the anode would be free to "wiggle all around and tickle the grid". You've just made an unloaded TPTG oscillator!

>By way of example, say that we eliminate the resistor from the
>suppressor, then reduce the coil from 6 turns to 3 turns (0.032 uH).
>This will reduce the XL at 30 MHz from 24 ohms to only 6 ohms. If
>a 220 pf capacitor is now paralleled with the coil, the network will
>resonate at 60 MHz. Assuming a (conservative) Q of 10, the parallel
>resonant impedance at 60 MHz will increase from 49 ohms to
>approximately 120 ohms.

I doubt if the LC network Q would be that low. But it certainly would if the LC network were loaded with a 100 ohm resistor! Anyway, even 100 ohms of series XL on 30 MHz has a negligible affect on the 10

meter performance. The problem is really keeping the lossy R out of
the circuit on 30 MHz, and keeping it in the circuit at 60 MHz or so.

>To go a step further, the half-power bandwidth of the suppressor
>would be approximately 6 Mhz, with significant suppression of
>undesired frequencies extending a considerable distance beyond that
>range. If the bandwidth *had* to be increased, a parallel resistor
>could be added, bearing in mind that it will reduce the impedance to
>undesired frequencies.

We don't want impedance, we want resistance at the undesired
frequencies. We want a "pure impedance" at the desired frequencies,
since that is non-dissipative. We just can't have that impedance so large
it upsets the tank operation or tube to tank coupling excessively.

>BTW, now that I've done these calculations, I understand the fallacy
>of the nichrome. Considering how little impedance difference there
>is in an L/R suppressor between desired and undesired frequencies,
>the last thing the circuit needs is a further lowering of Q.

Yes, and the nichrome is in the path that mostly affects the HF signal,
not the parasitic!!!!! What a bunch of hooey!

73 Tom

2235. Replacement for 40673? was Re: homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: mike@athena.mit.edu
Message-ID: <3q8enp$n7i@senator-bedfellow.MIT.EDU>
Source record: 112639

DB Wilhelm <w3fpr@nando.net> wrote:

> alas, no source for the 40673 - RCA quit making them.
> Does anyone have a stockpile? I'm interested in about a dozen,

Ditto here.

Better yet, is there a recommended replacement? I have a few
schematics for projects I'd like to try that call for the 40673, but
the only transistor cross-reference I have access to doesn't list it...

73,

Mike
N1FYO

--
Michael Decerbo -- 474 Memorial Dr Cambridge MA 02139 -- 617-225-7564

2236. Variable Center Frequency Filter???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: adam@libertynet.org
Message-ID: <adam.1.2FC7E91B@libertynet.org>
Source record: 112640

Is it possible to create a variable center frequency bandpass (or lowpass or higpass) filter?

Thanks and 73
N3RCS

2237. Re: Replacement for 40673? was Re: homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3q93r5$333@misc1.microserve.net>
Source record: 112641

>DB Wilhelm <w3fpr@nando.net> wrote:
>
> alas, no source for the 40673 - RCA quit making them.
> Does anyone have a stockpile? I'm interested in about a dozen,

There are a large number of Japanese N-Channel dual-gates that should substitute very well for this device. Audio service companies use these, mostly as replacements in FM receiver front ends.

I believe one of the common numbers we used was a 3SK140, but I've been out of the industry for a number of years. You should be able to verify a few suitable numbers with a local audio/video technician.

73,

Jack WB3U

2238. Re: Help with Homebrew Plate Choke

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3q96sb$34c@misc1.microserve.net>
Source record: 112642

jeff@wa1hco.mv.com (Jeff Millar) wrote:

> Please describe the test setup. GDO placement, connections to
> choke, etc.

Hello Jeff,

The homebrew choke is resting on a stack of papers on my desk.
Every time I remove turns, I cut off the excess wire and short the
choke with its own leads.

To roughly locate the resonances, I couple the GDO tightly to the
choke, sometimes placing it inside the form. After each point is
located, I move the GDO coil away from the choke until the dip is
barely perceptible, then re-dip. The coil of the GDO is parallel to the
choke at all times.

Frequency of the readout was verified by tuning the GDO across the
nearest ham band (in this case, 10M) and listening for the oscillator.
I left my receiver tuned to 28.0 MHz during these tests and I checked
the dial accuracy frequently.

Any ideas?

73,

Jack WB3U

2239. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3q98da$34c@misc1.microserve.net>
Source record: 112643

rheiss@tuba.aix.calpoly.edu (Robert Everitt Heiss) wrote:

>Another important kind of distortion, which I did not see mentioned, is
>unintentional angle modulation. The worst example is an old modulated
>oscillator AM rig, which has FM as well as AM. Audiophiles know about
>this and prefer a separate tweeter to a whizzer cone mounted on a
>woofer. You don't want the tweeter moving back and forth with the bass
>sounds and changing the delay of the treble sounds.

This is also known as Doppler distortion, and I strongly question whether whizzer cones suffer because of this, or rather because this type of tweeter simply can't reproduce high frequencies. Despite assertions by the "experts", I've never been convinced that this type of distortion is discernible as "bad". Some of the early planar speakers had a superb sound quality and only used a single diaphragm to cover a very wide range of frequencies. Also, microphones don't have separate elements for different frequencies - the highs are constantly modulated by the lows. As far as I'm concerned, the only reason to break up the reproducers into different units is to better match the frequency response and power handling capability of each type speaker.

>Nitpicking aside,

Not before I mention that my personal favorite is Transient Intermodulation Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .

>If it matters, the receiver has a broad four-pole crystal lattice filter,

That's why it sounds better. Now, if it only had some output tubes instead of that LM380 . . . <g>

73,

Jack WB3U

2240. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: "rocci@netaxs.com" <"Joe Rocci">
Message-ID: <3qa823$n3c@netaxs.com>
Source record: 112644

> Not before I mention that my personal favorite is Transient Intermodulation
> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>
Maybe Jack's on to something here...has anyone characterized the impulse
response of a typical SSB sideband reject filter...what do the overshoots
from fast wavefront voice peaks do to the following stages?

Joe
WA3CMQ

2241. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: "rocci@netaxs.com" <"Joe Rocci">
Message-ID: <3qa828$n3f@netaxs.com>
Source record: 112645

> Not before I mention that my personal favorite is Transient Intermodulation
> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>
Maybe Jack's on to something here...has anyone characterized the impulse
response of a typical SSB sideband reject filter...what do the overshoots
from fast wavefront voice peaks do to the following stages?

Joe
WA3CMQ

2242. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995May28.170553.23551@arrl.org>
Source record: 112646

N6RK Richard Karlquist (rkarlqu@scd.hp.com) wrote:

: I suspect the main culprit is the nonlinear distortion
: in the average SSB transmitter.

I agree with this. Since I talk with lots of hams and
have a distinctive voice, I decided to rely on voice
recognition, rather than speech processing, to help make
lots of QRP phone SS contacts. I remember getting at least
one report last year that the audio "was just like me."
I used a class A FET final to reduce IMD. It looked
awfully good on a spectrum analyzer.

As a rule of thumb, for a clean signal a SSB amp ought to
be run at under 50% of maximum output on voice peaks...
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2243. Re: Help with Homebrew Plate Choke

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3qaeri$qd1@newsbf02.news.aol.com>
Source record: 112647

Jack,

I think the error was removing turns without any idea where the resonances are formed in the choke. The distributed capacitance from one area of the choke to another, combined with the inductance leading to that point, form these series resonances.

In order to increase the series resonant frequency, turns must be removed from the area that has the largest effect on the unwanted resonance. Removing turns from any other area can cause unexpected changes.

I prefer using my network analyzer to test chokes, but I can still do the nearly same thing with two methods. The first uses a light bulb, a tee connector, and a continious frequency range transmitter, the second uses a MFJ-259 SWR analyzer (or similar).

To do the first test, I connect the radio to a dummy load through a tee connector. I mount the choke in the operating position and connect the bottom of the choke to the amplifier circuitry in the expected fashion. I do NOT connect the top of the choke to anything. I set the bandswitch to 160 or 80 meters and fully mesh the capacitors to prevent tank circuit suck-out errors.

With everything in the amplifier as close to the normal physical operating position as possible, I position the tee connector against the chassis of the amplifier. I insert a 50 to 100 mA low voltage lamp with a short leads going to the choke and a longer lead going to the center pin of the tee connector.

Apply enough RF to barely illuminate the bulb and sweep upwards in frequency until the bulb starts to glow brightly, reducing the RF level so the bulb doesn't fail as it glows brighter.

When you find a point of maximum illumination, it is a series resonant point. If you move the blade of a screwdriver along the choke you will find a point where the quickly lamp dims. That is the "hot spot" for that choke *as mounted in the actual operating position*. If you remove turns from ONLY that general area, that particular series resonance will move up in frequency rapidly. The other series resonances will move in smaller unpreditable amounts. This allows you to create a rough twisted and soldered prototype choke that you can *copy* with a single neat winding.

The same steps can be done with a MFJ-259 by connecting it between the chassis and the choke top. Follow the instrutions above by watching the SWR or impedance (called RESISTANCE) meter on the

259. The lowest SWR and impedance is the series resonant point. In this case move the screwdriver along the choke until the resonant point is indicated by a sudden increase in the SWR and impedance.

I hope this helps and was clear enough.

73 Tom

2244. QRP discussion group

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org
Message-ID: <1995May28.143404.29368@wb3ffv.ampr.org>
Source record: 112648

For the benefit of those interested in QRP who did not see the posting by Chuck Adams (K5FO) over on rec.radio.amateur.misc, there is a new home for the QRP discussion group (mailing list). It is now at lehigh.edu. If interested in signing up, send e-mail to

listserv@lehigh.edu

and in the text say

subscribe QRP-L name callsign

For example, subscribe QRP-L Mike Czuhajewski WA8MCQ. The reason for the additional info is that the system is running ListProc instead of majordomo, and when you query it for a list of everyone on the list it will give you their names and calls in addition to e-mail addresses.

IMPORTANT NEWS: The daily digest function is available, and operational, on this host. While the software at netcom.com had the digest function available, it was not implemented. If you want to get an entire days postings bundled into a single e-mail message, use the digest function. When you subscribe, you will get a welcoming message and it will contain full info on the digest and other features.

73 and Queue Our Pea DE WA8MCQ

2245. Re: Please help my son!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: Steve Pitts <stv@cnw.com>
Message-ID: <3qagf4$8c5@news.halcyon.com>
Source record: 112649

jhschutt@figmnt.tayloru.edu wrote:
>My son is a ham and is interested in building electronic circuitry. He wants
>to build a QRP rig for 40M.

John,
My favorite is the rig that Dave Benson (NN1G) designed. The NE40-40 is the rig that covers 40 Meters. Dave sells kits as Small Wonder Labs, 80 East Robbins Ave., Newington, CT 06111. The kit contains the circuit board, all onboard components. You need to provide connectors, case and a couple of pots. I was delighted with the quality of the kit that I built.

I believe that Dave does have an email address now, however I don't have it handy.

Steve Pitts, KJ7NR, FISTS 1530
stv@cnw.com

2246. Re: Component Values for Parasitic Suppressors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3qai3s$3k7@misc1.microserve.net>
Source record: 112650

w8jitom@aol.com (W8JI Tom) wrote:
>100 pF may only be a change at high VHF, and not at HF or low VHF.
>With the 100 pF you may have been better with long leads, so the cap
>was series tuned at the parasitic frequency!

Tom, this oscillation never seemed to be affected by anything I did at the grids, as though the original caps were indeed effective at bypassing all RF. This fact notwithstanding, won't the length of the grid lead inside the tube become part of the series XL of the bypass capacitor? Is there a way to estimate the inductance of the internal grid lead, so that an external cap can be more accurately tuned?

>Try your calculations again for a suppressor like this... <snip>

I'm going to attempt this with my spreadsheet, but first, I want to be sure I understand what you're saying regarding the function of the resistor in the suppressor. As you mentioned, it's difficult to go into detail without a drawing. Still, maybe if I make a few summary statements based partly on the remainder of your reply, you can tell me if I'm on the right track.

1. Neutralization may not be sufficient to suppress VHF parasitics due to the lead lengths of the neutralizing circuit. Its primary effectiveness is at lower frequencies.

2. The VHF parasitic can occur through two different feedback paths, internal and external to the tube, as I mentioned before. However, due to No. 1 above, the internal path cannot be summarily dismissed simply because neutralization has been applied. In effect, I missed this particular VHF feedback path in my previous hypothesis.

3. The external feedback path could be disrupted at VHF by using a parallel L/C suppressor with no resistor. This would present a very high impedance to the parasitic and would prevent this energy from flowing out to the remainder of the tank circuit.

4. Despite the statement in No.3 above, the internal VHF feedback path must have the resistor attached to the anode. A high impedance plate load at that frequency would allow the plate to be modulated by the natural VHF frequency of the internal G-P feedback path.

5. In order for the suppressor resistor to "load" the anode at VHF, the end opposite the anode must be attached to a point through which VHF currents can flow. This current path could be the stray capacitance to ground from the tank circuit and associated wiring, but it does not seem well-defined. This lack of definition for the VHF current path may be the reason why standard suppressor values

sometimes fail to work.

6. The ideal suppressor would pass the desired frequencies from the anode to the tank circuit with no loss, and would shunt the undesired frequencies to ground with no loss. The first requirement could be met with a parallel L/C suppressor between each anode and the tank circuit. However, the second requirement would mean a series L/C (or R/C) circuit from each anode to ground, not too practical.

Yes? No? Comments?

73,

Jack WB3U

2247. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD9B0w7.9w2@netcom.com>
Source record: 112651

In article <3qa823$n3c@netaxs.com> "rocci@netaxs.com" <Joe Rocci> writes:
>
>> Not before I mention that my personal favorite is Transient Intermodulation
>> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>>
>Maybe Jack's on to something here...has anyone characterized the impulse
>response of a typical SSB sideband reject filter...what do the overshoots
>from fast wavefront voice peaks do to the following stages?

I actually did once try measuring the impulse response of the Collins
mechanical filters, and it was so incredibly nasty that I just packed
the whole project in. You've never seen so much ringing in your life...
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

2248. Re: Help with Homebrew Plate Choke

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3qamdr$3m6@misc1.microserve.net>
Source record: 112652

w8jitom@aol.com (W8JI Tom) wrote:
>I think the error was removing turns without any idea where the
>resonances are formed in the choke. The distributed capacitance from
>one area of the choke to another, combined with the inductance leading
>to that point, form these series resonances.

<snip>

This sounds entirely plausible to me. Unfortunately, I don't have either
a general-coverage generator, or anything similar to the MFJ analyzer.
I think I'm going to have to let this one go and rely on being able to
build a continuous-winding choke. This brings up another question . . .

At one point, I had the 1" diameter choke wound with 80 turns of #26, for a
total winding length of about 1-1/2". The only resonance near the ham bands
was at 33 MHz. With a calculated inductance of 82 uH and resistance of
0.82 ohms, the Q of the choke at 30 MHz calculates to more than 18,000.
Given this number, do I need to worry about the 33 MHz resonance? Will
in-circuit operation broaden the response, or is 33 MHz far enough removed?

73,

Jack WB3U

2249. Re: YIG spheres Where ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: Visor@globalcom.net
Message-ID: <NEWTNews.5335.801712725.visor@globalcom.net.globalcom.net>
Source record: 112653

I can help you obtain a wide range of yig's as well as other such items, such as special ferrites and optical rotators.

> Where can i find YIG spheres in small quantities ????
>

2250. Re: Help with Homebrew Plate Choke

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3qb6jr$2mq@newsbf02.news.aol.com>
Source record: 112654

Jack,

You might try dipping the choke with it in place, and the top shorted to the bottom. You could watch for the dip to move as you probe the coil. I have never done that, but it sounds like it may work OK.

>At one point, I had the 1" diameter choke wound with 80 turns of #26,
>for a total winding length of about 1-1/2". The only resonance near the
>ham bands was at 33 MHz. With a calculated inductance of 82 uH and
>resistance of 0.82 ohms, the Q of the choke at 30 MHz calculates to
>more than 18,000.

But that is a dc loss resistance and an very inaccurate RF impedance. The actual Q will be much lower. You obviously aren't planning on 160 operation either. It would be blind luck if the Q was even in the hundreds

at 30 MHz. That's a guess, but it is from measuring hundreds of chokes over the years on a Boonton Q meter and an HP network analyzer. And be sure you test with the choke mounted in place. Even the screws that hold the choke in place move stuff around a lot, so don't extend them up in the choke very far. BTW, the Q will go up a lot if you space wind the choke (around one wire diameter).

You really should measure the impedance of the choke at 30 MHz. I understand the lack of enthusiasm to build a test fixture to measure one choke, since that is a construction project by itself. That is why people just cut and try. If it works they don't worry about it. Are you sure you can't easily modify your radio to transmit outside the band?

>Given this number, do I need to worry about the 33 MHz resonance?
>Will in-circuit operation broaden the response, or is 33 MHz far enough
>removed?

I would be concerned only if the choke shifted down in frequency when installed near other objects. It is really an impedance ratio and voltage problem, if the tubes operate at a high operating plate load resistance (E/I
of the RF fundamental voltage at the anode) it could become a matching complication if the choke impedance goes far below the operating plate resistance value. If the voltage across the choke is high and the impedance and Q are low, the choke may also dissipate excessive power and overheat. If the choke is at or very close to series resonance, extreme
voltages can appear across the choke and cause the choke to arc over to other objects. I've had chokes produce six or seven inch streamers with 7 kV power supplies (near series resonance)! How close? Usually within

five percent or so of the series resonant frequency. How will you know? Do the best you can and try it. Just be sure the supply is fused, that you

have a proper surge rated 20 to 50 ohm resistor in series with the HV lead, and you've gone to the bathroom, cause it's gonna make a bang if you apply power and the choke arcs to a grounded object!

73 Tom

2251. Re: Component Values for Parasitic Suppressors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3qb6jq$2mp@newsbf02.news.aol.com>
Source record: 112655

>Tom, this oscillation never seemed to be affected by anything I did at
>the grids, as though the original caps were indeed effective at
>bypassing all RF. This fact notwithstanding, won't the length of the
>grid lead inside the tube become part of the series XL of the bypass
>capacitor?

Yes. But bypasses series tuned with the grid XL will be too small at
the fundamental. It is all ready close since .0047 is 19 ohms
Xc at 1.8 MHz. That is marginal for the grid impedance of a
few hundred ohms per tube on 160. I've used that effect to effectively
bypass VHF amplifier grid leads.

>Is there a way to estimate the inductance of the internal
>grid lead, so that an external cap can be more accurately tuned?

Yes, but the details are complicated. In short, the anode to cathode
feedthrough is measured at VHF, and the grid capacitor is adjusted for
a null in the feed through power. After that is done you could add a
seperate low frequency bypass that has a high VHF impedance. The
problem is this method can create holes in the bypassing at the cross
over frequency that may destabilize the amplifier at those frequencies. I
think that method should only be used in very specific design
applications. I used it once in a third harmonic resonated class C
amplifier to acheive ~96% plate efficiency, but that was a single
frequency fixed tuned PA and it was from the screen grid to ground.

>1. Neutralization may not be sufficient to suppress VHF parasitics
>due to the lead lengths of the neutralizing circuit. Its primary
>effectiveness is at lower frequencies.

:-)

>2. The VHF parasitic can occur through two different feedback
paths,
>internal and external to the tube, as I mentioned before. However,
>due to No. 1 above, the internal path cannot be summarily dismissed
>simply because neutralization has been applied. In effect, I missed
>this particular VHF feedback path in my previous hypothesis.

:-)

>3. The external feedback path could be disrupted at VHF by using a
>parallel L/C suppressor with no resistor. This would present a very
>high impedance to the parasitic and would prevent this energy from
>flowing out to the remainder of the tank circuit.

No, the problem isn't the series resonance to the rest of the world in a good layout. The problem is a high parallel impedance at the anode of the tube allowing the plate of the tube to move around easily. The high plate load impedance increases the voltage gain at the parasitic frequency. The voltage gain is always a strong function of the anode load impedance, and goes up with a higher anode load impedance. An unloaded suppressor could aggravate this condition.

>4. Despite the statement in No.3 above, the internal VHF feedback
>path must have the resistor attached to the anode. A high impedance
>plate load at that frequency would allow the plate to be modulated by
>the natural VHF frequency of the internal G-P feedback path.

:-)

>5. In order for the suppressor resistor to "load" the anode at VHF,
>the end opposite the anode must be attached to a point through which
>VHF currents can flow. This current path could be the stray
>capacitance to ground from the tank circuit and associated wiring, but
>it does not seem well-defined. This lack of definition for the VHF
>current path may be the reason why standard suppressor values
>sometimes fail to work.

Yes, the anode path to ground must be a short, wide good VHF path!
The suppressor resistor should dominate that path.

>6. The ideal suppressor would pass the desired frequencies from the
>anode to the tank circuit with no loss, and would shunt the undesired
>frequencies to ground with no loss. The first requirement could be
>met with a parallel L/C suppressor between each anode and the tank
>circuit. However, the second requirement would mean a series L/C
(or
>R/C) circuit from each anode to ground, not too practical.

No, it always needs that load resistor in the ground path for VHF. We want to shunt those unwanted frequencies to ground with loss so the Q is low, but a low enough resistance loss so the gain stays low. Even if it
is a separate series tuned VHF path from anode to ground.

73, Tom

2252. Good 2 meter tranceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: mmc@primenet.com
Message-ID: <mmc.1.00CA46E7@primenet.com>
Source record: 112656

I'm looking for the info I need to build a tranceiver for the 2meter band I'd like to do something to rivle most commercial sets, but I need schematics does anybody know where to get them, I'd like it to have digital tuneing, maybe a PLL also 33 and/or 23 cent. would be cool! Thanks in advance.

2253. WTB: Ge Master II Already Converted to Repeater

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-28 00:00:00 UTC
From: caviccpe@postoffice.ptd.net
Message-ID: <D9B97A.6CM@postoffice.ptd.net>
Source record: 112657

I am looking for a GE Master II already converted to a repeater.
In the VHF Band. Please e-mail me if you know where I can find this or if
you can sell me one.

Thanks, Pete N2ndl Caviccpe@Postoffice.ptd.net

2254. New site

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-29 00:00:00 UTC
From: talley@tam2000.tamu.edu
Message-ID: <3qbe23$1e4@news.tamu.edu>
Source record: 112658

[No readable article body recovered]

2255. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-29 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <3qbq49$2ar@ixnews4.ix.netcom.com>
Source record: 112659

In <3qa823$n3c@netaxs.com> "rocci@netaxs.com" <Joe Rocci> writes:
>
>
>> Not before I mention that my personal favorite is Transient
Intermodulation
>> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>>
>Maybe Jack's on to something here...has anyone characterized the
impulse
>response of a typical SSB sideband reject filter...what do the
overshoots
>from fast wavefront voice peaks do to the following stages?
>
>Joe
>WA3CMQ

Some of us have been lucky enough to play with receivers using IF DSP's. When you have available highly adjustable digital IF Bandpass filters, digital demodulation, and one Hertz tuning steps, SSB sounds like a guy talking across the table (given a decent multi-thousand dollar transmitter.) In just 5 or 10 years, when IF DSP technology is affordable on any decent receiver, we will look back on this discussion and laugh about the good ole days...
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

2256. Re: HP Counter Service Manuals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-29 00:00:00 UTC
From: Gene Mason <gmason@iadfw.net>
Message-ID: <3qco8i$6ru@news.iadfw.net>
Source record: 112660

Gary, Your local H.P. office should help you. When I worked for H.P. a few years back a phone call to the office would get manuals, usually at no charge....Also, there are some good resale outlets available..in Dallas, TX try Tucker electronics. They advertize in QST, 73,s etc...E-MAIL me if you have further problems. - Gene KZ5V

2257. Re: HP Counter Service Manuals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-29 00:00:00 UTC
From: Gene Mason <gmason@iadfw.net>
Message-ID: <3qcocu$6ru@news.iadfw.net>
Source record: 112661

Gary, Your local H.P. office should help you. When I worked for
H.P. a few years back a phone call to the office would get
manuals, usually at no charge....Also, there are some good
resale outlets available..in Dallas, TX try Tucker electronics.
They advertize in QST, 73,s etc...E-MAIL me if you have further
problems.gary@vulcan.com (Gary Tennyson) wrote:
>Hi,
>
>Can anyone point me to a source for service manuals for the
>HP 5300B and HP5307A (combined unit) counter ?
>
>Regards
>.
- Gene KZ5V

2258. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-29 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <3qc7q1$6ce@news2.delphi.com>
Source record: 112662

In article <1995May25.114918.64314@ucl.ac.uk>, davek@medphys.ucl.ac.uk wrote:
>Like many hams, I predominately send (when I had a TX) and receive SSB. However,
>to my mind, the sound quality is not as good as an AM transmission, using a 6KHz
>bandwidth for AM. Why?
>
>
>I realsise the SSB bandwidth is less than half the AM one, but both contain only the
300-3000Hz frequencies. Sure AM takes up more space, but an AM TX just sends two
>copies of the sidebands. So SSB's more efficient use of bandwidth should not mean
>a redection in quality.
>
>Perhaps other people disagree, but I'm convinced SSB does not sound as good as an
>amateur AM signal. Obviuosly one would not expect it to sound like a commercal AM
>signal, where the bandwidth exceeds the 300-3000Hz.
>
>My thoughts as to a possible explanation are:
>
>1) Would a typical AM signal send from very low frequencies (say 20Hz) to 3KHz, since
>there is no point restricting the lower ends? Since although the signal takes up less
>bandwidth, its most unlikely anyone else can use the space between the carrier and the
>lower limits of the sidebands. Perhaps then the 20Hz to 300Hz information makes the
>signal sound better.
>
If you include the full audio bandwidth SSB will sound more "natural". It will
not perform as well under noisey conditions, though. As it turns out the
majority of the "intelligibility" of speech is in the higher frequencies of the
speech spectrum, above 1kHz. So if you accentuate them slightly you may get a
harsher sounding result; but, that result will cut through noise much better
than one with most of the power wasted in bass notes. Most users of SSB intend
to get their signals through rather than sound natural. "Natural sound" is an
"FM thing." (Which should bring a few people down on me I bet. {^_-})

Another thing that will degrade the "fidelity" of SSB speech is the MUCh higher
level of speech processing that is usually applied to the signals. ALC is only
part of the game. Another part performed by some radios involves clipping the
generated SSM speech and then refiltering to remove the clipping generated
frequencies outside the signal passband. This can also significantly increase
the percentage of the PEP used for the speech. Again, sounding better is not the
usual design goal. The usual design goal is intelligibility rather than
"fidelity".

A third factor is the number of hams who overdrive their rigs way beyond what is
necessary. A pegged ALC meter is NOT a sign of good operating practice. {^_-}

>2) Its very difficult to re-insert the carrier at precisely the correct frequency at
>the receiver. I've recently used a 2m transceiver as a tuneable IF for an HF receiver
>I'm biliding, The fact the tranceiver only steps in 100Hz steps definately causes
>poor quaility audio, but I've noticed this with VFO's too.
>

Over time you generate an ear for it. I have noodled out a design that would work to make the speech harmonics actually appear as harmonics of each other. But I figured this is more circuitry than is really needed, especially with modern synthesized radios. (If they are calibrated well and have good TCXOs driving them being 10Hz off is kinda "bad" at 14MHz or even 28MHz. And at 10Hz off things do not sound particularly bad. Even at 100Hz off intelligibility does not suffer much.) Reinjected carriers, even 20dB down, is a workable idea. It has never caught on because there are enough hetrodynes, sideband splatters, and other junk floating around on 20 meters, for example, without having your neighboring hams tossing in their own for good (bad?) measure.

>
>3) Perhaps there need to re-inser the carrier at the correct amplitude, or
>in the correct phase. I've never looked at the maths to say if this is true.

Depends on how "hi-fi" you want things. Again, the goal is intelligibilty not fidelity. I've performed enough tests myself and with others to know that these two concepts are at best "loosely" related and at worst inversely related.

>
>Any thoughts?
>
>
>dave kirkby G8WRB.
>
{^_^} Joanne Dow The Wizardess

2259. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-29 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <3qc7q6$6ce@news2.delphi.com>
Source record: 112663

In article <3q4tja$gf4@bcarh8ab.bnr.ca>, kirkland@bnr.ca (Bill Kirkland) wrote:
...
> Amplitude doesn't matter, except in obtaining proper performance of the
> demoduator, i.e. too much/too little carrier power. In my text books
> they always perform synchronous detection, i.e. the phase of the carrier
> at the receiver is identical to that at the transmitter. If the phase
> is not identical then when demodulation takes place the amplitude of
> the demodulated signal is weighted by the cos/sin of the phase error.
> This requires a phase tracking loop (& frequency) which greatly increases
> the complexity of the receiver as opposed to a simple VFO. I have never
> understood how we get rid of the "phase error" with our equipment - unless
> it is done by "manually tuning in" the signal. Anyway, a resolution of
> better than 10 Hz is needed to get satisfactory performance (unless using
> a channelized system, e.g. like the 5 kHz steps on the 2 mtr band).
>
> Any thoughts on the phase problem ?
>
>Bill Kirkland

Phase of the LO is not nearly the problem you'd like to make of it. I have, under strong signal conditions with neighbors, had them crank off on their audio gain, turn off speech processors, and run a more "linear" opreation. Then I have tuned carefully. When within a few Hz of their suppressed carrier things sound pretty decent. Once I toss in a little audio shaping I can make it sound pretty much like being face to face with them. This does not "get out" worth chicken droppings. Once he cranked it back up to normal things sounded much more "ham" than "broadcast." And once he turned on the processor things really went to <brown steaming stuff>. But THAT signal performed very well on 20. It cut through the interference and noise VERY well.

{^_^} Joanne Dow The Wizardess

2260. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-29 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <3qc7qc$6ce@news2.delphi.com>
Source record: 112664

In article <phb.801507634@melpar>, phb@syseng1.melpar.esys.com (Paul H. Bock) wrote:
> Those wishing to pursue the "whys" of the problem of poor fidelity
>in SSB voice transmission might want to consider that in FM stereo
>broadcasting the L-R audio is broadcast as a DSBSC (double sideband
>suppressed carrier) signal centered at 38 kHz. In the receiver, this
>DSBSC signal is demodulated (using the 19 kHz pilot tone as a frequency
>and phase reference) and the resulting L-R audio combined with the L+R
>audio from the main channel, resulting in separate L & R signals. The
>FCC technical standard for phase coherence between the main channel
>and stereophonic subchannel is +/- 3 degrees (which is satisfied by
>achieving a stereo separation of 29.7 dB) (Paragraph 73.322(m) of
>Part 73).
>
> The key differences are (a) a DSB signal requires no filtering, and
>(b) in FM broadcasting a 19 kHz pilot tone is transmitted which must have
>a frequency accuracy of +/- 2 Hz. In addition, there is a phase-coherency
>requirement which is "built in" to the transmitter, and requires careful
>attention throughout the entire audio chain since the FCC specification
>applies to the entire path from microphone input to transmitter output.
>
...
>73,
>
>Paul, K4MSG

If you play with the trigonometry involved you'll find that DSB is a *VASTLY*
different kettle of fish than SSB. With DSB a modest phase error can translate
to a significant amplitude error on demodulation. With SSB this is most
defintely not the case.

Again, the BIG difference in fidelity between point to point SSB stations, which
are basically feeds for remote "commercial" broadcasts as often as not, and that
used by the military and hams comes from the demands of the respective services.
Point to point is demanding fidelity. So they work to achieve and maintain
fidelity. They get quite poor peak to average power ratios. So their signal's
"punch" must come from BIG amplifiers and antenna systems - and a nice clear
channel. For the ham and military and other COMMUNICATIONS use (as opposed to
"broadcast" use) the operative requirement is intellgibility. Without the big I
all the fidelity in the world does you no good at all. Processing the signal to
accentuate frequencies above 1KHz a few dB can make a wonderful difference in
how you get through at the expense of making you sound slightly "odd". (Er some
call it ridiculous.)

(W6SPK is a close friend of mine in the So Cal area. He has a nice deep voice.
He has had several different radios and mikes for use on the 440MHz repeater we

often use. The closer to "arog" he sounds the worse he "punches through" the average road noise in my VW bug convertible. When he uses one of the combinations that clips off most of the bass I have no problems at all understanding what he says. But he surely does not sound "normal." And he rather DISLIKES that. {^_-})

{^_^} Joanne Dow The Wizardess

2261. Collins crystal filter spec

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-29 00:00:00 UTC
From: jlivingston@cix.compulink.co.uk
Message-ID: <D9CIJM.G24@cix.compulink.co.uk>
Source record: 112665

I have a 300 hz, 455 KHz Collins crystal filter, but no info on the thing.
Can anybody tell me :
- The source and load terminating impedances ?
- The 6:60 dB shape factor ?
- The insertion loss ?
- Pass band ripple ?

The type number is X455KF300

John Livingston jlivingston@cix.compulink.co.uk
G4FDD G-QRP 431
+44(0)904 794305 FAX +44(0)904 657778

2262. Bounced Posts - Australia Gateway ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-29 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3qd8el$4ld@misc1.microserve.net>
Source record: 112666

Has anyone else receiving the following after posting to this newsgroup?

> From: Gateway@ieaust.org.au (Gateway)
> Organization: Institution of Engineers, Australia

> Sorry. Your message could not be delivered to:
>
> rec.radio.amateur,misc (Multiple names were found at the remote site. Please
> be more specific.)

73,

Jack WB3U

2263. Virtual Electronic Swap Meet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-29 00:00:00 UTC
From: jld@westes.com
Message-ID: <jld-290595230944@204.189.34.100>
Source record: 112667

Check it out:

http://www.westes.com/

Tons of ham radio, computer and test equipment for sale.

Link to other interesting ham sites.

Have something to sell, place an ad.

Looking for that one in a million item, place an ad.

New ads daily.

2264. Ham Radio BBS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: offline@ripco.com
Message-ID: <D9DACw.AFB@rci.ripco.com>
Source record: 112570

Chicago Area Scanner / Ham Radio / Commercial Radio BBS

The RF Spectrum 312-581-3850 1200 - 14.4 v.32

Complete FCC Database online for the following states:
Illinois Indiana Michigan Ohio Pennsylvania
New Jersey Tennessee Virginia North Carolina Kentucky

Limited listings for:
Wisconsin Iowa Minnesota Missouri Mississippi

Online Ham Call Sign Database

9.0 gig online

Over 35,000 files with more than 5,000 related to radio & scanning

Over 10,000 assorted other files covering technical & other interests.

More comming soon !!!!!

--

2265. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: Administrator_at@comsys.rockwell.COM
Message-ID: <9504308018.AA801841704@SmtpSend.comsys.rockwell.com>
Source record: 112571

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from smtprecv.comsys.rockwell.com by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AB05021; Mon, 29 May 95 23:58:08 CDT
Received: by mail.ucsd.edu; id EAA00521
sendmail 8.6.12/UCSD-2.2-sun
Sun, 28 May 1995 04:30:36 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA00509
sendmail 8.6.12/UCSD-2.2-sun
Sun, 28 May 1995 04:30:33 -0700 for ham-homebrew-ddist
Message-Id: <199505281130.EAA00509@mail.ucsd.edu>
Date: Sun, 28 May 95 04:30:32 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #157
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Sun, 28 May 95 Volume 95 : Issue 157

Today's Topics:
Bias circuits for solid state amplifiers
Component Values for Parasitic Suppressors?
Looking for low-cost PSK/DPSK demod chips...
Need help with VuData Scope manual/schematic
Nelson - Ross Spectrum Analyzer
PCB Programs for the PC
Schematic capture for PC/Mac

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------
```

Date: Mon, 22 May 1995 20:39:43 GMT
From: john.seboldt@blackboard.com (John Seboldt)
Subject: Bias circuits for solid state amplifiers

From: rohrwerk@netcom.com (John Seboldt)
You mention the bias diode method, and an active regulator method. I think it would be better to use the active regulator, because less idle current is drawn. The basic diode method is fine, but you have lots of current flowing through the series resistor and diode that is not destined for your transistor bases. It of course has the advantage of super simplicity. But I think you'll be happier with an active regulator with an adjustment pot so you can set bias to your liking; you'll get less wasted DC current to boot. I'll be building up the 140 watt amp kit from CCI, which uses the Motorola AN762 design.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di dah, di dah, di dah...
: Minneapolis / (sorry, Duke!)

---
* Processed by ViaUUCP! v4.00r for WILDCAT! *

Date: Fri, 26 May 95 19:57:03 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Component Values for Parasitic Suppressors?

Correction:

Question (5) in my previous post should read " . . . what type of *parallel* capacitor . . ."

73,

jack WB3U

Date: 24 May 1995 20:20:05 -0400
From: rffleming@aol.com (Rffleming)
Subject: Looking for low-cost PSK/DPSK demod chips...

I'm looking for sources of demodulator chips for biphase and quadriphase keyed digital signals with symbol rates between 19200 sps and 4.096 Msps, and anywhere inbetween. Coherent demodulation for BPSK and QPSK and differential noncoherent demodulation of the differentially encoded varieties are desirable features. I'm aware of the Stanford Telecom, Harris, Comsat, and Unisys/Paramax products, but I'm looking for alternatives. Any help in this area will be greatly appreciated. My direct email address is rffleming@aol.com.

Thanks, and 73,
Chip, N3USL

Date: Sat, 27 May 95 12:25:30 -0500
From: Devarney <devarney@delphi.com>
Subject: Need help with VuData Scope manual/schematic

I am looking for a manual or schematic for a VuData model PS935A portable oscilloscope I recently purchased at a hamfest. It is not in working, so I am particularly interested in a service manaul or schematic. If anyoone has either, please contact me at DEVARNEY@delphi.com, or via packet at WE1U@ KD2AJ. I am willing to pay any reasonable shipping/copying costs.
Thanks in advance,
Bob
WE1U

Date: 26 May 1995 09:32:24 -0400
From: cliff52@aol.com (Cliff 52)
Subject: Nelson - Ross Spectrum Analyzer

Need info, source of info, manual, source of manual, etc. for Nelson Ross Spectrum Analyzer MF-9 mainframe, Model 235 (on plug-in and back of mainframe.) Also - anyone know of other relevant newsgroup for such a posting? --- TNX and 73 / Cliff KC4HGR

Date: 27 May 1995 23:55:28 GMT
From: mchenry@sneezy.sri.com
Subject: PCB Programs for the PC

What is the best printed circuit board (PCB) program
for the PC for less than $500? Is BoardmakerII a good program?

Date: 24 May 1995 16:24:19 GMT
From: hunter@s07.es.llnl.gov (Steve Hunter 510-423-2219)
Subject: Schematic capture for PC/Mac

I have gotten to the point that I need a schematic capture program for the PC or Mac. I
recently bought EZ Board (or EZ-PC or something), and it does a fair job with PC boards,
but it is a bear for schematics. It might be faster to draw and erase by hand.

I have used DesignWorks on the Mac and PC and found it very nice, once you get used to
it, but it is a bit expensive. I may get it anyway, but I thought that I would ask here
first.

What schematic capture and PC board design programs you like/dislike? Why? How much $?

Steven Hunter
KC6RKV

Date: 28 May 1995 00:05:13 GMT
From: mike@athena.mit.edu (Michael T Decerbo)

References<3q2gpf$g4j@bmerhc5e.bnr.ca> <3q2pps$cil@misc1.microserve.net>, <3q3dsp$qgk@parsifal.nando.net>
Subject: Replacement for 40673? was Re: homebrew

DB Wilhelm <w3fpr@nando.net> wrote:

> alas, no source for the 40673 - RCA quit making them.
> Does anyone have a stockpile? I'm interested in about a dozen,

Ditto here.

Better yet, is there a recommended replacement? I have a few schematics for projects I'd like to try that call for the 40673, but the only transistor cross-reference I have access to doesn't list it...

73,

Mike
N1FYO

--
Michael Decerbo -- 474 Memorial Dr Cambridge MA 02139 -- 617-225-7564

End of Ham-Homebrew Digest V95 #157
****

2266. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: Administrator_at@comsys.rockwell.COM
Message-ID: <9504308018.AA801849900@SmtpSend.comsys.rockwell.com>
Source record: 112572

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com (4.1/1.34)
id AA10848; Tue, 30 May 95 08:59:45 CDT
Received: by mail.ucsd.edu; id FAA17098
sendmail 8.6.12/UCSD-2.2-sun
Tue, 30 May 1995 05:48:42 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id FAA17086
sendmail 8.6.12/UCSD-2.2-sun
Tue, 30 May 1995 05:48:40 -0700 for ham-homebrew-ddist
Message-Id: <199505301248.FAA17086@mail.ucsd.edu>
Date: Tue, 30 May 95 05:48:39 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #160
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Tue, 30 May 95 Volume 95 : Issue 160

Today's Topics:
Good 2 meter tranceiver
HP Counter Service Manuals (2 msgs)
Message not deliverable (2 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------

Date: Sun, 28 May 1995 23:40:35 MST
From: mmc@primenet.com (Maurice M. Carey IV)
Subject: Good 2 meter tranceiver
```

I'm looking for the info I need to build a tranceiver for the 2meter band I'd like to do something to rivle most commercial sets, but I need schematics does anybody know where to get them, I'd like it to have digital tuneing, maybe a PLL also 33 and/or 23 cent. would be cool! Thanks in advance.

Date: 29 May 1995 15:12:18 GMT
From: Gene Mason <gmason@iadfw.net>
Subject: HP Counter Service Manuals

Gary, Your local H.P. office should help you. When I worked for H.P. a few years back a phone call to the office would get manuals, usually at no charge....Also, there are some good resale outlets available..in Dallas, TX try Tucker electronics. They advertize in QST, 73,s etc...E-MAIL me if you have further problems. - Gene KZ5V

Date: 29 May 1995 15:14:38 GMT
From: Gene Mason <gmason@iadfw.net>
Subject: HP Counter Service Manuals

Gary, Your local H.P. office should help you. When I worked for H.P. a few years back a phone call to the office would get manuals, usually at no charge....Also, there are some good resale outlets available..in Dallas, TX try Tucker electronics. They advertize in QST, 73,s etc...E-MAIL me if you have further problems.gary@vulcan.com (Gary Tennyson) wrote:
>Hi,
>
>Can anyone point me to a source for service manuals for the
>HP 5300B and HP5307A (combined unit) counter ?
>
>Regards
>.
- Gene KZ5V

Date: 30 May 95 12:03:36 GMT
From: Administrator_at@comsys.rockwell.COM
Subject: Message not deliverable

Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from by dlsun32.comsys.rockwell.com (4.1/1.34)
id AB04786; Mon, 29 May 95 23:28:16 CDT
Received: by mail.ucsd.edu; id EAA22514
sendmail 8.6.12/UCSD-2.2-sun
Mon, 29 May 1995 04:30:31 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu

Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA22505
sendmail 8.6.12/UCSD-2.2-sun
Mon, 29 May 1995 04:30:29 -0700 for ham-homebrew-ddist
Message-Id: <199505291130.EAA22505@mail.ucsd.edu>
Date: Mon, 29 May 95 04:30:28 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #158
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Mon, 29 May 95 Volume 95 : Issue 158

Today's Topics:
Component Values for Parasitic Suppressors?
Help with Homebrew Plate Choke
SSB - why poor sound quality? (2 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 28 May 1995 05:02:02 -0400
From: w8jitom@aol.com (W8JI Tom)
Subject: Component Values for Parasitic Suppressors?

>Subject: Component Values for Parasitic Suppressors?

>The original capacitors are .0047 disc ceramics with *very* short
>leads. To these I added 100 pf discs with even shorter leads.

100 pF may only be a change at high VHF, and not at HF or low VHF.
With the 100 pF you may have been better with long leads, so the cap
was series tuned at the parasitic frequency!

>When you say "multi-layer chip", are you describing leadless
>capacitors?

You can get them with leads. The main point is to avoid adding an
unwanted parallel resonance from the grid to the chassis. That would
aggravate instability (like the grid chokes in parallel with the grid
bypass caps in the TL-922 and SB-220 do).

>If so, I would worry that the stress of inserting and removing the
>tubes would eventually break the capacitors. These aren't the type of
>sockets that have pin holders riveted to the ceramic - the pins in
>these are free to move side-to-side like sockets for receiving tubes.

That is a problem, but you could add a flexible lead as short and as
wide as practical to eliminate the breaking problem.

>Regarding the resonant frequency of the caps, doesn't the 60-70 MHz
>limit of the tubes allow the luxury of *moderately* greater lead
>lengths than would be the case for tubes like 3-500Z's?

Ahh, that's a very good point you brought out. You've got a good
understanding of the problem!

What you say is true. But I was giving the easiest explanation and the
best "general rule". So while you probably can be a good bit less
careful with the 811's external grid lead lengths because they are so
LONG in the tube already, I wouldn't make that a habit for other tubes.
Better to make it a safe general statement that won't get someone else
in trouble.

>The ideal suppressor coil would have a very high Z at the frequency
>of the parasitic, and no appreciable R or Z at the operating
>frequency to prevent a loss of harmonic suppression and tank Q.

Read it this way...The ideal suppressor COIL (not the whole
suppressor, just the COIL) would have a very high Z at the frequency
of the parasitic. The COIL would have no appreciable INTERNAL
R (and minimal Z) at the operating frequency to prevent a loss of
harmonic suppression and tank Q. In other words the coil would look
infinitely large at the parasitic frequency, and like an absolute short
at
the operating frequency. I'm not talking about the entire suppressor,
just the coil of the normal suppressor. A resistor must still be in
parallel with this coil, or there will be no VHF dampening.

>In order to reduce gain at the frequency of the parasitic, two things
>should be done. First, the internal feedback path must be neutralized,
>and second, the external feedback path (plate to cathode or output to
>input) must be broken or at least impeded. The external path can be
>disrupted by either shunting the undesired frequency to ground, or by
>selectively routing undesired frequencies to a higher-impedance path.

No, the undesired frequency must be dampened with degeneration or
dissipative loading that reduces the gain at the oscillation frequency.
The remaining (suppressor loaded) gain must be less than the amount
of regenerative feedback.

>The typical L/R parasitic suppressor attempts to do the latter, but
>because many types of amplifier tubes can oscillate over a fairly wide
>range of frequencies, the network must have a relatively low Q.

That's correct. But the circuit parameters affecting this Q are too complicated to explain without drawings.

What it boils down to is keeping the anode lead short and wide between the tube and the tuning capacitor, mounting and grounding the tuning capacitor as near the tube as possible and to the same sheet metal to ground all the RF grounds (including the grids). That lets you use the lowest value of R, and values between 30 and 150 ohms almost always work fine for the tubes amateur power levels require. Finally the resistor must be the dominate thing in the anode to tank path at the frequency where instability occurs. That requires a low reactance in series with the R, and a high parallel reactance shunting the R.

>is moderately effective at suppressing the undesired frequency band,
>but because of the compromise between bandwidth and Q, the
>suppressor cannot provide significant loss to the undesired
>frequencies without also introducing loss to signals within the desired
>range.

That's why I suggest using tuned suppressors if the tube oscillates near the operating frequency, shunt L / series C suppressors if the tube oscillates at moderate distances from the operating frequency, and a conventional suppressor if the tube oscillates a good distance above the operating frequency.

Try your calculations again for a suppressor like this...Put a coil in series
with the anode lead. Connect a capacitor in series with the suppressor resistor and connect that across the coil. Now the current shift to the resistor happens twice as fast, so the loading goes up at the square of the frequency ratio, instead of at a linear rate. In other words, with the

coil in parallel with the R, the current shift from the coil to the R is linear, doubling the freq. will only double the circuit loading by R.

If I have a series RC circuit paralleling the suppressor's coil, the capacitive reactance can be used to decrease the impedance of the path through R as the normal suppressor coil's reactance increases with frequency. The loading increases twice as fast as with the basic suppressor, and fundamental current through the lossy R is reduced!

You can model or calculate the effects of a series RLC circuit resonant near the parasitic frequency placed in parallel with the regular suppressor coil. In severe cases you could even parallel tune the conventional coil while series tuning the dissipating RLC path at the parasitic frequency.

>The situation with 811A's is somewhat different, insofar as the
>undesired frequency band is relatively narrow due to the upper
>frequency limit of the tubes. Therefore, increasing the Q of the
>suppressor may be an effective means of reducing loss on desired
>frequencies, as well as providing additional attenuation of undesired
>oscillations.

Actually the "undesired frequency band" is usually pretty narrow with all tubes. There is usually a narrow range of frequencies where instability occurs. Remember the grid resonance *usually* dominates the frequency of the oscillation, and the anode resonance must *usually* match the grid for a problem to occur. So if we just dampen the anode at the frequency where the grid "floats", we will usually be OK. Some tubes (like 8877's) won't ever oscillate if the grid is grounded correctly no matter what is done in the anode.

>Rather than constructing a L/R network that exhibits 23 ohms at 30
>MHz and 50 ohms at 60 MHz (see previous calculations), why not
>increase the value of the resistor significantly (or eliminate it
>altogether), decrease the inductance of the suppressor coil, and add a
>capacitor across the coil sufficient to achieve a high Q L/C
>suppressor?

Because that won't suppress at all. There would be little or NO dampening loss! That would actually make it worse, because now the anode would be free to "wiggle all around and tickle the grid". You've just made an unloaded TPTG oscillator!

>By way of example, say that we eliminate the resistor from the
>suppressor, then reduce the coil from 6 turns to 3 turns (0.032 uH).
>This will reduce the XL at 30 MHz from 24 ohms to only 6 ohms. If
>a 220 pf capacitor is now paralleled with the coil, the network will
>resonate at 60 MHz. Assuming a (conservative) Q of 10, the parallel
>resonant impedance at 60 MHz will increase from 49 ohms to
>approximately 120 ohms.

I doubt if the LC network Q would be that low. But it certainly would if the LC network were loaded with a 100 ohm resistor! Anyway, even 100 ohms of series XL on 30 MHz has a negligible affect on the 10 meter performance. The problem is really keeping the lossy R out of the circuit on 30 MHz, and keeping it in the circuit at 60 MHz or so.

>To go a step further, the half-power bandwidth of the suppressor
>would be approximately 6 Mhz, with significant suppression of
>undesired frequencies extending a considerable distance beyond that
>range. If the bandwidth *had* to be increased, a parallel resistor
>could be added, bearing in mind that it will reduce the impedance to
>undesired frequencies.

We don't want impedance, we want resistance at the undesired frequencies. We want a "pure impedance" at the desired frequencies, since that is non-dissipative. We just can't have that impedance so large it upsets the tank operation or tube to tank coupling excessively.

>BTW, now that I've done these calculations, I understand the fallacy
>of the nichrome. Considering how little impedance difference there
>is in an L/R suppressor between desired and undesired frequencies,
>the last thing the circuit needs is a further lowering of Q.

Yes, and the nichrome is in the path that mostly affects the HF signal, not the parasitic!!!!! What a bunch of hooey!

73 Tom

Date: Sun, 28 May 95 06:53:43 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Help with Homebrew Plate Choke

jeff@wa1hco.mv.com (Jeff Millar) wrote:

> Please describe the test setup. GDO placement, connections to
> choke, etc.

Hello Jeff,

The homebrew choke is resting on a stack of papers on my desk.
Every time I remove turns, I cut off the excess wire and short the
choke with its own leads.

To roughly locate the resonances, I couple the GDO tightly to the
choke, sometimes placing it inside the form. After each point is
located, I move the GDO coil away from the choke until the dip is
barely perceptible, then re-dip. The coil of the GDO is parallel to the
choke at all times.

Frequency of the readout was verified by tuning the GDO across the
nearest ham band (in this case, 10M) and listening for the oscillator.
I left my receiver tuned to 28.0 MHz during these tests and I checked
the dial accuracy frequently.

Any ideas?

73,

Jack WB3U

Date: Sun, 28 May 95 07:19:50 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: SSB - why poor sound quality?

rheiss@tuba.aix.calpoly.edu (Robert Everitt Heiss) wrote:

>Another important kind of distortion, which I did not see mentioned, is
>unintentional angle modulation. The worst example is an old modulated
>oscillator AM rig, which has FM as well as AM. Audiophiles know about
>this and prefer a separate tweeter to a whizzer cone mounted on a
>woofer. You don't want the tweeter moving back and forth with the bass
>sounds and changing the delay of the treble sounds.

This is also known as Doppler distortion, and I strongly question whether
whizzer cones suffer because of this, or rather because this type of
tweeter simply can't reproduce high frequencies. Despite assertions by
the "experts", I've never been convinced that this type of distortion is
discernible as "bad". Some of the early planar speakers had a superb

sound quality and only used a single diaphragm to cover a very wide range of frequencies. Also, microphones don't have separate elements for different frequencies - the highs are constantly modulated by the lows. As far as I'm concerned, the only reason to break up the reproducers into different units is to better match the frequency response and power handling capability of each type speaker.

>Nitpicking aside,

Not before I mention that my personal favorite is Transient Intermodulation Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .

>If it matters, the receiver has a broad four-pole crystal lattice filter,

That's why it sounds better. Now, if it only had some output tubes instead of that LM380 . . . <g>

73,

Jack WB3U

Date: Fri, 26 May 95 19:52:10 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: SSB - why poor sound quality?

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:

>I realsise the SSB bandwidth is less than half the AM one, but both contain only the 300-3000Hz frequencies. Sure AM takes up more space, but an AM TX just sends two >copies of the sidebands. So SSB's more efficient use of bandwidth should not mean >a redection in quality.

Do you mean that AM sounds better when you listen to a commercial broadcaster using a modern receiver with a 6 KHz xtal filter, or that Amateur AM in the old days sounded better?
I'm asking this because I agree with you, but only as it relates to the old rigs. I think the
difference occurs for two reasons. First, older transmitters (AM) used audio filtering to rolloff the audio outside the 300 - 3000 range. In most cases, the rolloff was *very* slow and still had significant energy outside this band. Second, older AM receivers had a passband much broader than 6 KHz, and with kinder, gentler rolloff than today's filters. I can still remember how bad they sounded on AM, relatively speaking, when the crystal filter (usually only two crystals) was activated. Try this sometime with an SX-28 and you'll see what I mean.

>Perhaps other people disagree, but I'm convinced SSB does not sound as good as an >amateur AM signal. Obviuosly one would not expect it to sound like a commercal AM >signal, where the bandwidth exceeds the 300-3000Hz.

To say that it doesn't sound as good is an understatement. Personally, I find it extremely tiring, which is just one more reason I work more CW than 'phone <g>.

>My thoughts as to a possible explanation are:
>
>1) <snip> Perhaps then the 20Hz to 300Hz information makes the signal sound better.

Yep.

>2) Its very difficult to re-insert the carrier at precisely the correct frequency at
>the receiver. <snip>
>
>3) Perhaps there need to re-inser the carrier at the correct amplitude, or
>in the correct phase. I've never looked at the maths to say if this is true.

I don't think 2) and 3) have a significant impact. As evidence of this, I recall several friends of mine in the 60's who converted their ARC-5 transmitters to DSB and who achieved very respectable carrier suppression. Using a receiver at the time which couldn't even keep 100 Hz accuracy (let alone 10 Hz), I can tell you that the fidelity of their signals was *almost* as good as standard AM.

73,

Jack WB3U

Date: 24 May 1995 17:18:06 GMT
From: bblohm@boi.hp.com (Bill Blohm)

References<3povh4$m5q@crl3.crl.com> <1995May22.172858.14470@ke4zv.atl.ga.us>,
<3pu8i7$bnt@crl.crl.com>
Subject: Re: HomeBrew Pagers

Jeff Jones (jeffj@crl.com) wrote:
: Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: : In article <3povh4$m5q@crl3.crl.com> jeffj@crl.com (Jeff Jones) writes:
: : >Zack Lester (zlester@athena.cs.uga.edu) wrote:
: : >: Is it possible to modify a pager to make it receive pages from ham radio
: : >: freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
: : >: I plan on having my email "beeped" to me.
: : >

I'm not gonna touch the broadcasting/telemetry issue. However, why not use procmail and a simple Korn script to have your e-mail forwarded? I have mine trim out who it is from and what the subject is and forward that to my pager. Works great. Got me out of one meeting, already. ;-) But you could just as well forward the entire thing, sans headers other than that needed From: one, if desired.

That way, you don't have to modify anything, don't have to worry about the broadcast/telemetry issue, and it won't cost anything.

Let's take it to e-mail if there isn't enough interest in the newsgroup in this, or it's thought inappropriate. I can send you a copy of my script and the relevant procmail entry in my .procmailrc file if you're interested.

Bill B.
KC7JSD
bblohm@boi.hp.com

Date: 28 May 1995 16:23:31 GMT
From: "rocci@netaxs.com" <Joe.Rocci@ucsd.edu>

References<1995May25.114918.64314@ucl.ac.uk> <3q89fd$o2o@tuba.aix.calpoly.edu>,
<3q98da$34c@misc1.microserve.net>
Subject: Re: SSB - why poor sound quality?

> Not before I mention that my personal favorite is Transient Intermodulation
> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>
Maybe Jack's on to something here...has anyone characterized the impulse
response of a typical SSB sideband reject filter...what do the overshoots
from fast wavefront voice peaks do to the following stages?

Joe
WA3CMQ

Date: 28 May 1995 16:23:36 GMT
From: "rocci@netaxs.com" <Joe.Rocci@ucsd.edu>

References<1995May25.114918.64314@ucl.ac.uk> <3q89fd$o2o@tuba.aix.calpoly.edu>,
<3q98da$34c@misc1.microserve.net>
Subject: Re: SSB - why poor sound quality?

> Not before I mention that my personal favorite is Transient Intermodulation
> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>
Maybe Jack's on to something here...has anyone characterized the impulse
response of a typical SSB sideband reject filter...what do the overshoots
from fast wavefront voice peaks do to the following stages?

Joe
WA3CMQ

Date: Sun, 28 May 95 06:01:53 GMT
From: jackl@pinetree.microserve.com (WB3U)

References<3q2pps$cil@misc1.microserve.net> <3q3dsp$qgk@parsifal.nando.net>,
<3q8enp$n7i@senator-bedfellow.MIT.EDU>
Subject: Re: Replacement for 40673? was Re: homebrew

>DB Wilhelm <w3fpr@nando.net> wrote:
>
> alas, no source for the 40673 - RCA quit making them.
> Does anyone have a stockpile? I'm interested in about a dozen,

There are a large number of Japanese N-Channel dual-gates that should
substitute very well for this device. Audio service companies use these,
mostly as replacements in FM receiver front ends.

I believe one of the common numbers we used was a 3SK140, but I've
been out of the industry for a number of years. You should be able to verify
a few suitable numbers with a local audio/video technician.

73,

Jack WB3U

End of Ham-Homebrew Digest V95 #158
****

Date: 30 May 95 12:48:01 GMT
From: Administrator_at@comsys.rockwell.COM
Subject: Message not deliverable

Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from smtprecv.comsys.rockwell.com by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AB05021; Mon, 29 May 95 23:58:08 CDT
Received: by mail.ucsd.edu; id EAA00521
sendmail 8.6.12/UCSD-2.2-sun
Sun, 28 May 1995 04:30:36 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA00509
sendmail 8.6.12/UCSD-2.2-sun
Sun, 28 May 1995 04:30:33 -0700 for ham-homebrew-ddist
Message-Id: <199505281130.EAA00509@mail.ucsd.edu>
Date: Sun, 28 May 95 04:30:32 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #157
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Sun, 28 May 95 Volume 95 : Issue 157

Today's Topics:
Bias circuits for solid state amplifiers
Component Values for Parasitic Suppressors?
Looking for low-cost PSK/DPSK demod chips...
Need help with VuData Scope manual/schematic

Nelson - Ross Spectrum Analyzer
PCB Programs for the PC
Schematic capture for PC/Mac

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 22 May 1995 20:39:43 GMT
From: john.seboldt@blackboard.com (John Seboldt)
Subject: Bias circuits for solid state amplifiers

From: rohrwerk@netcom.com (John Seboldt)
You mention the bias diode method, and an active regulator method. I
think it would be better to use the active regulator, because less idle
current is drawn. The basic diode method is fine, but you have lots of
current flowing through the series resistor and diode that is not
destined for your transistor bases. It of course has the advantage of
super simplicity. But I think you'll be happier with an active regulator
with an adjustment pot so you can set bias to your liking; you'll get
less wasted DC current to boot. I'll be building up the 140 watt amp kit
from CCI, which uses the Motorola AN762 design.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di dah, di dah, di dah...
: Minneapolis / (sorry, Duke!)

---
* Processed by ViaUUCP! v4.00r for WILDCAT! *

Date: Fri, 26 May 95 19:57:03 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Component Values for Parasitic Suppressors?

Correction:

Question (5) in my previous post should read " . . . what type of *parallel*
capacitor . . ."

73,

jack WB3U

Date: 24 May 1995 20:20:05 -0400
From: rffleming@aol.com (Rffleming)
Subject: Looking for low-cost PSK/DPSK demod chips...

I'm looking for sources of demodulator chips for biphase and quadriphase keyed digital signals with symbol rates between 19200 sps and 4.096 Msps, and anywhere inbetween. Coherent demodulation for BPSK and QPSK and differential noncoherent demodulation of the differentially encoded varieties are desirable features. I'm aware of the Stanford Telecom, Harris, Comsat, and Unisys/Paramax products, but I'm looking for alternatives. Any help in this area will be greatly appreciated. My direct email address is rffleming@aol.com.

Thanks, and 73,
Chip, N3USL

Date: Sat, 27 May 95 12:25:30 -0500
From: Devarney <devarney@delphi.com>
Subject: Need help with VuData Scope manual/schematic

I am looking for a manual or schematic for a VuData model PS935A portable oscilloscope I recently purchased at a hamfest. It is not in working, so I am particularly interested in a service manaul or schematic. If anyoone has either, please contact me at DEVARNEY@delphi.com, or via packet at WE1U@ KD2AJ. I am willing to pay any reasonable shipping/copying costs.
Thanks in advance,
Bob
WE1U

Date: 26 May 1995 09:32:24 -0400
From: cliff52@aol.com (Cliff 52)
Subject: Nelson - Ross Spectrum Analyzer

Need info, source of info, manual, source of manual, etc. for Nelson Ross Spectrum Analyzer MF-9 mainframe, Model 235 (on plug-in and back of mainframe.) Also - anyone know of other relevant newsgroup for such a posting? --- TNX and 73 / Cliff KC4HGR

Date: 27 May 1995 23:55:28 GMT
From: mchenry@sneezy.sri.com
Subject: PCB Programs for the PC

What is the best printed circuit board (PCB) program
for the PC for less than $500? Is BoardmakerII a good program?

Date: 24 May 1995 16:24:19 GMT
From: hunter@s07.es.llnl.gov (Steve Hunter 510-423-2219)
Subject: Schematic capture for PC/Mac

I have gotten to the point that I need a schematic capture program for the PC or Mac. I
recently bought EZ Board (or EZ-PC or something), and it does a fair job with PC boards,
but it is a bear for schematics. It might be faster to draw and erase by hand.

I have used DesignWorks on the Mac and PC and found it very nice, once you get used to
it, but it is a bit expensive. I may get it anyway, but I thought that I would ask here
first.

What schematic capture and PC board design programs you like/dislike? Why? How much $?

Steven Hunter
KC6RKV

Date: 28 May 1995 00:05:13 GMT
From: mike@athena.mit.edu (Michael T Decerbo)

References<3q2gpf$g4j@bmerhc5e.bnr.ca> <3q2pps$cil@misc1.microserve.net>,
<3q3dsp$qgk@parsifal.nando.net>
Subject: Replacement for 40673? was Re: homebrew

DB Wilhelm <w3fpr@nando.net> wrote:

> alas, no source for the 40673 - RCA quit making them.
> Does anyone have a stockpile? I'm interested in about a dozen,

Ditto here.

Better yet, is there a recommended replacement? I have a few
schematics for projects I'd like to try that call for the 40673, but
the only transistor cross-reference I have access to doesn't list it...

73,

Mike
N1FYO

--
Michael Decerbo -- 474 Memorial Dr Cambridge MA 02139 -- 617-225-7564

End of Ham-Homebrew Digest V95 #157
****

End of Ham-Homebrew Digest V95 #160
****

2267. Re: HP Counter Service Manuals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-3005951221530001@brainiac.hi.com>
Source record: 112573

> Can anyone point me to a source for service manuals for the
> HP 5300B and HP5307A (combined unit) counter ?

Try this place:

Ed Matsuda
P.O. Box 390613
San Diego, CA 92149
(619) 479-0225

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

2268. RF Plate chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: Waltk@pica.army.mil
Message-ID: <9505300959.aa15141@COR5.PICA.ARMY.MIL>
Source record: 112574

Hi Jack, I didn't see your initial post, but I'd like to comment
on choke building. I wound my own in a straight, non-pi,
configuration and it had a resonance in the 10M band. I knew that
because it "blew up" when I tried tuning the amp on 10M CW.
I used a noise bridge that only went up to an R of 300 and
noticed a resonance near the 10M band. I first removed some
turns but it had little effect on the resonance. So, I rewound
the choke in a pi configuration, using W1FB's design in the 1987
ARRL handbook as a guide, and the resonance moved just outside the
10M band, somewhere in the "upper channels" of the CB band.
Moving it this slight amount did the trick. I feel that
the resonance you see at 33 Mhz should be sufficiently far
enough (> 10%) away to be OK.

The only sure fire way to test a choke "in circuit" is to
tune the amp and if it explodes you need to move the
resonance out of the band of interest. Recently, I acquired
the Autek RF-1 analyst which will measure an R up to 2000 ohms.
With this device it should be a snap to find a resonance
"in circuit" and avoid the other (blow'em up) method to test
for resonances. The reactance of a RF choke is quite high and
thats why its difficult to get a null on the RX using an RF
noise bridge (like the Palomar) that only goes to 300 ohms.

Wish you luck in your building endeavours.

.....
73 de Walt Kornienko <<< K2WK >>> Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
Frankford Radio Club

2269. help hf antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: dominick@earth.planet.net
Message-ID: <3qfq3m$da8@jupiter.planet.net>
Source record: 112575

Hi All...

I live in an apartment and need some ideas for a low profile 80-10m ant.
Of course ir I'm going to get back into hf the ant. will have to perform well.
Alot to ask? I'm sure it's been done and done well. I have a small deck to work with.
Approx. 13'x7'. I do have a clothesline there now that does a diagonal. My wife is
at her limit with the vhf ant.s on a mast out there now so low key is important.
I have an excellent location (about 1300').
Thanks for all your help in advance. Please email me.
Dom, N2QAT

/--\
Dominick A Atanasio	PGP Fingerprint
LOCKSMITH	3D E0 34 63 44 C8 98 D9
Locksmith's Mailing List	2E 02 36 98 24 0E DF BA
(Controller)	Finger dominick at earth.planet.net
For info send to: info@hamlet.planet.net	For public key
E-mail: dominick@earth.planet.net	
\--/

2270. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.801839235@melpar>
Source record: 112576

jdow@BIX.com (Joanne Dow) writes:

>In article <phb.801507634@melpar>, phb@syseng1.melpar.esys.com (Paul H. Bock) wrote:
>> Those wishing to pursue the "whys" of the problem of poor fidelity
>>in SSB voice transmission might want to consider that in FM stereo
>>broadcasting the L-R audio is broadcast as a DSBSC (double sideband
>>suppressed carrier) signal centered at 38 kHz. In the receiver, this
>>
(snip)

>> The key differences are (a) a DSB signal requires no filtering, and
>>(b) in FM broadcasting a 19 kHz pilot tone is transmitted which must have
>>a frequency accuracy of +/- 2 Hz. In addition, there is a phase-coherency

(snip)

>If you play with the trigonometry involved you'll find that DSB is a *VASTLY*
>different kettle of fish than SSB. With DSB a modest phase error can translate

(snip)

All very true, m'lady.

>Point to point is demanding fidelity. So they work to achieve and maintain
>fidelity. They get quite poor peak to average power ratios. So their signal's
>"punch" must come from BIG amplifiers and antenna systems - and a nice clear
>channel. For the ham and military and other COMMUNICATIONS use (as opposed to
>"broadcast" use) the operative requirement is intellgibility. Without the big I

Well, I was waiting for someone to make that point, actually. In military
communications especially (with which I have a couple of decades of experience)
intelligibility is *all* that matters. Personally, I feel the same about
ham gear, but others may not - in fact, I'm sure there are hams who are searching for
fidelity without regard to intelligibility under poor signal conditions.

My standard for a voice transmitter is "how well does it 'punch through'
under marginal signal conditions," and I take it that you use the same or
a similar benchmark. So, while I did kibitz a bit on the "fidelity" issue
I really regard it as irrelevant in a ham transmitter, but that's probably
due to my military background and the fact that, also being a a former AM/FM
broadcaster, I never regrded ham radio as being a "broadcast" medium (see
related threads on this in r.r.a.p ;-))

Having said that, however, there is no doubt that the diffrence between
military and/or civil emergency comms and ham comms is that the ham can *make
a choice* about fidelity versus intelligibility, whereas the military et al
cannot. So, if you *want* to sound "really spiffy", go for it!

73,

Paul, K4MSG

* *
* Paul H. Bock, Jr. K4MSG Principal Systems Engineer *
* E-Systems/Melpar Div. Internet: pbock@melpar.esys.com *
* Falls Church, VA Telephone: (703) 560-5000 x2062 *
* *
* If it's not Baroque, don't try to fix it; *
* if it is Baroque, make sure you can Handel it first. *
* *

2271. Re: Replacement for 40673? was Re: homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: jedrusyna@ime-1.ime.pwr.wroc.pl
Message-ID: <3qfjq1$9i8@sun1000.ci.pwr.wroc.pl>
Source record: 112577

In article <3q93r5$333@misc1.microserve.net>, jackl@pinetree.microserve.com (WB3U) says:
>
>>DB Wilhelm <w3fpr@nando.net> wrote:
>>
>> alas, no source for the 40673 - RCA quit making them.
>> Does anyone have a stockpile? I'm interested in about a dozen,
>
>There are a large number of Japanese N-Channel dual-gates that should
>substitute very well for this device. Audio service companies use these,
>mostly as replacements in FM receiver front ends.
>
>I believe one of the common numbers we used was a 3SK140, but I've
>been out of the industry for a number of years. You should be able to verify
>a few suitable numbers with a local audio/video technician.
>
>73,
>
>Jack WB3U

You can try MOSFET's of BF 900 - series,manufactured mainly by
Philips,Siemens and Telefunken. I think that BF 961,963 and 964 are
the best equivalents [suitable for VHF].If you want to try something
above 200 MHz, try BF900,or 960 or 966 [966S is better].

Artur Jedrusyna
Technical University of Wroclaw,Poland
jedrusyna@ime-1.ime.pwr.wroc.pl
// Wroclaw - the place where Silvius Leopold Weiss lived ...

2272. Re: WOT NO FAQ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-3005951203090001@brainiac.hi.com>
Source record: 112578

In article <3q2dfh$cg0_002@salford.ac.uk>, A.Vilches@eee.salford.ac.uk
(A.Vilches) wrote:

> COULD ANYONE TELL ME WHERE THE FAQ IS FOR THIS PLEASE?

I don't think anyone has volunteered to write one. It'd be a rather large task.

You might try the ARRL Handbook and the ARRL book "Solid State Design for
the Radio Amateur". I also recommend Hayward's book on RF design, recently
reprinted by the ARRL

Amateur Radio Relay League
225 Main Street
Newington, CT 06111
USA
1-203-666-1541

I'm sure the Radio Society of Great Britain also has some excellent
publications, although I don't have an address for them.

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

2273. Re: High intercept, low noise amp - wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: "Charles H. Reichert" <reichert>
Message-ID: <3qfv25$as8@newdelph.cig.mot.com>
Source record: 112579

I have some liteature at home on the Xfmr feedback amps,
believe there's a copy of Rohde's article or one of them.

If interested contact me and I'll check it out. Probably will just need
an SASE + 2 stamps on it.

--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

2274. Help on GM Vehicle Computer Data

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: allent@mnsinc.com
Message-ID: <3qg5gr$475@news1.mnsinc.com>
Source record: 112580

As an inveterate homebrewer, I am hoping an enterprising ham might also carry over his/her affliction to automobiles and be able to steer me in the right direction.

My apologies if this is the wrong group or off-topic, but I would appreciate info or a steer to source of information regarding 1988 & later GM computer data from the Electronic Control Module (ECM) and Asembly Line Diagnostic Link in my 1988 Chev G20 Van.

What I am seeking is the scheme or protocol for the single serial data ALDL signal line which provides digital data regarding the output of various vehicle sensors and the ECM's commands to control engine operation. The cheapest instrument in my area runs over $350.

Although I can read the individual wire terminals to the ECM with a digital multimeter adn interprete them with help of the Service Manual, there must be a reasonably simple way to capture the data via the ALDL and the serial port of a PC. Ideally someone has already cobbled together some Visual Basic code so the outputs could be read real-time. Any Popular Electronics articles on this?

Any info would be appreciated, particularly if you could shoot me an e-mail.

Many thanks.

Dave Allen, WA2BSL
allent@mnsinc.com

2275. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: Administrator_at@comsys.rockwell.COM
Message-ID: <9504308018.AA801848372@SmtpSend.comsys.rockwell.com>
Source record: 112581

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA10567; Tue, 30 May 95 08:35:19 CDT
Received: by mail.ucsd.edu; id EAA11683
sendmail 8.6.12/UCSD-2.2-sun
Tue, 30 May 1995 04:30:26 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA11672
sendmail 8.6.12/UCSD-2.2-sun
Tue, 30 May 1995 04:30:22 -0700 for ham-homebrew-ddist
Message-Id: <199505301130.EAA11672@mail.ucsd.edu>
Date: Tue, 30 May 95 04:30:22 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #159
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Tue, 30 May 95 Volume 95 : Issue 159

Today's Topics:
Help with Homebrew Plate Choke
New site
WTB: Ge Master II Already Converted to Repeater

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------

Date: Sun, 28 May 95 20:25:07 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Help with Homebrew Plate Choke
```

w8jitom@aol.com (W8JI Tom) wrote:
>I think the error was removing turns without any idea where the
>resonances are formed in the choke. The distributed capacitance from
>one area of the choke to another, combined with the inductance leading
>to that point, form these series resonances.

<snip>

This sounds entirely plausible to me. Unfortunately, I don't have either
a general-coverage generator, or anything similar to the MFJ analyzer.
I think I'm going to have to let this one go and rely on being able to
build a continuous-winding choke. This brings up another question . . .

At one point, I had the 1" diameter choke wound with 80 turns of #26, for a
total winding length of about 1-1/2". The only resonance near the ham bands
was at 33 MHz. With a calculated inductance of 82 uH and resistance of
0.82 ohms, the Q of the choke at 30 MHz calculates to more than 18,000.
Given this number, do I need to worry about the 33 MHz resonance? Will
in-circuit operation broaden the response, or is 33 MHz far enough removed?

73,

Jack WB3U

Date: 29 May 1995 03:12:03 GMT
From: talley@tam2000.tamu.edu (B.T.Jones)
Subject: New site

Date: Sun, 28 May 1995 22:59:33 GMT
From: caviccpe@postoffice.ptd.net (PAC)
Subject: WTB: Ge Master II Already Converted to Repeater

I am looking for a GE Master II already converted to a repeater.
In the VHF Band. Please e-mail me if you know where I can find this or if
you can sell me one.

Thanks, Pete N2ndl Caviccpe@Postoffice.ptd.net

Date: Sun, 28 May 1995 20:00:07 GMT
From: kludge@netcom.com (Scott Dorsey)

References<3q89fd$o2o@tuba.aix.calpoly.edu> <3q98da$34c@misc1.microserve.net>,
<3qa823$n3c@netaxs.com>
Subject: Re: SSB - why poor sound quality?

In article <3qa823$n3c@netaxs.com> "rocci@netaxs.com" <Joe Rocci> writes:
>
>> Not before I mention that my personal favorite is Transient Intermodulation
>> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>>

>Maybe Jack's on to something here...has anyone characterized the impulse
>response of a typical SSB sideband reject filter...what do the overshoots
>from fast wavefront voice peaks do to the following stages?

I actually did once try measuring the impulse response of the Collins
mechanical filters, and it was so incredibly nasty that I just packed
the whole project in. You've never seen so much ringing in your life...
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

End of Ham-Homebrew Digest V95 #159
****

2276. Re: High intercept, low noise amp - wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-3005951219010001@brainiac.hi.com>
Source record: 112582

In article <1995May25.115811.15892@ucl.ac.uk>, davek@medphys.ucl.ac.uk wrote:

> I'm looking to build a lowish noise (2-4 dB) amp for about 70 or 100MHz
> with a 3rd order output intercept of > +50dBm . Gain about 15dB.
>
> Getting the nosie figure is easy. Getting the IP3 is easy, but getting
the two
> together is beyond me. Since I dont have access to NF measuring gear, I was
> idealy looking for a circuit known to work. Failing that, any pointers on how
> it might be done. I can measure IP3.

How about a transformer feedback amp? I don't know the noise figure, but
it's supposed to be low. The topology is a common-base amp with
transformer feedback from the collector to the emitter.

I don't have an original reference, but Rohde included a push-pull version
in one of his receiver articles in QST. (I think the one where he reviewed
the design of a Rohde and Schwarz transceiver.)

Dallas Lankford has been writing about them in the newsletters of the US
medium wave DX clubs: the NRC's "DX News" and the IRCA's "DX Monitor".

Does anyone have a reference for the original paper or any tutorials on
this kind of amp?

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

2277. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-30 00:00:00 UTC
From: Administrator_at@comsys.rockwell.COM
Message-ID: <9504308018.AA801839136@SmtpSend.comsys.rockwell.com>
Source record: 112668

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from by dlsun32.comsys.rockwell.com (4.1/1.34)
id AB04786; Mon, 29 May 95 23:28:16 CDT
Received: by mail.ucsd.edu; id EAA22514
sendmail 8.6.12/UCSD-2.2-sun
Mon, 29 May 1995 04:30:31 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA22505
sendmail 8.6.12/UCSD-2.2-sun
Mon, 29 May 1995 04:30:29 -0700 for ham-homebrew-ddist
Message-Id: <199505291130.EAA22505@mail.ucsd.edu>
Date: Mon, 29 May 95 04:30:28 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #158
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Mon, 29 May 95 Volume 95 : Issue 158

Today's Topics:
Component Values for Parasitic Suppressors?
Help with Homebrew Plate Choke
SSB - why poor sound quality? (2 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------

Date: 28 May 1995 05:02:02 -0400
From: w8jitom@aol.com (W8JI Tom)
Subject: Component Values for Parasitic Suppressors?
```

>Subject: Component Values for Parasitic Suppressors?

>The original capacitors are .0047 disc ceramics with *very* short
>leads. To these I added 100 pf discs with even shorter leads.

100 pF may only be a change at high VHF, and not at HF or low VHF.
With the 100 pF you may have been better with long leads, so the cap
was series tuned at the parasitic frequency!

>When you say "multi-layer chip", are you describing leadless
>capacitors?

You can get them with leads. The main point is to avoid adding an
unwanted parallel resonance from the grid to the chassis. That would
aggravate instability (like the grid chokes in parallel with the grid
bypass caps in the TL-922 and SB-220 do).

>If so, I would worry that the stress of inserting and removing the
>tubes would eventually break the capacitors. These aren't the type of
>sockets that have pin holders riveted to the ceramic - the pins in
>these are free to move side-to-side like sockets for receiving tubes.

That is a problem, but you could add a flexible lead as short and as
wide as practical to eliminate the breaking problem.

>Regarding the resonant frequency of the caps, doesn't the 60-70 MHz
>limit of the tubes allow the luxury of *moderately* greater lead
>lengths than would be the case for tubes like 3-500Z's?

Ahh, that's a very good point you brought out. You've got a good
understanding of the problem!

What you say is true. But I was giving the easiest explanation and the
best "general rule". So while you probably can be a good bit less
careful with the 811's external grid lead lengths because they are so
LONG in the tube already, I wouldn't make that a habit for other tubes.
Better to make it a safe general statement that won't get someone else
in trouble.

>The ideal suppressor coil would have a very high Z at the frequency
>of the parasitic, and no appreciable R or Z at the operating
>frequency to prevent a loss of harmonic suppression and tank Q.

Read it this way...The ideal suppressor COIL (not the whole
suppressor, just the COIL) would have a very high Z at the frequency
of the parasitic. The COIL would have no appreciable INTERNAL
R (and minimal Z) at the operating frequency to prevent a loss of
harmonic suppression and tank Q. In other words the coil would look
infinitely large at the parasitic frequency, and like an absolute short
at
the operating frequency. I'm not talking about the entire suppressor,
just the coil of the normal suppressor. A resistor must still be in
parallel with this coil, or there will be no VHF dampening.

>In order to reduce gain at the frequency of the parasitic, two things
>should be done. First, the internal feedback path must be neutralized,
>and second, the external feedback path (plate to cathode or output to
>input) must be broken or at least impeded. The external path can be
>disrupted by either shunting the undesired frequency to ground, or by
>selectively routing undesired frequencies to a higher-impedance path.

No, the undesired frequency must be dampened with degeneration or
dissipative loading that reduces the gain at the oscillation frequency.
The remaining (suppressor loaded) gain must be less than the amount
of regenerative feedback.

>The typical L/R parasitic suppressor attempts to do the latter, but
>because many types of amplifier tubes can oscillate over a fairly wide
>range of frequencies, the network must have a relatively low Q.

That's correct. But the circuit parameters affecting this Q are too
complicated to explain without drawings.

What it boils down to is keeping the anode lead short and wide
between the tube and the tuning capacitor, mounting and grounding the
tuning capacitor as near the tube as possible and to the same sheet
metal to ground all the RF grounds (including the grids). That lets you
use the lowest value of R, and values between 30 and 150 ohms almost
always work fine for the tubes amateur power levels require. Finally
the resistor must be the dominate thing in the anode to tank path at the
frequency where instability occurs. That requires a low reactance in
series with the R, and a high parallel reactance shunting the R.

>is moderately effective at suppressing the undesired frequency band,
>but because of the compromise between bandwidth and Q, the
>suppressor cannot provide significant loss to the undesired
>frequencies without also introducing loss to signals within the desired
>range.

That's why I suggest using tuned suppressors if the tube oscillates near
the operating frequency, shunt L / series C suppressors if the tube
oscillates at moderate distances from the operating frequency, and a
conventional suppressor if the tube oscillates a good distance above the
operating frequency.

Try your calculations again for a suppressor like this...Put a coil in
series
with the anode lead. Connect a capacitor in series with the suppressor
resistor and connect that across the coil. Now the current shift to the
resistor happens twice as fast, so the loading goes up at the square of
the frequency ratio, instead of at a linear rate. In other words, with the

coil in parallel with the R, the current shift from the coil to the R is
linear, doubling the freq. will only double the circuit loading by R.

If I have a series RC circuit paralleling the suppressor's coil, the
capacitive reactance can be used to decrease the impedance of the path
through R as the normal suppressor coil's reactance increases with

frequency. The loading increases twice as fast as with the basic suppressor, and fundamental current through the lossy R is reduced!

You can model or calculate the effects of a series RLC circuit resonant near the parasitic frequency placed in parallel with the regular suppressor coil. In severe cases you could even parallel tune the conventional coil while series tuning the dissipating RLC path at the parasitic frequency.

>The situation with 811A's is somewhat different, insofar as the
>undesired frequency band is relatively narrow due to the upper
>frequency limit of the tubes. Therefore, increasing the Q of the
>suppressor may be an effective means of reducing loss on desired
>frequencies, as well as providing additional attenuation of undesired
>oscillations.

Actually the "undesired frequency band" is usually pretty narrow with all tubes. There is usually a narrow range of frequencies where instability occurs. Remember the grid resonance *usually* dominates the frequency of the oscillation, and the anode resonance must *usually* match the grid for a problem to occur. So if we just dampen the anode at the frequency where the grid "floats", we will usually be OK. Some tubes (like 8877's) won't ever oscillate if the grid is grounded correctly no matter what is done in the anode.

>Rather than constructing a L/R network that exhibits 23 ohms at 30
>MHz and 50 ohms at 60 MHz (see previous calculations), why not
>increase the value of the resistor significantly (or eliminate it
>altogether), decrease the inductance of the suppressor coil, and add a
>capacitor across the coil sufficient to achieve a high Q L/C
>suppressor?

Because that won't suppress at all. There would be little or NO dampening loss! That would actually make it worse, because now the anode would be free to "wiggle all around and tickle the grid". You've just made an unloaded TPTG oscillator!

>By way of example, say that we eliminate the resistor from the
>suppressor, then reduce the coil from 6 turns to 3 turns (0.032 uH).
>This will reduce the XL at 30 MHz from 24 ohms to only 6 ohms. If
>a 220 pf capacitor is now paralleled with the coil, the network will
>resonate at 60 MHz. Assuming a (conservative) Q of 10, the parallel
>resonant impedance at 60 MHz will increase from 49 ohms to
>approximately 120 ohms.

I doubt if the LC network Q would be that low. But it certainly would if the LC network were loaded with a 100 ohm resistor! Anyway, even 100 ohms of series XL on 30 MHz has a negligible affect on the 10 meter performance. The problem is really keeping the lossy R out of the circuit on 30 MHz, and keeping it in the circuit at 60 MHz or so.

>To go a step further, the half-power bandwidth of the suppressor
>would be approximately 6 Mhz, with significant suppression of

>undesired frequencies extending a considerable distance beyond that
>range. If the bandwidth *had* to be increased, a parallel resistor
>could be added, bearing in mind that it will reduce the impedance to
>undesired frequencies.

We don't want impedance, we want resistance at the undesired
frequencies. We want a "pure impedance" at the desired frequencies,
since that is non-dissipative. We just can't have that impedance so large
it upsets the tank operation or tube to tank coupling excessively.

>BTW, now that I've done these calculations, I understand the fallacy
>of the nichrome. Considering how little impedance difference there
>is in an L/R suppressor between desired and undesired frequencies,
>the last thing the circuit needs is a further lowering of Q.

Yes, and the nichrome is in the path that mostly affects the HF signal,
not the parasitic!!!!! What a bunch of hooey!

73 Tom

Date: Sun, 28 May 95 06:53:43 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Help with Homebrew Plate Choke

jeff@wa1hco.mv.com (Jeff Millar) wrote:

> Please describe the test setup. GDO placement, connections to
> choke, etc.

Hello Jeff,

The homebrew choke is resting on a stack of papers on my desk.
Every time I remove turns, I cut off the excess wire and short the
choke with its own leads.

To roughly locate the resonances, I couple the GDO tightly to the
choke, sometimes placing it inside the form. After each point is
located, I move the GDO coil away from the choke until the dip is
barely perceptible, then re-dip. The coil of the GDO is parallel to the
choke at all times.

Frequency of the readout was verified by tuning the GDO across the
nearest ham band (in this case, 10M) and listening for the oscillator.
I left my receiver tuned to 28.0 MHz during these tests and I checked
the dial accuracy frequently.

Any ideas?

73,

Jack WB3U

Date: Sun, 28 May 95 07:19:50 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: SSB - why poor sound quality?

rheiss@tuba.aix.calpoly.edu (Robert Everitt Heiss) wrote:

>Another important kind of distortion, which I did not see mentioned, is
>unintentional angle modulation. The worst example is an old modulated
>oscillator AM rig, which has FM as well as AM. Audiophiles know about
>this and prefer a separate tweeter to a whizzer cone mounted on a
>woofer. You don't want the tweeter moving back and forth with the bass
>sounds and changing the delay of the treble sounds.

This is also known as Doppler distortion, and I strongly question whether whizzer cones suffer because of this, or rather because this type of tweeter simply can't reproduce high frequencies. Despite assertions by the "experts", I've never been convinced that this type of distortion is discernible as "bad". Some of the early planar speakers had a superb sound quality and only used a single diaphragm to cover a very wide range of frequencies. Also, microphones don't have separate elements for different frequencies - the highs are constantly modulated by the lows. As far as I'm concerned, the only reason to break up the reproducers into different units is to better match the frequency response and power handling capability of each type speaker.

>Nitpicking aside,

Not before I mention that my personal favorite is Transient Intermodulation Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .

>If it matters, the receiver has a broad four-pole crystal lattice filter,

That's why it sounds better. Now, if it only had some output tubes instead of that LM380 . . . <g>

73,

Jack WB3U

Date: Fri, 26 May 95 19:52:10 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: SSB - why poor sound quality?

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:

>I realsise the SSB bandwidth is less than half the AM one, but both contain only the
300-3000Hz frequencies. Sure AM takes up more space, but an AM TX just sends two
>copies of the sidebands. So SSB's more efficient use of bandwidth should not mean
>a redection in quality.

Do you mean that AM sounds better when you listen to a commercial broadcaster using a modern receiver with a 6 KHz xtal filter, or that Amateur AM in the old days sounded better?
I'm asking this because I agree with you, but only as it relates to the old rigs. I think

the
difference occurs for two reasons. First, older transmitters (AM) used audio filtering to rolloff the audio outside the 300 - 3000 range. In most cases, the rolloff was *very* slow and still had significant energy outside this band. Second, older AM receivers had a passband much broader than 6 KHz, and with kinder, gentler rolloff than today's filters. I can still remember how bad they sounded on AM, relatively speaking, when the crystal filter (usually only two crystals) was activated. Try this sometime with an SX-28 and you'll see what I mean.

>Perhaps other people disagree, but I'm convinced SSB does not sound as good as an
>amateur AM signal. Obviuosly one would not expect it to sound like a commercal AM
>signal, where the bandwidth exceeds the 300-3000Hz.

To say that it doesn't sound as good is an understatement. Personally, I find it extremely tiring, which is just one more reason I work more CW than 'phone <g>.

>My thoughts as to a possible explanation are:
>
>1) <snip> Perhaps then the 20Hz to 300Hz information makes the signal sound better.

Yep.

>2) Its very difficult to re-insert the carrier at precisely the correct frequency at
>the receiver. <snip>
>
>3) Perhaps there need to re-inser the carrier at the correct amplitude, or
>in the correct phase. I've never looked at the maths to say if this is true.

I don't think 2) and 3) have a significant impact. As evidence of this, I recall several friends of mine in the 60's who converted their ARC-5 transmitters to DSB and who achieved very respectable carrier suppression. Using a receiver at the time which couldn't even keep 100 Hz accuracy (let alone 10 Hz), I can tell you that the fidelity of their signals was *almost* as good as standard AM.

73,

Jack WB3U

Date: 24 May 1995 17:18:06 GMT
From: bblohm@boi.hp.com (Bill Blohm)

References<3povh4$m5q@crl3.crl.com> <1995May22.172858.14470@ke4zv.atl.ga.us>,
<3pu8i7$bnt@crl.crl.com>
Subject: Re: HomeBrew Pagers

Jeff Jones (jeffj@crl.com) wrote:
: Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: : In article <3povh4$m5q@crl3.crl.com> jeffj@crl.com (Jeff Jones) writes:
: : >Zack Lester (zlester@athena.cs.uga.edu) wrote:
: : >: Is it possible to modify a pager to make it receive pages from ham radio
: : >: freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
: : >: I plan on having my email "beeped" to me.
: : >

I'm not gonna touch the broadcasting/telemetry issue. However, why not use procmail and a simple Korn script to have your e-mail forwarded? I have mine trim out who it is from and what the subject is and forward that to my pager. Works great. Got me out of one meeting, already. ;-) But you could just as well forward the entire thing, sans headers other than that needed From: one, if desired.

That way, you don't have to modify anything, don't have to worry about the broadcast/telemetry issue, and it won't cost anything.

Let's take it to e-mail if there isn't enough interest in the newsgroup in this, or it's thought inappropriate. I can send you a copy of my script and the relevant procmail entry in my .procmailrc file if you're interested.

Bill B.
KC7JSD
bblohm@boi.hp.com

Date: 28 May 1995 16:23:31 GMT
From: "rocci@netaxs.com" <Joe.Rocci@ucsd.edu>

References<1995May25.114918.64314@ucl.ac.uk> <3q89fd$o2o@tuba.aix.calpoly.edu>, <3q98da$34c@misc1.microserve.net>
Subject: Re: SSB - why poor sound quality?

> Not before I mention that my personal favorite is Transient Intermodulation
> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>
Maybe Jack's on to something here...has anyone characterized the impulse response of a typical SSB sideband reject filter...what do the overshoots from fast wavefront voice peaks do to the following stages?

Joe
WA3CMQ

Date: 28 May 1995 16:23:36 GMT
From: "rocci@netaxs.com" <Joe.Rocci@ucsd.edu>

References<1995May25.114918.64314@ucl.ac.uk> <3q89fd$o2o@tuba.aix.calpoly.edu>, <3q98da$34c@misc1.microserve.net>
Subject: Re: SSB - why poor sound quality?

> Not before I mention that my personal favorite is Transient Intermodulation
> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>
Maybe Jack's on to something here...has anyone characterized the impulse response of a typical SSB sideband reject filter...what do the overshoots from fast wavefront voice peaks do to the following stages?

Joe
WA3CMQ

Date: Sun, 28 May 95 06:01:53 GMT
From: jackl@pinetree.microserve.com (WB3U)

References<3q2pps$cil@misc1.microserve.net> <3q3dsp$qgk@parsifal.nando.net>,
<3q8enp$n7i@senator-bedfellow.MIT.EDU>
Subject: Re: Replacement for 40673? was Re: homebrew

>DB Wilhelm <w3fpr@nando.net> wrote:
>
> alas, no source for the 40673 - RCA quit making them.
> Does anyone have a stockpile? I'm interested in about a dozen,

There are a large number of Japanese N-Channel dual-gates that should
substitute very well for this device. Audio service companies use these,
mostly as replacements in FM receiver front ends.

I believe one of the common numbers we used was a 3SK140, but I've
been out of the industry for a number of years. You should be able to verify
a few suitable numbers with a local audio/video technician.

73,

Jack WB3U

End of Ham-Homebrew Digest V95 #158
****

2278. Re: PCB Programs for the PC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: martvin@ionet.net
Message-ID: <3qgdoq$l8j@ionews.ionet.net>
Source record: 112583

In article <3q8e5g$ki9@unix.sri.com>, mchenry@sneezy.sri.com says...
>
>What is the best printed circuit board (PCB) program
>for the PC for less than $500? Is BoardmakerII a good program?

I use "Easy PC", It sells for well under $500 and works great !!! It does not "Autoroute" the board though. You lay it out yourself. Not a problem for anything less than a moderately complex PCB.. They have autorouting programs but are expensive, take a lot of computer and lots of computing time to resolve, after you have entered the entire schematic in to the system. Another feature call "schematic capture" is available on many systems including Easy PC. It will draw a schematic as you draw the PCB, and automatically update the schematic as you make changes to the board layout. Even with this feature, Easy PC is still much less than $500.

2279. vhf/uhf equipment for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: Conrad Farlow <conrad@g0ruz.demon.co.uk>
Message-ID: <85648889wnr@g0ruz.demon.co.uk>
Source record: 112584

VHF/SHF equipment sale on Behalf of G0LBK(all prices UK sterling)

SSB electronics 1296/144 transverter
includes Mitsubishi Pa 15 watts O/P 195

MMT 144/28R 25 watt O/P transverter(new model) 100

F1EHN EME tracking system PCB,components & s/ware 70

2 lengths ldf 4-50 with N connectors 20 each

various coax relays cx540,dow key,transco 5 each

Parts for 3 of N6CA 1296 cavities 15

18 inch sat actuator new 30

Philips D6350 Tape recorder with MS mods 20

uhf compendium vols 1 & 2 5

vhf/uhf manual 3rd edition 5

The Vhf/Uhf Dx Book 8

WANTED:
1kw 1-30 Mhz plug in for Bird Model 43 or swap for 1000C element
2 of 1MB simms
1 meg SVGA card
will swap/px any of above for HF gear (sigh G0RUZ)
Contact Dave Law G0LBK @ GB7SYP (if you can get away with it!)
or tel. (eves/weekends) (++44)(0)1709 545010.

--
Conrad Farlow

2280. Re: Replacement for 40673? was Re: homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: afn06011@freenet.ufl.edu
Message-ID: <3qh2a9$rd0@huron.eel.ufl.edu>
Source record: 112585

Artur Jedrusyna (jedrusyna@ime-1.ime.pwr.wroc.pl) wrote:
: In article <3q93r5$333@misc1.microserve.net>, jackl@pinetree.microserve.com (WB3U) says:
: >>DB Wilhelm <w3fpr@nando.net> wrote:
: >> alas, no source for the 40673 - RCA quit making them.
: >> Does anyone have a stockpile? I'm interested in about a dozen,

All of my semeconductor cross referances say to use the
ECG222 MOSFET-N channel transistor as a replacement for the
old RCA type # 40673.
also the Thompson SK3065/222, Workman WEP905/222, and old GE MRO
GE-FET-4 are listed as replacements.

2281. ESCUCHA RADIO INTERNET EN ESPANOL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: miglia@ix.netcom.com
Message-ID: <NEWTNews.11317.801934426.miglia1@miglia1.gmtech.com>
Source record: 112586
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

PARA LOS RADIOAFICIONADOS HISPANOS EN INTERNET

RADIO INTERNET EN ESPANOL

A todos los radioaficionados hispanos que lean este E-Mail los invitamos a escuchar RADIO INTERNET EN ESPANOL que se transmite por esta red. Para hacerlo solo sigan las instrucciones y si tienen cualquier consulta escriban a miglia@ix.netcom.com.

EL TERCER PROGRAMA DE RADIO VIA INTERNET ESTA YA ON LINE, ESCUCHELO.

Tal cual lo programado a las 11:59 PM del Sabado 27 de Mayo fue colocado en nuestro FTP el tercer programa de Radio en Espanol Via Internet y como ya se volvio casi custumbre los radio escuchas comenzaron a bajarlo solo pasados algunos minutos de la media noche. Es notable ver desde que remotas latitudes hay latinoamericanos que ingresan a disfrutar de esta experiencia, nunca pensamos que nuestra gente estaba repartida por toda la tierra como lo esta. A todos muchas gracias por escucharnos y aqui algo de informacion:

Programacion Radio Internet en Espanol

051495.ra Primer Programa Tema Central "Internet Phone" Como Hablar Via Internet (New HF)

052195.ra Segundo Programa Tema Central "Videoconferencia Via Internet"

052895.ra Tercer Programa Variedad de Temas y Demostracion Internet Phone

Espanol.ra Archivo formato .ra para test

Leame.txt Este archivo

SINTONICE RADIO INTERNET EN ESPANOL YA ESTAMOS TRANSMITIENDO VIA LA RED

Si ahora es posible escuchar radio via Internet y nosotros pensamos que sera esta la nueva opcion que reemplazara las antiguas y ruidosas transmisiones de onda corta.
El proximo domingo 14 de Mayo comenzaran las transmisiones de los PROGRAMAS DE RADIO EN ESPANOL VIA INTERNET, dichos programas estaran disponibles en el FTP de nombre FTP.NETCOM.COM en los directorios /pub/mi/miglia y bajo el nombre correspondiende a la fecha de emision, por ejemplo este domingo 14 de mayo el file conteniendo al programa se llamara 051495.ra

FTP: FTP.NETCOM.COM
DIRECTORIO: /pub
SUBDIRECTORIO: mi

SUBDIRECTORIO: miglia
FILE: 051495.ra

PARA ESCUCHAR NUESTRO PROGRAMA DE RADIO EN ESPANOL VIA INTERNET

Para poder escuchar nuestro programa de radio en espanol debera contar con un software llamado RealAudio Player, una PC con Windows 3.1 y una tarjeta de audio. RealAudio lo podra obtener "SIN CARGO" dentro de Internet en:

http://www.realaudio.com/

Cuando este comunicado con esta pagina seleccione:
"donwload your own copy of the RealAudio Player"

Y siga las instrucciones completando la forma correspondiente con sus datos personales, las caracteristicas de su computador y por ultimo el tipo de cuenta en internet que esta usted utilizando. Esto lo ayudara:

A. Ingrese todos sus datos personales
B. Internet Connection = PPP
C. Provider = Por ejemplo NI.NET
D. Speed = 14.400 Baud
E. Machine and Sound = 486 DX2 66MHZ - Windows 3.1 - 8 MB - 340 MB Disco
F. Coloque su nombre el principio del PRE-REASE AGREEMENT

Completada esta informacion RealAudio le enviara de inmediato via
E-Mail un numero de registracion y un password. Con estos datos entonces regrese a http://www.realaudio.com/ y efectue el download del programa RealAudio Player.

1.- El programa obtenido (RealAudio Player) tendra un nombre similar a raplay07.exe.
2.- Ejecutelo colocando el comando raplay07.exe y ENTER.
3.- Este programa al ejecutarse genera un directorio de nombre RAPLAYER.
4.- Dentro de ese directorio encontrara el programa pnclient.exe que es el que utilizara para escucharnos.

Ahora bien para obtener nuestros programas de radio ingrese como ANONYMOUS al siguiente ftp:

FTP: ftp.netcom.com
DIRECTORIO: \pub
SUBDIRECTORIO: mi
SUBDIRECTORIO: miglia

O sea: ftp.netcom.com/pub/mi/miglia

Como Operar pnclient.exe desde Windows:

- Ejecute pnclient.exe
- Habra con el mouse el cuadradito superior izquierdo
- Selecciones Load...
- Seleccione Local File
- Con la ayuda de Browse... busque el file del programa con terminacion .ra en

su disco y seleccionelo.
- Oprima OK y disfrute de nuestros programas.

ESCUCHE CADA DOMINGO NUESTRO PROGRAMA DE RADIO EN ESPANOL VIA INTERNET
EL 21 MAYO TRATAREMOS COMO TEMA PRINCIPAL "VIDEOCONFERENCIA O TRANSMISION DE VIDEO COLOR VIA INTERNET CON UNA PC Y WINDOWS" FILE 052195.ra

Nota: A los 1.050 usuarios de internet que nos escribieron respecto a nuestro programa de radio, gracias.

George Migliarini
E-Mail: miglia@ix.netcom.com

2282. HABLAR VIA INTERNET Si ahora es posible

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: miglia@ix.netcom.com
Message-ID: <NEWTNews.25853.801935127.miglia1@miglia1.gmtech.com>
Source record: 112587
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

ESTAN LAS BANDAS DE HF DESAPARECIENDO ?

Los amantes de las comunicaciones tienen ahora otra modalidad disponible y se trata de INTERNET PHONE, si asi como lo leen ♦Hablar via Internet♦ este sera el fin de las bandas de HF o solo un reemplazo cuando las condiciones de propagacion no nos ayuden. Para hablar por internet solo siga las instrucciones y les recomendamos escuchar nuestros programas en espanol de RADIO INTERNET EN ESPANOL, para ello busque mas informacion de como hacerlo aqui mismo o escriba a miglia@ix.netcom.com

Por ultimo los que tengan Internet Phone listo y operativo les regamos nos lo hagan conocer a nuestro E-Mail. Gracias.

AHORA PODEMOS HABLAR POR TELEFONO VIA INTERNET PHONE

Es dificil de creer pero miles de usuarios estan hablando via la red INTERNET y si usted tambien quiere hacerlo aqui le damos toda la informacion necesaria para poder realizarlo y contestamos algunas preguntas tambien:

Pregunta: Cual es el costo para poder hablar via INTERNET PHONE
Respuesta: Ni un centavo mas de lo que paga actualmente por su cuenta

Pregunta: Se escucha claro
Respuesta: Lo mismo que una llamada telefonica internacional

Pregunta: A donde puedo hablar via INTERNET PHONE
Respuesta: A cualquier parte del mundo

Pregunta: Con quien puedo hablar via INTERNET PHONE
Respuesta: Con cualquiera usuario de internet que este On Line y tenga INTERNET PHONE

COMO HABLAR VIA INTERNET

Para poder hablar por telefono via Internet hay que tener los siguientes elementos:

486 PC Computer
8 MB RAM
Windows 3.1
Winsock 1.1 compatible TCP/IP y coneccion a internet 14,400 baud modem (SLIP/PPP)
Tarjeta de audio compatible con Windows
Programa Iphone (Demo o version registrada)

Si esta confundido con los terminos TCP/IP y SLIP/PPP consulte con quien le da su servicio internet y pregunte si su cuenta reune estas condiciones. Respecto al programa Winsock 1.1 o compatible esta dispoble sin costo via Internet. Ahora bien la tarjeta de audio debe reunir la condicion de ser Windows compatible como el caso de Sound Blaster por ejemplo. Por ultimo le hara falta el programa IPHONE el cual lo puede obtener sin cargo en su version demo o pagando por la version definitiva.
Teniendo todos estos elementos usted podra entonces conversar con otros usuarios que esten On Line y que tengan tambien Internet Phone no importando en que parte del mundo esten y lo mas interesante no pagara nada adicional por este servicio solo lo que actualmente esta pagando. Para tener una idea NETCOM ofrece el servicio windows Netcruiser por $19 dolares al mes con 20 horas prime time y free el resto, esta cuenta reune las condiciones para utilizar IPHONE. Con Netcom no hace falta Winsock 1.1 esta ya incluido.

Para obtener IPHONE Demo (Sin Cargo) ingresar a:

http:///www.vocaltec.com/

Hacer el download del programa y seguir las instrucciones, el costo de la version registrada es de $59.00.

IPHONE Vocaltec Inc. (201) 768-9400 o E-Mail info@vocaltec.com

For Winsock Trumpet send E-Mail to tech-support@trumpet.com.au o busque que hay muchas versiones sin cargo en internet como por ejemplo ftp.utas.edu.au

LA CALIDAD DE LA VOZ VIA IPHONE ES CLARA LOS ESPERO ON LINE PARA CHARLAR

George Migliarini
President
G.M.Technology
miglia@ix.netcom.com

2283. Anderson Power Poles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: wd6esz@kaiwan009.kaiwan.com
Message-ID: <3qhcfb$rta@kaiwan009.kaiwan.com>
Source record: 112588

Anderson Power Pole Connectors for sale: 40 cents each or 60 for $20.00
includes 30 ampere silver plated contacts AND roll pins. Also available
15 amp contacts and green housings. Call:
Richard Heryford
2796 Harbor Blvd, Apt. #210
Costa Mesa, CA 92626
(714)851-8176
WD6ESZ@KAIWAN.COM

2284. Re: Replacement for 40673? was Re: homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-310595071639@160.205.101.24>
Source record: 112589

In article <3q8enp$n7i@senator-bedfellow.MIT.EDU>, mike@athena.mit.edu
(Michael T Decerbo) wrote:
>
>
> DB Wilhelm <w3fpr@nando.net> wrote:
>
> > alas, no source for the 40673 - RCA quit making them.
> > Does anyone have a stockpile? I'm interested in about a dozen,
>
> Ditto here.
>
> Better yet, is there a recommended replacement? I have a few
> schematics for projects I'd like to try that call for the 40673, but
> the only transistor cross-reference I have access to doesn't list it...
>
> 73,
>
> Mike
> N1FYO
>
> --
> Michael Decerbo -- 474 Memorial Dr Cambridge MA 02139 -- 617-225-7564

Try using an SK3050 or a ECG221 in place of an old RCA 40673.

TGB

\\ The opinions expressed herein are my own. //

2285. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: Administrator_at@comsys.rockwell.COM
Message-ID: <9504318019.AA801935240@SmtpSend.comsys.rockwell.com>
Source record: 112590

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA23955; Wed, 31 May 95 07:48:49 CDT
Received: by mail.ucsd.edu; id EAA15670
sendmail 8.6.12/UCSD-2.2-sun
Wed, 31 May 1995 04:30:30 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA15661
sendmail 8.6.12/UCSD-2.2-sun
Wed, 31 May 1995 04:30:28 -0700 for ham-homebrew-ddist
Message-Id: <199505311130.EAA15661@mail.ucsd.edu>
Date: Wed, 31 May 95 04:30:26 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #161
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Wed, 31 May 95 Volume 95 : Issue 161

Today's Topics:
Bounced Posts - Australia Gateway ???
Collins crystal filter spec
Ham Radio BBS
Message not deliverable
RF Plate chokes

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------
```

Date: Mon, 29 May 95 19:44:51 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Bounced Posts - Australia Gateway ???

Has anyone else receiving the following after posting to this newsgroup?

> From: Gateway@ieaust.org.au (Gateway)
> Organization: Institution of Engineers, Australia

> Sorry. Your message could not be delivered to:
>
> rec.radio.amateur,misc (Multiple names were found at the remote site. Please
> be more specific.)

73,

Jack WB3U

Date: Mon, 29 May 1995 15:18:58 GMT
From: jlivingston@cix.compulink.co.uk ("John Livingston")
Subject: Collins crystal filter spec

I have a 300 hz, 455 KHz Collins crystal filter, but no info on the thing.
Can anybody tell me :
- The source and load terminating impedances ?
- The 6:60 dB shape factor ?
- The insertion loss ?
- Pass band ripple ?

The type number is X455KF300

John Livingston jlivingston@cix.compulink.co.uk
G4FDD G-QRP 431
+44(0)904 794305 FAX +44(0)904 657778

Date: Tue, 30 May 1995 01:19:44 GMT
From: offline@ripco.com (Offline)
Subject: Ham Radio BBS

Chicago Area Scanner / Ham Radio / Commercial Radio BBS

The RF Spectrum 312-581-3850 1200 - 14.4 v.32

Complete FCC Database online for the following states:
Illinois Indiana Michigan Ohio Pennsylvania
New Jersey Tennessee Virginia North Carolina Kentucky

Limited listings for:
Wisconsin Iowa Minnesota Missouri Mississippi

Online Ham Call Sign Database

9.0 gig online

Over 35,000 files with more than 5,000 related to radio & scanning

Over 10,000 assorted other files covering technical & other interests.

More comming soon !!!!!

--

Date: 30 May 95 14:38:01 GMT
From: Administrator_at@comsys.rockwell.COM
Subject: Message not deliverable

Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA10567; Tue, 30 May 95 08:35:19 CDT
Received: by mail.ucsd.edu; id EAA11683
sendmail 8.6.12/UCSD-2.2-sun
Tue, 30 May 1995 04:30:26 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA11672
sendmail 8.6.12/UCSD-2.2-sun
Tue, 30 May 1995 04:30:22 -0700 for ham-homebrew-ddist
Message-Id: <199505301130.EAA11672@mail.ucsd.edu>
Date: Tue, 30 May 95 04:30:22 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #159
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Tue, 30 May 95 Volume 95 : Issue 159

Today's Topics:
Help with Homebrew Plate Choke
New site
WTB: Ge Master II Already Converted to Repeater

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 28 May 95 20:25:07 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Help with Homebrew Plate Choke

w8jitom@aol.com (W8JI Tom) wrote:
>I think the error was removing turns without any idea where the
>resonances are formed in the choke. The distributed capacitance from
>one area of the choke to another, combined with the inductance leading
>to that point, form these series resonances.

<snip>

This sounds entirely plausible to me. Unfortunately, I don't have either
a general-coverage generator, or anything similar to the MFJ analyzer.
I think I'm going to have to let this one go and rely on being able to
build a continuous-winding choke. This brings up another question . . .

At one point, I had the 1" diameter choke wound with 80 turns of #26, for a
total winding length of about 1-1/2". The only resonance near the ham bands
was at 33 MHz. With a calculated inductance of 82 uH and resistance of
0.82 ohms, the Q of the choke at 30 MHz calculates to more than 18,000.
Given this number, do I need to worry about the 33 MHz resonance? Will
in-circuit operation broaden the response, or is 33 MHz far enough removed?

73,

Jack WB3U

Date: 29 May 1995 03:12:03 GMT
From: talley@tam2000.tamu.edu (B.T.Jones)
Subject: New site

Date: Sun, 28 May 1995 22:59:33 GMT
From: caviccpe@postoffice.ptd.net (PAC)
Subject: WTB: Ge Master II Already Converted to Repeater

I am looking for a GE Master II already converted to a repeater.
In the VHF Band. Please e-mail me if you know where I can find this or if
you can sell me one.

Thanks, Pete N2ndl Caviccpe@Postoffice.ptd.net

Date: Sun, 28 May 1995 20:00:07 GMT
From: kludge@netcom.com (Scott Dorsey)

References<3q89fd$o2o@tuba.aix.calpoly.edu> <3q98da$34c@misc1.microserve.net>,
<3qa823$n3c@netaxs.com>

Subject: Re: SSB - why poor sound quality?

In article <3qa823$n3c@netaxs.com> "rocci@netaxs.com" <Joe Rocci> writes:
>
>> Not before I mention that my personal favorite is Transient Intermodulation
>> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>>
>Maybe Jack's on to something here...has anyone characterized the impulse
>response of a typical SSB sideband reject filter...what do the overshoots
>from fast wavefront voice peaks do to the following stages?

I actually did once try measuring the impulse response of the Collins
mechanical filters, and it was so incredibly nasty that I just packed
the whole project in. You've never seen so much ringing in your life...
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

End of Ham-Homebrew Digest V95 #159
****

Date: 30 May 95 13:59:56 GMT
From: Waltk@pica.army.mil
Subject: RF Plate chokes

Hi Jack, I didn't see your initial post, but I'd like to comment
on choke building. I wound my own in a straight, non-pi,
configuration and it had a resonance in the 10M band. I knew that
because it "blew up" when I tried tuning the amp on 10M CW.
I used a noise bridge that only went up to an R of 300 and
noticed a resonance near the 10M band. I first removed some
turns but it had little effect on the resonance. So, I rewound
the choke in a pi configuration, using W1FB's design in the 1987
ARRL handbook as a guide, and the resonance moved just outside the
10M band, somewhere in the "upper channels" of the CB band.
Moving it this slight amount did the trick. I feel that
the resonance you see at 33 Mhz should be sufficiently far
enough (> 10%) away to be OK.

The only sure fire way to test a choke "in circuit" is to
tune the amp and if it explodes you need to move the
resonance out of the band of interest. Recently, I acquired
the Autek RF-1 analyst which will measure an R up to 2000 ohms.
With this device it should be a snap to find a resonance
"in circuit" and avoid the other (blow'em up) method to test
for resonances. The reactance of a RF choke is quite high and
thats why its difficult to get a null on the RX using an RF
noise bridge (like the Palomar) that only goes to 300 ohms.

Wish you luck in your building endeavours.

....
73 de Walt Kornienko <<< K2WK >>> Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
Frankford Radio Club

Date: 29 May 1995 06:38:01 GMT
From: drted@ix.netcom.com (Ted Viens)

References<3q89fd$o2o@tuba.aix.calpoly.edu> <3q98da$34c@misc1.microserve.net>,
<3qa823$n3c@netaxs.com>
Subject: Re: SSB - why poor sound quality?

In <3qa823$n3c@netaxs.com> "rocci@netaxs.com" <Joe Rocci> writes:
>
>
>> Not before I mention that my personal favorite is Transient
Intermodulation
>> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>>
>Maybe Jack's on to something here...has anyone characterized the
impulse
>response of a typical SSB sideband reject filter...what do the
overshoots
>from fast wavefront voice peaks do to the following stages?
>
>Joe
>WA3CMQ

Some of us have been lucky enough to play with receivers using IF
DSP's. When you have available highly adjustable digital IF Bandpass
filters, digital demodulation, and one Hertz tuning steps, SSB sounds
like a guy talking across the table (given a decent multi-thousand
dollar transmitter.) In just 5 or 10 years, when IF DSP technology is
affordable on any decent receiver, we will look back on this discussion
and laugh about the good ole days...
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

End of Ham-Homebrew Digest V95 #161
****

2286. Re: Help on GM Vehicle Computer Data

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: dlarson@UWYO.EDU
Message-ID: <1995May31.132621.11562@roper.uwyo.edu>
Source record: 112591

In article <3qg5gr$475@news1.mnsinc.com>, allent@mnsinc.com (David Allen) writes:
>As an inveterate homebrewer, I am hoping an enterprising ham might
>also carry over his/her affliction to automobiles and be able to steer
>me in the right direction.
>
>My apologies if this is the wrong group or off-topic, but I would
>appreciate info or a steer to source of information regarding 1988 &
>later GM computer data from the Electronic Control Module (ECM) and
>Asembly Line Diagnostic Link in my 1988 Chev G20 Van.
>
>What I am seeking is the scheme or protocol for the single serial data
>ALDL signal line which provides digital data regarding the output of
>various vehicle sensors and the ECM's commands to control engine
>operation. The cheapest instrument in my area runs over $350.
>
>Although I can read the individual wire terminals to the ECM with a
>digital multimeter adn interprete them with help of the Service
>Manual, there must be a reasonably simple way to capture the data via
>the ALDL and the serial port of a PC. Ideally someone has already
>cobbled together some Visual Basic code so the outputs could be read
>real-time. Any Popular Electronics articles on this?
>
>Any info would be appreciated, particularly if you could shoot me an
>e-mail.
>
>Many thanks.
>
>Dave Allen, WA2BSL
>allent@mnsinc.com
>
I don't know about piping the data into a pc, real time or otherwise but you
can get the info.

Go to a library that carries Mitchel service manuals for your vehicle. I think
it's the emission controls book that tells how to extract computer codes.

I don't remember the details but all you need is a piece of wire to short two
of the terminals and the check engine soon light will flash. Reminds me of
Morse code but you just need to count the flashes. flash......flash..flash
would be one then two which is a code twelve. If I remember right means
there are no error codes stored in the computer. I think it's the bottom row,
two rightmost terminals that you connect with the ignition on, then when done
turn off the ignition then remove the wire.

This technique only gives any error codes that are stored in the computer. There is no telling how old they are but the Mitchell books explain what all of the codes are and how to find the source of the problem. I used this technique with great success in tracking down a bad ignition coil that a regular mechanic and the local GM dealer couldn't locate on my '86 Pontiac GrandAm. I was a little irate after changing 6 fuel injectors and another $50 part that I can't remember the name of for what turned out to be no reason thanks to the advice of my friendly GM dealer. From now on I'll get off my lazy butt and with alittle help from a Mitchell book, my multimeter and I will do just fine and save a few bucks too...

The technique described may not be correct as it is recalled from my fallable memory but I recall that it worked on my '86 GrandAm and on a '82 Olds Cutlass Cierra. The methods may vary on other GM's and what each code means would almost certainly vary from model to model. I'm not saying to do anything, I'm just saying what worked for me so don't get upset with me if you do something that I did and your onboard computer ends up looking like the federal building in OK City.

happy diagnosing and 73
KC7EGB

---Donald Larson---
---Laramie Wyoming---

2287. Diagram for touch-tone phone wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: "John R. Lopez" <jrlopez>
Message-ID: <3qil4o$qfj@newshost.lanl.gov>
Source record: 112592

I took apart an old phone and I need a diagram for the keypad (Western Electric 35AF3A).

2288. Re: Replacement for 40673?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: randolph@pipa.enet.dec.com
Message-ID: <3qi8rp$npp@mrnews.mro.dec.com>
Source record: 112593

In article <3q8enp$n7i@senator-bedfellow.MIT.EDU>, mike@athena.mit.edu (Michael T Decerbo) writes...
>Better yet, is there a recommended replacement? I have a few
>schematics for projects I'd like to try that call for the 40673, but
>the only transistor cross-reference I have access to doesn't list it...
>N1FYO

Here's a list I made up a few months ago. You can still get dual-gate MOSFETs, but they ain't cheap. It might be easier to look up an equivalent ckt that doesn't use one of these. I don't have a Japanese FET book, so I don't have specs for any of the 3SKs, so I dunno whether they'd make a good 40673 substitute.
-Tom R. N1OOQ randolph@est.enet.dec.com

Dual-Gate MOSFETs
==========

These are still available for a price, even the old standby 40673. The bargain MOSFETs these days are:

Type	Price	Where
3SK39	$1.33	MCM Electronics
3SK73	1.52	MCM Electronics
3SK74	1.95	RF Parts
3SK45	2.70	RF Parts
NTE221	2.85	Ckt Specialists
3SK72	2.93	RF Parts
3SK51	3.25	MCM Electronics

Also available:

Type	Price	Where	Type	Price	Where
3SK73	$3.73	RF Parts	3N212	5.95	RF Parts
NTE222	3.90	Ckt Specialists	3N213	5.95	RF Parts
3SK40	3.93	RF Parts	40673	5.95	RF Parts
TA7274	3.99	MCM Electronics	TA7150	5.99	MCM Electronics
3SK40	3.99	MCM Electronics	3SK48	6.04	MCM Electronics
3N200	5.90	Ckt Specialists	3N201	9.50	MCM Electronics
3N204	5.95	RF Parts	3N200	?	RF Parts
3N211	5.95	RF Parts			

2289. UHF plans needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: jeremyf613@aol.com
Message-ID: <3qja2l$st4@newsbf02.news.aol.com>
Source record: 112594

Hello all,
Can anyone help me find some plans for a transciever that can use
1000-2000mhz? Or at least a transverter.

Thanks in advance!

Jeremy

JeremyF613@aol.com

2290. Re: Building a Baycom for the TH-22AT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: const@step.polymtl.ca
Message-ID: <3qithk$3ee@charles.cdec.polymtl.ca>
Source record: 112595
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Pierre Constantineau (const@step.polymtl.ca) wrote:
: Hi there,

: I have downloaded the drawing of a baycom modem made with a TMC3105.
: baycom modem DL8MBT and DG3RBU
: FILE:TMC3105.ZIP which contains a postscript file and a txt file.

: I noticed that it had a note fot the FT470 (For FT470 to silence) with a
: resistor and a transistor going from RTS to MIC (not exactly from to).

: I would like to know if that part is necessary fo the Kenwood TH22AT.
: I would like also to know if there is any mod necessary to put it on my
: radio.

: 73,

: --
: Pierre Constantineau UnderGraduate Student
: Email: const@step.polymtl.ca Ecole Polytechnique de Montreal
: Callsign: VA2MAT Metallurgy and materials engineering dept.
: --

: < There is nothing as recyclable as scrap metal. Not even plastics! >
: --

--
Pierre Constantineau UnderGraduate Student
Email: const@step.polymtl.ca Ecole Polytechnique de Montreal
Callsign: VA2MAT Metallurgy and materials engineering dept.

< There is nothing as recyclable as scrap metal. Not even plastics! >

2291. SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-05-31 00:00:00 UTC
From: Charles.Mccurdy@f1492.n106.z1.fidonet.org
Message-ID: <48d_9506021357@woodybbs.com>
Source record: 112596

Hi ther i got me an icom-211 thats a 2mtr allmode i like the ssb iv never heard
of any body ever useing am on 2mtrs just fm and ssb is what i like.

--
|Fidonet: Charles Mccurdy 1:106/1492
|Internet: Charles.Mccurdy@f1492.n106.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

2292. Mods for R-390A or its SSB adapter CV-157 ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: "J.Swenson" <jswenson@jswenson.hqsl.stratus.com>
Message-ID: <3qkp53$p87@transfer.stratus.com>
Source record: 112597
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Now I know these rigs are just great the way they are ! I may get some people upset at the thought of changing originals but I am new to this equipment and don't want to miss out on anything ! Anyone have any neat mods for these ? Also let me take this time to thank all who helped in the purchase questions on the R390/R390A. As you can see I came up with a nice deal on a R390A (ok but but dead 11 & 25 mhz) and a spare for parts as well as a CV-157 SSB adapter minus the meters and a few tubes. The 157 had a number of problems but mostly minor. It now has one dead channel but I are working an that. I still have to get a 390 manual to look at the band problems but that should not be too bad. Fixing these are half the fun ! Thanks in advance for any reply. 73's N1DVE

2293. Re: Mods for R-390A or its SSB adapter CV-157 ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: kludge@netcom.com
Message-ID: <kludgeD9I7LM.1yt@netcom.com>
Source record: 112598
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <3qkp53$p87@transfer.stratus.com> "J.Swenson"
<jswenson@jswenson.hqsl.stratus.com> writes:
>Now I know these rigs are just great the way they are ! I may get some
>people upset at the thought of changing originals but I am new to this
>equipment and don't want to miss out on anything ! Anyone have any neat
>mods for these ?

The most popular mod is to remove the ceramic bypass capacitors on the
AC power line. This will make it more sensitive to hash on the power line
but will reduce your chances of getting killed. These capacitors invariably
become leaky over the years and the chassis starts floating at voltages that
you may find alarming.

Another popular mod is to replace the ballast tube with a resistor. Don't
do this. 'Nuff said.

There is a very good audio output section modification in a recent issue
of Electric Radio. The improvement in sound quality is astonishing. It
came out about a year ago.

Let me also point out that in standby mode, the voltages on the PTO tubes
are somewhat higher than they ought to be. Someone who could develop
a mod to remedy this would definitely be helpful.

> Also let me take this time to thank all who helped in
>the purchase questions on the R390/R390A. As you can see I came up with
>a nice deal on a R390A (ok but but dead 11 & 25 mhz) and a spare for
>parts as well as a CV-157 SSB adapter minus the meters and a few tubes.

These are very fine units. The 390A is a real pain to work on, but is
a spectacular performer.

>The 157 had a number of problems but mostly minor. It now has one dead
>channel but I are working an that. I still have to get a 390 manual to
>look at the band problems but that should not be too bad. Fixing these
>are half the fun ! Thanks in advance for any reply. 73's N1DVE

Let me know how you liked the CV-157 and if there are any more where it
came from! I'd love to have one.
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

2294. Re: Bias circuits for solid state amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jun1.090127.79885@ucl.ac.uk>
Source record: 112599

In article 5p4@ornews.intel.com, zardoz@ornews.intel.com (Jim Garver) writes:
>
> I am getting ready to convert a class C solid state VHF amplifier
> to class AB. I've been reading a few books including the RSGB
> VHF/UHF manual and the Motorola RF power data book. My ARRL books
> have little to say about this. It seems like there are a couple of
> ways to do it:
>
> Use a diode or transistor with base-collector tied together.
> Mount it against the heat sink or power transistor. Series connect
> it through a resistor adjusted to provide the desired current which
> can either be predicted or tweaked.
>
> Use some kind of active voltage regulator with a reference diode or
> transistor mounted to the heat sink.
>
> Are there other ways? Which is best and what problems are possible?
> I thought I would use the base-collector tied transistor and adjust
> the resistor for about 50-100 ma. idle current. My amp has an MRF6084
> driving a pair of MRF4070's. I would use a separate bias circuit for
> the 6084 and a common one for the 4070's. It pulls about 22 amps total
> at 12 volts.
> Thanks for any help.
> --
> zardoz@ornews.intel.com WA7LDV Greetings and Hallucinations!
> I speak only for myself... >>>>>>>>>>>>>>O<<<<<<<<<<<<<

I don't know the devices you have in your amp, but from what I gather, some devices will not run in class AB. Most of these are in fact many transistors in one package, all in parallel. However, for class AB, you need resistors in each leg to equalise the individual devices. Same is true for class C, but not so much. Hence a device designed for class C, may blow if run class AB. You need higher value resistors for class AB. Clearly limiting the standing current will help, but it will not be very linear. I think a number of published designs in amateur circles get away with it, simply because they are really running close to class C, with insufficient standing current. Hence they proiduce high levels of 3rd and 5th order IM products.

I would be inclined to speak to Motorola. You might find out the hard way the devices are not suitable for high power class AB.

I dont suppose thats what you wanted to hear, but be careful!

dave kirkby G8WRB

2295. Re: SSB - why poor sound quality?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <3qjb6s$nif@abyss.West.Sun.COM>
Source record: 112600

In article 9w2@netcom.com, kludge@netcom.com (Scott Dorsey) writes:
>In article <3qa823$n3c@netaxs.com> "rocci@netaxs.com" <Joe Rocci> writes:
>>
>>> Not before I mention that my personal favorite is Transient Intermodulation
>>> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>>>
>>Maybe Jack's on to something here...has anyone characterized the impulse
>>response of a typical SSB sideband reject filter...what do the overshoots
>>from fast wavefront voice peaks do to the following stages?
>
>I actually did once try measuring the impulse response of the Collins
>mechanical filters, and it was so incredibly nasty that I just packed
>the whole project in. You've never seen so much ringing in your life...

Well, that's interesting, but not surprising. When will someone
invent phase linear mechanical filters?

;-)

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

2296. Undelivered Mail

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: MAILER-DAEMON@cris.COM
Message-ID: <199506011215.IAA24305@deathstar.cris.com>
Source record: 112601

```
? Serious error sending mail to 'Empee@cris.com' ...

? IGEMAIL01 -- TREE TOP directory could not be found.
? IGEMAILEP -- Return to sender. Message undelivered.

Undelivered message:

>From owner-ham-homebrew@UCSD.EDU Thu Jun 1 08:15:12 1995
Return-Path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu by deathstar.cris.com [1-800-745-CRIS (voice)]
Received: by mail.ucsd.edu; id EAA13498
sendmail 8.6.12/UCSD-2.2-sun
Thu, 1 Jun 1995 04:30:28 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@UCSD.EDU
Sender: ham-homebrew-relay@UCSD.EDU
Precedence: List
Received: by mail.ucsd.edu; id EAA13490
sendmail 8.6.12/UCSD-2.2-sun
Thu, 1 Jun 1995 04:30:26 -0700 for ham-homebrew-ddist
Message-Id: <199506011130.EAA13490@mail.ucsd.edu>
Date: Thu, 1 Jun 95 04:30:25 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Errors-To: Ham-Homebrew-Errors@UCSD.EDU
Reply-To: Ham-Homebrew@UCSD.EDU
Precedence: List
Subject: Ham-Homebrew Digest V95 #162
To: Ham-Homebrew@UCSD.EDU

Ham-Homebrew Digest Thu, 1 Jun 95 Volume 95 : Issue 162

Today's Topics:
help hf antenna
High intercept, low noise amp - wanted.
HP Counter Service Manuals
Message not deliverable
WOT NO FAQ???

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
```

Date: 30 May 1995 19:02:14 GMT
From: dominick@earth.planet.net
Subject: help hf antenna

Hi All...

I live in an apartment and need some ideas for a low profile 80-10m ant.
Of course ir I'm going to get back into hf the ant. will have to perform well.
Alot to ask? I'm sure it's been done and done well. I have a small deck to work with.
Approx. 13'x7'. I do have a clothesline there now that does a diagonal. My wife is
at her limit with the vhf ant.s on a mast out there now so low key is important.
I have an excellent location (about 1300').
Thanks for all your help in advance. Please email me.
Dom, N2QAT
/--\
Dominick A Atanasio	PGP Fingerprint
LOCKSMITH	3D E0 34 63 44 C8 98 D9
Locksmith's Mailing List	2E 02 36 98 24 0E DF BA
(Controller)	Finger dominick at earth.planet.net
For info send to: info@hamlet.planet.net	For public key
E-mail: dominick@earth.planet.net	
\--/

Date: Tue, 30 May 1995 12:19:01 -0400
From: steve@hi.com (Steve Byan)
Subject: High intercept, low noise amp - wanted.

In article <1995May25.115811.15892@ucl.ac.uk>, davek@medphys.ucl.ac.uk wrote:

> I'm looking to build a lowish noise (2-4 dB) amp for about 70 or 100MHz
> with a 3rd order output intercept of > +50dBm . Gain about 15dB.
>
> Getting the nosie figure is easy. Getting the IP3 is easy, but getting
the two
> together is beyond me. Since I dont have access to NF measuring gear, I was
> idealy looking for a circuit known to work. Failing that, any pointers on how
> it might be done. I can measure IP3.

How about a transformer feedback amp? I don't know the noise figure, but
it's supposed to be low. The topology is a common-base amp with
transformer feedback from the collector to the emitter.

I don't have an original reference, but Rohde included a push-pull version
in one of his receiver articles in QST. (I think the one where he reviewed
the design of a Rohde and Schwarz transceiver.)

Dallas Lankford has been writing about them in the newsletters of the US
medium wave DX clubs: the NRC's "DX News" and the IRCA's "DX Monitor".

Does anyone have a reference for the original paper or any tutorials on
this kind of amp?

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

Date: Tue, 30 May 1995 12:21:53 -0400
From: steve@hi.com (Steve Byan)
Subject: HP Counter Service Manuals

> Can anyone point me to a source for service manuals for the
> HP 5300B and HP5307A (combined unit) counter ?

Try this place:

Ed Matsuda
P.O. Box 390613
San Diego, CA 92149
(619) 479-0225

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

Date: 31 May 95 14:47:01 GMT
From: Administrator_at@comsys.rockwell.COM
Subject: Message not deliverable

Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA23955; Wed, 31 May 95 07:48:49 CDT
Received: by mail.ucsd.edu; id EAA15670
sendmail 8.6.12/UCSD-2.2-sun
Wed, 31 May 1995 04:30:30 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA15661
sendmail 8.6.12/UCSD-2.2-sun
Wed, 31 May 1995 04:30:28 -0700 for ham-homebrew-ddist
Message-Id: <199505311130.EAA15661@mail.ucsd.edu>
Date: Wed, 31 May 95 04:30:26 PDT

From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #161
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Wed, 31 May 95 Volume 95 : Issue 161

Today's Topics:
Bounced Posts - Australia Gateway ???
Collins crystal filter spec
Ham Radio BBS
Message not deliverable
RF Plate chokes

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 29 May 95 19:44:51 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Bounced Posts - Australia Gateway ???

Has anyone else receiving the following after posting to this newsgroup?

> From: Gateway@ieaust.org.au (Gateway)
> Organization: Institution of Engineers, Australia

> Sorry. Your message could not be delivered to:
>
> rec.radio.amateur,misc (Multiple names were found at the remote site. Please
> be more specific.)

73,

Jack WB3U

Date: Mon, 29 May 1995 15:18:58 GMT
From: jlivingston@cix.compulink.co.uk ("John Livingston")
Subject: Collins crystal filter spec

I have a 300 hz, 455 KHz Collins crystal filter, but no info on the thing.
Can anybody tell me :
- The source and load terminating impedances ?

- The 6:60 dB shape factor ?
- The insertion loss ?
- Pass band ripple ?

The type number is X455KF300

John Livingston jlivingston@cix.compulink.co.uk
G4FDD G-QRP 431
+44(0)904 794305 FAX +44(0)904 657778

Date: Tue, 30 May 1995 01:19:44 GMT
From: offline@ripco.com (Offline)
Subject: Ham Radio BBS

Chicago Area Scanner / Ham Radio / Commercial Radio BBS

The RF Spectrum 312-581-3850 1200 - 14.4 v.32

Complete FCC Database online for the following states:
Illinois Indiana Michigan Ohio Pennsylvania
New Jersey Tennessee Virginia North Carolina Kentucky

Limited listings for:
Wisconsin Iowa Minnesota Missouri Mississippi

Online Ham Call Sign Database

9.0 gig online

Over 35,000 files with more than 5,000 related to radio & scanning

Over 10,000 assorted other files covering technical & other interests.

More comming soon !!!!!

--

Date: 30 May 95 14:38:01 GMT
From: Administrator_at@comsys.rockwell.COM
Subject: Message not deliverable

Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA10567; Tue, 30 May 95 08:35:19 CDT
Received: by mail.ucsd.edu; id EAA11683
sendmail 8.6.12/UCSD-2.2-sun
Tue, 30 May 1995 04:30:26 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu

Precedence: List
Received: by mail.ucsd.edu; id EAA11672
sendmail 8.6.12/UCSD-2.2-sun
Tue, 30 May 1995 04:30:22 -0700 for ham-homebrew-ddist
Message-Id: <199505301130.EAA11672@mail.ucsd.edu>
Date: Tue, 30 May 95 04:30:22 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #159
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Tue, 30 May 95 Volume 95 : Issue 159

Today's Topics:
Help with Homebrew Plate Choke
New site
WTB: Ge Master II Already Converted to Repeater

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 28 May 95 20:25:07 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Help with Homebrew Plate Choke

w8jitom@aol.com (W8JI Tom) wrote:
>I think the error was removing turns without any idea where the
>resonances are formed in the choke. The distributed capacitance from
>one area of the choke to another, combined with the inductance leading
>to that point, form these series resonances.

<snip>

This sounds entirely plausible to me. Unfortunately, I don't have either
a general-coverage generator, or anything similar to the MFJ analyzer.
I think I'm going to have to let this one go and rely on being able to
build a continuous-winding choke. This brings up another question . . .

At one point, I had the 1" diameter choke wound with 80 turns of #26, for a
total winding length of about 1-1/2". The only resonance near the ham bands
was at 33 MHz. With a calculated inductance of 82 uH and resistance of
0.82 ohms, the Q of the choke at 30 MHz calculates to more than 18,000.

Given this number, do I need to worry about the 33 MHz resonance? Will
in-circuit operation broaden the response, or is 33 MHz far enough removed?

73,

Jack WB3U

Date: 29 May 1995 03:12:03 GMT
From: talley@tam2000.tamu.edu (B.T.Jones)
Subject: New site

Date: Sun, 28 May 1995 22:59:33 GMT
From: caviccpe@postoffice.ptd.net (PAC)
Subject: WTB: Ge Master II Already Converted to Repeater

I am looking for a GE Master II already converted to a repeater.
In the VHF Band. Please e-mail me if you know where I can find this or if
you can sell me one.

Thanks, Pete N2ndl Caviccpe@Postoffice.ptd.net

Date: Sun, 28 May 1995 20:00:07 GMT
From: kludge@netcom.com (Scott Dorsey)

References<3q89fd$o2o@tuba.aix.calpoly.edu> <3q98da$34c@misc1.microserve.net>,
<3qa823$n3c@netaxs.com>
Subject: Re: SSB - why poor sound quality?

In article <3qa823$n3c@netaxs.com> "rocci@netaxs.com" <Joe Rocci> writes:
>
>> Not before I mention that my personal favorite is Transient Intermodulation
>> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>>
>Maybe Jack's on to something here...has anyone characterized the impulse
>response of a typical SSB sideband reject filter...what do the overshoots
>from fast wavefront voice peaks do to the following stages?

I actually did once try measuring the impulse response of the Collins
mechanical filters, and it was so incredibly nasty that I just packed
the whole project in. You've never seen so much ringing in your life...
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

End of Ham-Homebrew Digest V95 #159
****

Date: 30 May 95 13:59:56 GMT
From: Waltk@pica.army.mil
Subject: RF Plate chokes

Hi Jack, I didn't see your initial post, but I'd like to comment
on choke building. I wound my own in a straight, non-pi,
configuration and it had a resonance in the 10M band. I knew that
because it "blew up" when I tried tuning the amp on 10M CW.
I used a noise bridge that only went up to an R of 300 and
noticed a resonance near the 10M band. I first removed some
turns but it had little effect on the resonance. So, I rewound
the choke in a pi configuration, using W1FB's design in the 1987
ARRL handbook as a guide, and the resonance moved just outside the
10M band, somewhere in the "upper channels" of the CB band.
Moving it this slight amount did the trick. I feel that
the resonance you see at 33 Mhz should be sufficiently far
enough (> 10%) away to be OK.

The only sure fire way to test a choke "in circuit" is to
tune the amp and if it explodes you need to move the
resonance out of the band of interest. Recently, I acquired
the Autek RF-1 analyst which will measure an R up to 2000 ohms.
With this device it should be a snap to find a resonance
"in circuit" and avoid the other (blow'em up) method to test
for resonances. The reactance of a RF choke is quite high and
thats why its difficult to get a null on the RX using an RF
noise bridge (like the Palomar) that only goes to 300 ohms.

Wish you luck in your building endeavours.

....
73 de Walt Kornienko <<< K2WK >>> Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
Frankford Radio Club

Date: 29 May 1995 06:38:01 GMT
From: drted@ix.netcom.com (Ted Viens)

References<3q89fd$o2o@tuba.aix.calpoly.edu> <3q98da$34c@misc1.microserve.net>,
<3qa823$n3c@netaxs.com>
Subject: Re: SSB - why poor sound quality?

In <3qa823$n3c@netaxs.com> "rocci@netaxs.com" <Joe Rocci> writes:
>
>
>> Not before I mention that my personal favorite is Transient
Intermodulation
>> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>>

>Maybe Jack's on to something here...has anyone characterized the
impulse
>response of a typical SSB sideband reject filter...what do the
overshoots
>from fast wavefront voice peaks do to the following stages?
>
>Joe
>WA3CMQ

Some of us have been lucky enough to play with receivers using IF DSP's. When you have available highly adjustable digital IF Bandpass filters, digital demodulation, and one Hertz tuning steps, SSB sounds like a guy talking across the table (given a decent multi-thousand dollar transmitter.) In just 5 or 10 years, when IF DSP technology is affordable on any decent receiver, we will look back on this discussion and laugh about the good ole days...
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

End of Ham-Homebrew Digest V95 #161
****

Date: Tue, 30 May 1995 12:03:09 -0400
From: steve@hi.com (Steve Byan)
Subject: WOT NO FAQ???

In article <3q2dfh$cg0_002@salford.ac.uk>, A.Vilches@eee.salford.ac.uk (A.Vilches) wrote:

> COULD ANYONE TELL ME WHERE THE FAQ IS FOR THIS PLEASE?

I don't think anyone has volunteered to write one. It'd be a rather large task.

You might try the ARRL Handbook and the ARRL book "Solid State Design for the Radio Amateur". I also recommend Hayward's book on RF design, recently reprinted by the ARRL

Amateur Radio Relay League
225 Main Street
Newington, CT 06111
USA
1-203-666-1541

I'm sure the Radio Society of Great Britain also has some excellent publications, although I don't have an address for them.

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.

1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

Date: 30 May 1995 17:14:41 GMT
From: jedrusyna@ime-1.ime.pwr.wroc.pl (Artur Jedrusyna)

References<3q3dsp$qgk@parsifal.nando.net> <3q8enp$n7i@senator-bedfellow.MIT.EDU>,
<3q93r5$333@misc1.microserve.net>
Subject: Re: Replacement for 40673? was Re: homebrew

In article <3q93r5$333@misc1.microserve.net>, jackl@pinetree.microserve.com (WB3U) says:
>
>>DB Wilhelm <w3fpr@nando.net> wrote:
>>
>> alas, no source for the 40673 - RCA quit making them.
>> Does anyone have a stockpile? I'm interested in about a dozen,
>
>There are a large number of Japanese N-Channel dual-gates that should
>substitute very well for this device. Audio service companies use these,
>mostly as replacements in FM receiver front ends.
>
>I believe one of the common numbers we used was a 3SK140, but I've
>been out of the industry for a number of years. You should be able to verify
>a few suitable numbers with a local audio/video technician.
>
>73,
>
>Jack WB3U

You can try MOSFET's of BF 900 - series,manufactured mainly by
Philips,Siemens and Telefunken. I think that BF 961,963 and 964 are
the best equivalents [suitable for VHF].If you want to try something
above 200 MHz, try BF900,or 960 or 966 [966S is better].

Artur Jedrusyna
Technical University of Wroclaw,Poland
jedrusyna@ime-1.ime.pwr.wroc.pl
// Wroclaw - the place where Silvius Leopold Weiss lived ...

End of Ham-Homebrew Digest V95 #162
****

2297. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: Administrator_at@comsys.rockwell.COM
Message-ID: <9505018020.AA802016154@SmtpSend.comsys.rockwell.com>
Source record: 112602

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA08886; Thu, 1 Jun 95 07:09:47 CDT
Received: by mail.ucsd.edu; id EAA13498
sendmail 8.6.12/UCSD-2.2-sun
Thu, 1 Jun 1995 04:30:28 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA13490
sendmail 8.6.12/UCSD-2.2-sun
Thu, 1 Jun 1995 04:30:26 -0700 for ham-homebrew-ddist
Message-Id: <199506011130.EAA13490@mail.ucsd.edu>
Date: Thu, 1 Jun 95 04:30:25 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #162
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Thu, 1 Jun 95 Volume 95 : Issue 162

Today's Topics:
help hf antenna
High intercept, low noise amp - wanted.
HP Counter Service Manuals
Message not deliverable
WOT NO FAQ???

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------
```

Date: 30 May 1995 19:02:14 GMT
From: dominick@earth.planet.net
Subject: help hf antenna

Hi All...

I live in an apartment and need some ideas for a low profile 80-10m ant.
Of course ir I'm going to get back into hf the ant. will have to perform well.
Alot to ask? I'm sure it's been done and done well. I have a small deck to work
with.
Approx. 13'x7'. I do have a clothesline there now that does a diagonal. My wife
is
at her limit with the vhf ant.s on a mast out there now so low key is important.
I have an excellent location (about 1300').
Thanks for all your help in advance. Please email me.
Dom, N2QAT
/--\
Dominick A Atanasio	PGP Fingerprint
LOCKSMITH	3D E0 34 63 44 C8 98 D9
Locksmith's Mailing List	2E 02 36 98 24 0E DF BA
(Controller)	Finger dominick at earth.planet.net
For info send to: info@hamlet.planet.net	For public key
E-mail: dominick@earth.planet.net	
\--/

Date: Tue, 30 May 1995 12:19:01 -0400
From: steve@hi.com (Steve Byan)
Subject: High intercept, low noise amp - wanted.

In article <1995May25.115811.15892@ucl.ac.uk>, davek@medphys.ucl.ac.uk wrote:

> I'm looking to build a lowish noise (2-4 dB) amp for about 70 or 100MHz
> with a 3rd order output intercept of > +50dBm . Gain about 15dB.
>
> Getting the nosie figure is easy. Getting the IP3 is easy, but getting
the two
> together is beyond me. Since I dont have access to NF measuring gear, I was
> idealy looking for a circuit known to work. Failing that, any pointers on how
> it might be done. I can measure IP3.

How about a transformer feedback amp? I don't know the noise figure, but
it's supposed to be low. The topology is a common-base amp with
transformer feedback from the collector to the emitter.

I don't have an original reference, but Rohde included a push-pull version
in one of his receiver articles in QST. (I think the one where he reviewed
the design of a Rohde and Schwarz transceiver.)

Dallas Lankford has been writing about them in the newsletters of the US
medium wave DX clubs: the NRC's "DX News" and the IRCA's "DX Monitor".

Does anyone have a reference for the original paper or any tutorials on
this kind of amp?

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

Date: Tue, 30 May 1995 12:21:53 -0400
From: steve@hi.com (Steve Byan)
Subject: HP Counter Service Manuals

> Can anyone point me to a source for service manuals for the
> HP 5300B and HP5307A (combined unit) counter ?

Try this place:

Ed Matsuda
P.O. Box 390613
San Diego, CA 92149
(619) 479-0225

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

Date: 31 May 95 14:47:01 GMT
From: Administrator_at@comsys.rockwell.COM
Subject: Message not deliverable

Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA23955; Wed, 31 May 95 07:48:49 CDT
Received: by mail.ucsd.edu; id EAA15670
sendmail 8.6.12/UCSD-2.2-sun
Wed, 31 May 1995 04:30:30 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA15661
sendmail 8.6.12/UCSD-2.2-sun
Wed, 31 May 1995 04:30:28 -0700 for ham-homebrew-ddist
Message-Id: <199505311130.EAA15661@mail.ucsd.edu>
Date: Wed, 31 May 95 04:30:26 PDT

From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #161
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Wed, 31 May 95 Volume 95 : Issue 161

Today's Topics:
Bounced Posts - Australia Gateway ???
Collins crystal filter spec
Ham Radio BBS
Message not deliverable
RF Plate chokes

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 29 May 95 19:44:51 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Bounced Posts - Australia Gateway ???

Has anyone else receiving the following after posting to this newsgroup?

> From: Gateway@ieaust.org.au (Gateway)
> Organization: Institution of Engineers, Australia

> Sorry. Your message could not be delivered to:
>
> rec.radio.amateur,misc (Multiple names were found at the remote site. Please
> be more specific.)

73,

Jack WB3U

Date: Mon, 29 May 1995 15:18:58 GMT
From: jlivingston@cix.compulink.co.uk ("John Livingston")
Subject: Collins crystal filter spec

I have a 300 hz, 455 KHz Collins crystal filter, but no info on the thing.
Can anybody tell me :
- The source and load terminating impedances ?

- The 6:60 dB shape factor ?
- The insertion loss ?
- Pass band ripple ?

The type number is X455KF300

John Livingston jlivingston@cix.compulink.co.uk
G4FDD G-QRP 431
+44(0)904 794305 FAX +44(0)904 657778

Date: Tue, 30 May 1995 01:19:44 GMT
From: offline@ripco.com (Offline)
Subject: Ham Radio BBS

Chicago Area Scanner / Ham Radio / Commercial Radio BBS

The RF Spectrum 312-581-3850 1200 - 14.4 v.32

Complete FCC Database online for the following states:
Illinois Indiana Michigan Ohio Pennsylvania
New Jersey Tennessee Virginia North Carolina Kentucky

Limited listings for:
Wisconsin Iowa Minnesota Missouri Mississippi

Online Ham Call Sign Database

9.0 gig online

Over 35,000 files with more than 5,000 related to radio & scanning

Over 10,000 assorted other files covering technical & other interests.

More comming soon !!!!!

--

Date: 30 May 95 14:38:01 GMT
From: Administrator_at@comsys.rockwell.COM
Subject: Message not deliverable

Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA10567; Tue, 30 May 95 08:35:19 CDT
Received: by mail.ucsd.edu; id EAA11683
sendmail 8.6.12/UCSD-2.2-sun
Tue, 30 May 1995 04:30:26 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu

Precedence: List
Received: by mail.ucsd.edu; id EAA11672
sendmail 8.6.12/UCSD-2.2-sun
Tue, 30 May 1995 04:30:22 -0700 for ham-homebrew-ddist
Message-Id: <199505301130.EAA11672@mail.ucsd.edu>
Date: Tue, 30 May 95 04:30:22 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #159
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Tue, 30 May 95 Volume 95 : Issue 159

Today's Topics:
Help with Homebrew Plate Choke
New site
WTB: Ge Master II Already Converted to Repeater

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
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policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 28 May 95 20:25:07 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Help with Homebrew Plate Choke

w8jitom@aol.com (W8JI Tom) wrote:
>I think the error was removing turns without any idea where the
>resonances are formed in the choke. The distributed capacitance from
>one area of the choke to another, combined with the inductance leading
>to that point, form these series resonances.

<snip>

This sounds entirely plausible to me. Unfortunately, I don't have either
a general-coverage generator, or anything similar to the MFJ analyzer.
I think I'm going to have to let this one go and rely on being able to
build a continuous-winding choke. This brings up another question . . .

At one point, I had the 1" diameter choke wound with 80 turns of #26, for a
total winding length of about 1-1/2". The only resonance near the ham bands
was at 33 MHz. With a calculated inductance of 82 uH and resistance of
0.82 ohms, the Q of the choke at 30 MHz calculates to more than 18,000.

Given this number, do I need to worry about the 33 MHz resonance? Will
in-circuit operation broaden the response, or is 33 MHz far enough removed?

73,

Jack WB3U

Date: 29 May 1995 03:12:03 GMT
From: talley@tam2000.tamu.edu (B.T.Jones)
Subject: New site

Date: Sun, 28 May 1995 22:59:33 GMT
From: caviccpe@postoffice.ptd.net (PAC)
Subject: WTB: Ge Master II Already Converted to Repeater

I am looking for a GE Master II already converted to a repeater.
In the VHF Band. Please e-mail me if you know where I can find this or if
you can sell me one.

Thanks, Pete N2ndl Caviccpe@Postoffice.ptd.net

Date: Sun, 28 May 1995 20:00:07 GMT
From: kludge@netcom.com (Scott Dorsey)

References<3q89fd$o2o@tuba.aix.calpoly.edu> <3q98da$34c@misc1.microserve.net>,
<3qa823$n3c@netaxs.com>
Subject: Re: SSB - why poor sound quality?

In article <3qa823$n3c@netaxs.com> "rocci@netaxs.com" <Joe Rocci> writes:
>
>> Not before I mention that my personal favorite is Transient Intermodulation
>> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
>>
>Maybe Jack's on to something here...has anyone characterized the impulse
>response of a typical SSB sideband reject filter...what do the overshoots
>from fast wavefront voice peaks do to the following stages?

I actually did once try measuring the impulse response of the Collins
mechanical filters, and it was so incredibly nasty that I just packed
the whole project in. You've never seen so much ringing in your life...
--scott
--
"C'est un Nagra. C'est suisse, et tres, tres precis."

End of Ham-Homebrew Digest V95 #159
****

Date: 30 May 95 13:59:56 GMT
From: Waltk@pica.army.mil
Subject: RF Plate chokes

Hi Jack, I didn't see your initial post, but I'd like to comment
on choke building. I wound my own in a straight, non-pi,
configuration and it had a resonance in the 10M band. I knew that
because it "blew up" when I tried tuning the amp on 10M CW.
I used a noise bridge that only went up to an R of 300 and
noticed a resonance near the 10M band. I first removed some
turns but it had little effect on the resonance. So, I rewound
the choke in a pi configuration, using W1FB's design in the 1987
ARRL handbook as a guide, and the resonance moved just outside the
10M band, somewhere in the "upper channels" of the CB band.
Moving it this slight amount did the trick. I feel that
the resonance you see at 33 Mhz should be sufficiently far
enough (> 10%) away to be OK.

The only sure fire way to test a choke "in circuit" is to
tune the amp and if it explodes you need to move the
resonance out of the band of interest. Recently, I acquired
the Autek RF-1 analyst which will measure an R up to 2000 ohms.
With this device it should be a snap to find a resonance
"in circuit" and avoid the other (blow'em up) method to test
for resonances. The reactance of a RF choke is quite high and
thats why its difficult to get a null on the RX using an RF
noise bridge (like the Palomar) that only goes to 300 ohms.

Wish you luck in your building endeavours.

....
73 de Walt Kornienko <<< K2WK >>> Internet: waltk@pica.army.mil
DX PacketCluster: K2WK > W3MM (FRC) Packet: K2WK@N2ERH.NJ.USA.NOAM
Frankford Radio Club

Date: 29 May 1995 06:38:01 GMT
From: drted@ix.netcom.com (Ted Viens)

References<3q89fd$o2o@tuba.aix.calpoly.edu> <3q98da$34c@misc1.microserve.net>,
<3qa823$n3c@netaxs.com>
Subject: Re: SSB - why poor sound quality?

In <3qa823$n3c@netaxs.com> "rocci@netaxs.com" <Joe Rocci> writes:
>
>
>> Not before I mention that my personal favorite is Transient
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>> Distortion. Yeah, that must be the problem with SSB, T.I.M. . . .
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Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

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From: steve@hi.com (Steve Byan)
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Amateur Radio Relay League
225 Main Street
Newington, CT 06111
USA
1-203-666-1541

I'm sure the Radio Society of Great Britain also has some excellent publications, although I don't have an address for them.

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.

1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

Date: 30 May 1995 17:14:41 GMT
From: jedrusyna@ime-1.ime.pwr.wroc.pl (Artur Jedrusyna)

References<3q3dsp$qgk@parsifal.nando.net>
<3q8enp$n7i@senator-bedfellow.MIT.EDU>, <3q93r5$333@misc1.microserve.net>
Subject: Re: Replacement for 40673? was Re: homebrew

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>>
>> alas, no source for the 40673 - RCA quit making them.
>> Does anyone have a stockpile? I'm interested in about a dozen,
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You can try MOSFET's of BF 900 - series,manufactured mainly by
Philips,Siemens and Telefunken. I think that BF 961,963 and 964 are
the best equivalents [suitable for VHF].If you want to try something
above 200 MHz, try BF900,or 960 or 966 [966S is better].

Artur Jedrusyna
Technical University of Wroclaw,Poland
jedrusyna@ime-1.ime.pwr.wroc.pl
// Wroclaw - the place where Silvius Leopold Weiss lived ...

End of Ham-Homebrew Digest V95 #162
****

2298. IF filter - how to test?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jun1.122152.64678@ucl.ac.uk>
Source record: 112603

I've been offered some IF filters at about 91MHz, which will be the first IF in a receiver I'm designing. Trouble is, I dont know either the load resistance or capacitance. Obviously I could make an educated guess and try, but having two variables, theres a lot of combinations! I dont know the full spec - only the pass bandwidth. Are there any less trying ways to determine what these devices want to see? I've got a spec. analyser to use.

davek G8WRB.

2299. Motorola Repeater

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: jbls@aol.com
Message-ID: <3qjts2$4df@newsbf02.news.aol.com>
Source record: 112604

I need info on a Motorola C73CXB Repeater. How good is it? What is a retail price for a new one? What is a good price for a used One?

John
KE6TGN

2300. Re: Please help my son!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: mikezn5psi@aol.com
Message-ID: <3qjvl6$4ie@newsbf02.news.aol.com>
Source record: 112605

Hello. A&A Engineering has a CW QRP transceiver kit in both 20 meter and
40 meter. I built the 20 meter kit and am very happy with it. The kit was
put
together very well and the instructions were very good. It was a pleasure
to build.
A&A Engineering can be reached at: (714)952-2114 for a catalog.
73 de Mike N5PSI

2301. Looking for conversion info for SSB CB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: gull@cyberspace.ORG
Message-ID: <Pine.SUN.3.91.950601103031.19766A-100000@grex.cyberspace.org>
Source record: 112606

I recently acquired an old TRAM XL5. This is an old 23-channel
CB, with SSB capability. Does anyone have any ham-band conversion info
on this radio? It seems to me that the SSB capability would make it a
great 10m conversion.


```
_ _
__ _ _ _| | | | David Brodbeck Alma, MI
/ _` | | | | | | | Amateur Packet(AX.25): N8SRE@wb4vva.#nemi.mi.usa.na
| (_| | |_| | | | +-----------------------------------------------------
\__, |\__,_|_|_|_| @ cyberspace.org
|___/
```

2302. Digest Problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: af045@DAYTON.WRIGHT.EDU
Message-ID: <9506011457.AA16214@dayton.wright.edu>
Source record: 112607

Hi gang.
I get Ham-Homebrew in digest form. I have been having a problem lately and am wondering if anyone else is. Today I got Issue 162 of the digest. Embedded inside was Issue 161. Embedded inside Issue 161 is Issue 159. In other words I received three issues in one digest. Is this normal or have I just been lucky? What's the scoop?

Sorry for taking up the bandwidth with my problems...
73,
Dan WD8AAU

2303. Re: direct digital synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: Alf Green <alf>
Message-ID: <3qkr43$8hm@adm09.iac.honeywell.com>
Source record: 112608
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

David Hough <dave@llondel.demon.co.uk> wrote:
>In article <3qdf5t$16ca@thebes.waikato.ac.nz>
> spearce@ccu1.auckland.ac.nz writes:
>>
>> What is currently available in the way of affordable direct digital synthesis devices
>> that work into the vhf range. I am aware of the Plessy sp2001 and sp2002 and also the
>> qualcomm devices ... but presume these are still v. expensive. Is there an archive site
or listserver
>> which discusses this area at a construction/design level?
>>
>While not quite into VHF, you could try the Analog Devices stuff - the
>AD7008 is fairly reasonable (50MHz clock, up to 20MHz out) and can get
>to VHF with the help of a mixer and oscillator.
>
>Dave
>--
>dave@llondel.demon.co.uk My other .sig is a work of art

Does anyone out there know where to get these from, in one-off qtys???
The distibutors have hefty minimum order policies.

If you have this info, please post it; I expect there would be a lot of
interest here.

73s Alf NU8I/G4ABB

alf@agreen.iac.honeywell.com
Phoenix, AZ

2304. THANKS for Re: to Help My Son!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: jhschutt@figmnt.tayloru.edu
Message-ID: <1995Jun1.132635.2125@figmnt.tayloru.edu>
Source record: 112609

Thanks to all of you who replied to my message asking for information to help my son with a QRP rig!! The response was SUPER!!!!! He and I gleaned a lot of good information from your responses. Some of you suggested parts manufacturers. One of his friends had the Mouser and Digi-Key catalogues and leant them to Noel. I'm sure that he will call to get other catalogues. Your suggestions about QRP rigs was also super. He's read the ARRL handbook and the ARRL QRP book. I'm sure that he will request information from some of the kit manufacturers that you recommended. Again, THANKS!!!!

By the way, Noel was 14 in March. He's been busy learning electronics by doing a lot of reading lately. We also have a Radio Shack 200-in-one kit and he's been building circuits to see how they work. He's been reading schematics and even modifying ones that he's seen to build his own. In fact, he showed me one when I went home for lunch today!! On a different note, He got his Tech Plus license back in Feb. of this year. Just last Saturday, He got his General License!! (Dear-old-Dad just got his Tech Plus last Saturday.)

Again, THANKS A LOT for all the quality replies!!!

73s--

John Robert Schutt /\ jhschutt@tayloru.edu
Taylor University- Fort Wayne //\\ (219) 456-9061
1025 W. Rudisill Blvd. ///\\\ FAX: (219) 456-2119
Fort Wayne, IN 46807 ||

2305. FT51R and 900Mhz ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: michael.jaekel@tdd.snafu.de
Message-ID: <950601040003365@tdd.snafu.de>
Source record: 112610

Hello All !

I am using here a Yaesu FT51R Dualband Handy, i having interest for
900Mhz, any Software or Hardware Modification Tips ?

Thank YOu...Michael DD6VD

ados@tdd.snafu.de

2306. Re: homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.203.000E420D@TRL.OZ.AU>
Source record: 112611

, but alas, no source for the 40673 - RCA quit making them.
>Does anyone have a stockpile? I'm interested in about a dozen,

>73,
>Don W3FPR

The NTE222 is a pretty good replacement for the 40673. Also MFE201, MFE301
and MFE131 if you geat 'em.

Drew, VK3XU.
>

2307. Heathkit parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: hw@oscar.bellcore.com
Message-ID: <3ql1f9$ipr@athos.cc.bellcore.com>
Source record: 112612

Does anyone know of a source for parts used in
Heathkit scopes, transmitters, receivers, etc.?

Thanks and 73,

Harold
KB2M

2308. Ten Tec 2M kit withdrawn

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istD9IHtD.Eu0@netcom.com>
Source record: 112613

I just got off the phone with Ten Tec. Looks like after a year of
'it will be ready in 4-6 weeks', they have finally realized that it
wont. They have pulled the model 1220 2M kit from the market and
cancelled all orders for it. They plan to re-introduce it whenever
they get the changes in. Turns out it needed more than just a voltmeter
to align it, and they will redesign it to simplify the alignment
process. No, they won't send out kits to those of us with the
service monitors or nice labs at work :-)

In all fairness, the other Ten Tec kits that I have built have all
gone very well. At least they care enough to put a good design on the
market, unlike that other radio kit company...

And before I get all the mail asking, their phone number is
615-453-7172 (info) or 800-833-7373 (orders).

/mike

--
\|/ Michael L. Ardai N1IST Teradyne ATB, Boston MA
-*- ---
/|\ ardai@maven.dnet.teradyne.com n1ist@netcom.com

2309. Re: Replacement for 40673?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <3qli51$ec3@newsbf02.news.aol.com>
Source record: 112614

I have used an SK3991. works FB. Available from Mouser and probably Newark.

GL es DXOM.

2310. DEM 903-144 XVTR- have u built one?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-01 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <3qli5n$eco@newsbf02.news.aol.com>
Source record: 112615

Hi there!

I am having a small amount of difficulty with the 903 XVTR. Have built 1296, 2304, 3456 all with no problem, but this little sucker REFUSES to put out enough to drive the mixers (SBL1X type), which is a required +14dBm for two. I've tried a buch of differnt things- have gone over the PCB with a microwave milliwattmeter, and a Simpson 260, etc. All I can get (after some mods, mind you) is +4 DBM out of the final amplifier after the filters. Steve at DEM has been as helpful as he can, but I hate to keep calling him all the time.

Has anyone else had a problem with this, and what am I doing wrong? The PCB is built perfectly acording the the manual, and MMIC voltages are FB.

Any Ideas?

2311. Re: 1296 Mhz cavity help.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3qm0bn$cne@tierra.santafe.edu>
Source record: 112471

Coupling at the anode is fine. It will have a lower rf voltage than the voltage max point, but all this means is a bit more coupling capacitance. Of course, this won't work if the first voltage minimum is at the tube anode connection, but if the tube is rated for 1300 MHz or so you should be OK. It's really hard to make a capacitive coupler that moves with the sliding short. A better alternative is to inductively couple with a loop that moves with the short. There are problems with that also, if the desired plate load resistance is low.

You probably can do without the trim capacitance. No point adding extra at 1296 MHz. Just remember to keep adjusting the sliding short to compensate for changes in tuning as you adjust the output loading. As a practical matter, once you get close, you can use the output coupling capacitor as the trim. Just peak the rf power output by adjusting the coupling. This works because the tuning is more critical than the impedance match.

The same considerations apply to the cathode end, but the VSWR (impedance transformation) is not as critical since you can adjust the match at the driver. A little VSWR is not a big deal if the transmission line is not too long.

Three signs of too low load impedance. 1.) Grid current is low, 2.) power doesn't change a lot (that's a bit subjective) with plate voltage, and 3.) efficiency is low. (Efficiency also depends on transit time factor and you can't expect good efficiency at the upper limits of the tubes operating range.) Signs of too high plate impedance: 1.) High grid current, 2.) Power increases fairly rapidly with plate voltage, 3.) abnormally high efficiency (see comment in 3 above), and 4.) high voltage sparks at the plate (internal or external) or voltage max point on the plate line. It's better to start with the load impedance too low.

Note on efficiency. You can expect the normal efficiency to be on the order of 30% at the upper frequency limit claimed by the manufacturer. Varian makes some planar triodes (I'm most familiar with the YU-141 and Yu-176) that have such close spacing that they can achieve 60% efficiency at 432 MHz. Don't know what they do at 1296.

--
==========

James M. Potter, President Internet: jpawi@roadrunner.com
JP Accelerator Works, Inc. AOL: jpawi@aol.com,jpotter@aol.com
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

2312. LNA for GPS (GaAsFET's vs. MMIC's)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: kirk@sdd.hp.com
Message-ID: <3qnole$nnd@news.sdd.hp.com>
Source record: 112472

I posted this to sci.electronics, but the response has not
been huge, so I'll try here...

I am thinking about building a GPS receiver from scratch
to learn more about this kind of stuff. After looking
in HP's Communiucations Components data book, I was
convinced that the best performing LNA to put at the
base of an antenna would be made from a couple of discrete
GaAsFET's (like the HP ATF-10170) instead of a MMIC,
assuming I do the layout properly. Anyone disagree with
this assessment.

Also, could someone point me to some good reference materials
on designing (layout, supply isolation, etc.) 1.5 GHz receivers.

Once I figure all of this out, I'll post the results just in
case anyone is interested.

Thanks for your time!

--
~~~~~~~~~~~~~~~~~~~~~~~~~~
Kirk Norton Hewlett-Packard Company
Internet: kirk@sdd.hp.com Home Imaging Division
Phone: (619) 655-8663 16550 West Bernardo Drive, M/S 8-20
FAX: (619) 655-6686 San Diego, CA 92127-1899
~~~~~~~~~~~~~~~~~~~~~~~~~~

2313. Wanted: R-30 / CV-157 information

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: "J.Swenson" <jswenson@jswenson.hqsl.stratus.com>
Message-ID: <3qno4c$qn5@transfer.stratus.com>
Source record: 112473

Now I know these rigs are just great the way they are ! I may get some people upset at the thought of changing originals but I am new to this equipment and don't want to miss out on anything ! Anyone have any neat mods for these ? Also let me take this time to thank all who helped in the purchase questions on the R390/R390A. As you can see I came up with a nice deal on a R390A (ok but but dead 11 & 25 mhz) and a spare for parts as well as a CV-157 SSB adapter minus the meters and a few tubes. The 157 had a number of problems but mostly minor. It now has one dead channel but I are working an that. I still have to get a 390 manual to look at the band problems but that should not be too bad. Fixing these are half the fun ! Thanks in advance for any reply. 73's N1DVE

2314. INFO WANTED: Long Wire Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: Jeff Krul <jkrul@equist.com>
Message-ID: <3qnt29$ijc@noc.tor.hookup.net>
Source record: 112474
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Hi! The name here is Jeff, callsign VE3QED. I am looking into putting up a long-wire antenna, or some sort of antenna that I can 'wrap' around my house, rain gutter, or fence. You can make the call.

I need the antenna to service both 160m and 80m, so I figure a 1/4-wave of 160m (131.2 feet/40 meters) would work ok (since that would be 1/2 wave for 80m).

My question is, can the long/random wire antenna simple be fed from my MFJ949E (which supports tuning of random wire antennas) and wrapped around the perimeter of my house? Is this the best way to do it? I do not want the antenna visible so just under the rain gutter (or in it!) would be ok with me. Again, you make the call!

Thanks in advance!

Jeff
VE3QED

Please e-mail your responses to jkrul@equist.com

2315. Re: direct digital synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: David Hough <dave@llondel.demon.co.uk>
Message-ID: <802138592snx@llondel.demon.co.uk>
Source record: 112475
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In article <3qkr43$8hm@adm09.iac.honeywell.com>
Alf Green <alf> writes:
>
> Does anyone out there know where to get these from, in one-off qtys???
> The distibutors have hefty minimum order policies.
>
> If you have this info, please post it; I expect there would be a lot of
> interest here.
>
Can't help unfortunately - I got two by talking nicely to the sales rep
at work and giving him an order for several hundred quid for other bits
at the same time so he managed to get me a couple. I have a suspicion
they were acquired from AD as 'samples' because they arrived in separate
parcels (a single 44-PLCC in a package about 18 inches long by about
four square :-))

Dave
--
dave@llondel.demon.co.uk My other .sig is a work of art

2316. Re: Heathkit parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-0206951706040001@nb-dyna75.interaccess.com>
Source record: 112476

In article <3ql1f9$ipr@athos.cc.bellcore.com>, hw@oscar.bellcore.com
(Harold Winard) wrote:

> Does anyone know of a source for parts used in
> Heathkit scopes, transmitters, receivers, etc.?

Harold -
Apparently Heathkit parts are available from:

Heath Replacement Parts
455 Riverview Drive
Benton Harbor, MI 49022

Or from:
.
MAIN OFFICE:
Heathkit
P. O. Box 1288
Benton Harbor, MI 49023
.
FREE CATALOG:
1-800-44-HEATH
.
ORDER PHONE:
1-800-253-0570
.
FAX ORDER PHONE:
1-616-925-4876
.
CUSTOMER SERVICE:
1-800-253-0570
.
TECHNICAL CONSULTANTS:
Educational Products 1-616-925-4914
Security & Lighting 1-616-925-5181
.
PARTS REPLACEMENT:
Have Part # Ready 1-616-925-5899
.
PRODUCT REPAIR SERVICE:
1-616-925-3273
.
Dave Moorman, K9SW
Downers Grove,
Illinois

2317. Are you sailing? Onboat versus online !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: reistad@telepost.no
Message-ID: <3qnqde$b0v@nms.telepost.no>
Source record: 112477

I am sailing , and using my PC ON KEEL, not online,
for receiving among other things Meteorology daTa.
(WE-fax NAVTEX etc.)

I am planning to test reaching THE NET from the boat,
but that is future!

Is there anybody out there who can tell me where to get more
Information about this type of transmitters(WE-fax and like) ,
but not Canada and USA only , because my home sail area is south
of Norway, cost of Sweden and Denmark.

Thomas Reistad
SY Alabama
Norway

2318. Re: LNA for GPS (GaAsFET's vs. MMIC's)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <199506021832 59OSYSMAS@MVS.OAC.UCLA.EDU>
Source record: 112478

>I am thinking about building a GPS receiver from scratch
>to learn more about this kind of stuff. After looking
..
>Also, could someone point me to some good reference materials
>on designing (layout, supply isolation, etc.) 1.5 GHz receivers.

I seem to remember a series of articles in Wireless World (UK pub)
on building a GPS receiver...

2319. Hi Voltage Diodes for HT supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: Conrad Farlow <conrad@g0ruz.demon.co.uk>
Message-ID: <825990074wnr@g0ruz.demon.co.uk>
Source record: 112616

Can anyone tell me where I can get some diodes to make a bridge for my
EHT supply for my new Pa.I will be running 3kv at up to 1.5 Amps.I
think I saw reference to a place called Silicon Alley or something
like that.If its in the US do they accept Visa orders by phone?
Many thanks
Conrad Farlow G0RUZ
email conrad@g0ruz.demon.co.uk
packet radio G0RUZ @ GB7WRG.#19.GBR.EU

2320. Message not deliverable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: Administrator_at@comsys.rockwell.COM
Message-ID: <9505028021.AA802105332@SmtpSend.comsys.rockwell.com>
Source record: 112617

```
Received: by ccmail from dlsun32.comsys.rockwell.com
From owner-ham-homebrew@ucsd.edu
X-Envelope-From: owner-ham-homebrew@ucsd.edu
Received: from mail.ucsd.edu (ucsd.edu) by dlsun32.comsys.rockwell.com
(4.1/1.34)
id AA25544; Fri, 2 Jun 95 07:49:36 CDT
Received: by mail.ucsd.edu; id EAA25305
sendmail 8.6.12/UCSD-2.2-sun
Fri, 2 Jun 1995 04:30:30 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA25297
sendmail 8.6.12/UCSD-2.2-sun
Fri, 2 Jun 1995 04:30:28 -0700 for ham-homebrew-ddist
Message-Id: <199506021130.EAA25297@mail.ucsd.edu>
Date: Fri, 2 Jun 95 04:30:28 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #163
To: Ham-Homebrew@ucsd.edu

Ham-Homebrew Digest Fri, 2 Jun 95 Volume 95 : Issue 163

Today's Topics:
Digest Problems
Help on GM Vehicle Computer Data
High intercept, low noise amp - wanted.
Looking for conversion info for SSB CB
vhf/uhf equipment for sale

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------
```

Date: 1 Jun 95 14:57:11 GMT
From: af045@DAYTON.WRIGHT.EDU (Dan Puckett)
Subject: Digest Problems

Hi gang.
I get Ham-Homebrew in digest form. I have been having a problem lately and am wondering if anyone else is. Today I got Issue 162 of the digest. Embedded inside was Issue 161. Embedded inside Issue 161 is Issue 159. In other words I received three issues in one digest. Is this normal or have I just been lucky? What's the scoop?

Sorry for taking up the bandwidth with my problems...
73,
Dan WD8AAU

Date: Tue, 30 May 1995 21:07:40 GMT
From: allent@mnsinc.com (David Allen)
Subject: Help on GM Vehicle Computer Data

As an inveterate homebrewer, I am hoping an enterprising ham might also carry over his/her affliction to automobiles and be able to steer me in the right direction.

My apologies if this is the wrong group or off-topic, but I would appreciate info or a steer to source of information regarding 1988 & later GM computer data from the Electronic Control Module (ECM) and Asembly Line Diagnostic Link in my 1988 Chev G20 Van.

What I am seeking is the scheme or protocol for the single serial data ALDL signal line which provides digital data regarding the output of various vehicle sensors and the ECM's commands to control engine operation. The cheapest instrument in my area runs over $350.

Although I can read the individual wire terminals to the ECM with a digital multimeter adn interprete them with help of the Service Manual, there must be a reasonably simple way to capture the data via the ALDL and the serial port of a PC. Ideally someone has already cobbled together some Visual Basic code so the outputs could be read real-time. Any Popular Electronics articles on this?

Any info would be appreciated, particularly if you could shoot me an e-mail.

Many thanks.

Dave Allen, WA2BSL
allent@mnsinc.com

Date: 30 May 1995 20:26:45 GMT
From: "Charles H. Reichert" <reichert@ucsd.edu>
Subject: High intercept, low noise amp - wanted.

I have some liteature at home on the Xfmr feedback amps,
believe there's a copy of Rohde's article or one of them.

If interested contact me and I'll check it out. Probably will just need
an SASE + 2 stamps on it.

--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

Date: 1 Jun 95 14:33:20 GMT
From: gull@cyberspace.ORG (David Brodbeck)
Subject: Looking for conversion info for SSB CB

I recently acquired an old TRAM XL5. This is an old 23-channel
CB, with SSB capability. Does anyone have any ham-band conversion info
on this radio? It seems to me that the SSB capability would make it a
great 10m conversion.

_ _
__ _ _ _| | | | | David Brodbeck Alma, MI
/ _` | | | | | | | Amateur Packet(AX.25): N8SRE@wb4vva.#nemi.mi.usa.na
| (_| | |_| | | | +----------
__, |__,_|_|_|_| @ cyberspace.org
|___/

Date: 31 May 1995 00:37:17 +0100
From: Conrad Farlow <conrad@g0ruz.demon.co.uk>
Subject: vhf/uhf equipment for sale

VHF/SHF equipment sale on Behalf of G0LBK(all prices UK sterling)

SSB electronics 1296/144 transverter
includes Mitsubishi Pa 15 watts O/P 195

MMT 144/28R 25 watt O/P transverter(new model) 100

F1EHN EME tracking system PCB,components & s/ware 70

2 lengths ldf 4-50 with N connectors 20 each

various coax relays cx540,dow key,transco 5 each

Parts for 3 of N6CA 1296 cavities 15

18 inch sat actuator new 30

Philips D6350 Tape recorder with MS mods 20

uhf compendium vols 1 & 2 5

vhf/uhf manual 3rd edition 5

The Vhf/Uhf Dx Book 8

WANTED:
1kw 1-30 Mhz plug in for Bird Model 43 or swap for 1000C element
2 of 1MB simms
1 meg SVGA card
will swap/px any of above for HF gear (sigh G0RUZ)
Contact Dave Law G0LBK @ GB7SYP (if you can get away with it!)
or tel. (eves/weekends) (++44)(0)1709 545010.

--
Conrad Farlow

Date: Thu, 1 Jun 1995 14:15:23
From: ddiamond@TRL.OZ.AU (DREW DIAMOND)

References<3q2gpf$g4j@bmerhc5e.bnr.ca> <3q2pps$cil@misc1.microserve.net>,
<3q3dsp$qgk@parsifal.nando.net>
Subject: Re: homebrew

, but alas, no source for the 40673 - RCA quit making them.
>Does anyone have a stockpile? I'm interested in about a dozen,

>73,
>Don W3FPR

The NTE222 is a pretty good replacement for the 40673. Also MFE201, MFE301
and MFE131 if you geat 'em.

Drew, VK3XU.
>

End of Ham-Homebrew Digest V95 #163
****

2321. Re: DEM 903-144 XVTR- have u built one?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995Jun2.151843.2747@arrl.org>
Source record: 112618

TANTONR (tantonr@aol.com) wrote:
: Hi there!

: I am having a small amount of difficulty with the 903 XVTR. Have built
: 1296, 2304, 3456 all with no problem, but this little sucker REFUSES to
: put out enough to drive the mixers (SBL1X type), which is a required
: +14dBm for two. I've tried a buch of differnt things- have gone over the

I wouldn't worry too much about the drive unless it drops below, say,
8 dBm. An SBL-1 will still work with about 4 dBm, maybe even less.
Maybe not optimally, but not bad enough to cut the output by 6 to 9 dB.
Remember, 50 mW is the absolute maximum power the SBL-1X is rated
for--I'd assume this is the sum of the applied powers. They are
designed for a nominal 7 dBm each.

: PCB with a microwave milliwattmeter, and a Simpson 260, etc. All I can
: get (after some mods, mind you) is +4 DBM out of the final amplifier after
: the filters. Steve at DEM has been as helpful as he can, but I hate to
: keep calling him all the time.

Perhaps you have an oscillation that is causing the amplifiers
to generate power that is removed by the filter(s).

I've built up three of these boards--two of them obtained many years
ago via WA3ETD/SHF systems and one to verify the artwork the ARRL Tech
Department sends out. All seem to work just fine, within the limits of
the design. You could reduce the spurious output even further by
shielding the filters better--I've considered making a three board
design and connecting the shielded modules with SMA connectors...
Maybe after I find another source of cheap SMA panel mount jacks...
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2322. 1296 Mhz cavity help.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-02 00:00:00 UTC
From: Conrad Farlow <conrad@g0ruz.demon.co.uk>
Message-ID: <885687035wnr@g0ruz.demon.co.uk>
Source record: 112619

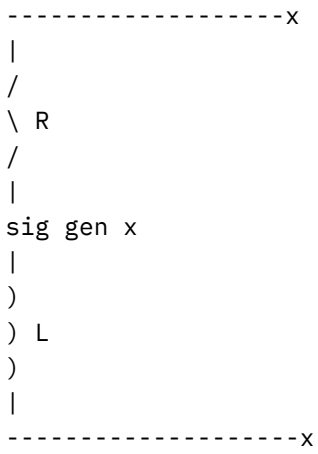
I have recently got hold of a cavity amplifier using a YD1336 tube.It
was used in TV service up to frequency of 854 Mhz.I have read two
articles on cavity amplifiers one by Buzz Miklos WA4GPM and the other
by Russ Miller N7ART.The YD1336 is a triode and I am
waiting for a circuit diagram of the PSU but it would
appear that the grid is biased and the cathode was
grounded.The grid is very adequately bypassed with
regard to rf however.
I have calculated the nominal impedance of the lines and also taken
into account the capacitive reactance of the tube
elements and I have determined that the Anode will tune
to 3/4 wavelengths and the input line to 5/4
wavelengths.The input connector position is fully
variable so no problems there either.However I have
conflicting information about where to take off the rf
from the anode line.The articles above recommend
capacitive coupling and say it should be at voltage
maximum,ie 1/4 wavelength up from the cold end of the
anode line.However the output coupling is currently at
the top of the anode cavity near to the tubes anode
collet.Also there is a sliding short but no fine
tuning(ie a tuning cap in the form of a disc on the end
of a brass screw),should I add one?I am tempted to close up the
original and add my own coupling arrangement 1/4 wave up from where I
think the cavity will tune but I am unsure about what to do.Has anyone
any suggestions?Also what is the best indicator of
correct loading on this kind of amplifier?I will be
monitoring grid current as these tubes have an absolute
max of 5mA grid and I am hoping to run mine with rather
less than 1mA.Any help will be appreciated.
Conrad Farlow G0RUZ
email conrad@g0ruz.demon.co.uk
packet radio G0RUZ @ GB7WRG.#19.GBR.EU

2323. Re: Inductor Tester

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-03 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun3.132512.11273@ke4zv.atl.ga.us>
Source record: 112479

In article <3qom14$da9@azure.acsu.buffalo.edu> werner@acsu.buffalo.edu (Erik Werner) writes:
>Anyone have a schematic that I can build to test the values of various
>inductors that I picked up recently? Thanks.

There are a number of ways to do this. A quick and dirty method that will work for inductors that aren't too large or too small is as follows:



R should be a mid-range non-inductive resistor, and L is the unknown inductor. Feed an AC voltage from the signal generator to the series connected R and unknown L. Measure the voltage across R and across L with a high impedance RF voltmeter, a scope works good too. Let V1 be the voltage across R and V2 be the voltage across L.

X=R*V1/V2

X is the reactance of the coil at the frequency of the signal generator. Now use the inductive reactance formula and solve for L.

L=X/(2*pi*f)

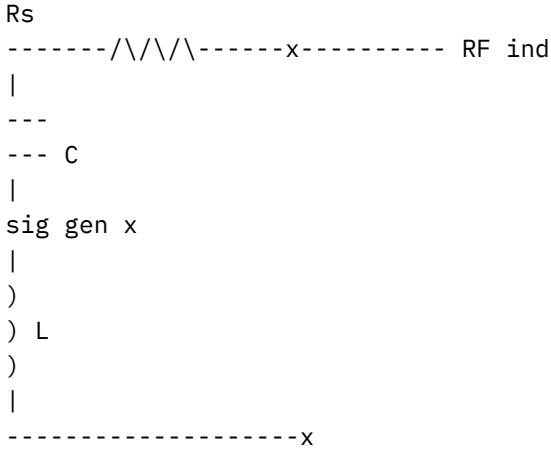
There you have it. The disadvantage of this method is that you have to have a way to accurately measure RF voltage.

Another simple method is to parallel the coil with a known value capacitor. Use a grid dip meter to find the resonance of the LC combination. The reactance of L and C are equal, but of opposite sign at resonance. Given the frequency and known capacitor value, you use the formula for capacitive reactance to determine the capacitor's reactance at resonance.

X=1/(2*pi*f*C)

That's also the inductor's reactance at resonance, so plug that number into the inductance formula given above, and you have the inductance of the unknown coil.

Here's a third method.



Rs should be large, on the order of 100k or more. To use this method, sweep the generator until a sharp dip in indicated RF is found. Then plug that value into the above equations as f and solve as in the grid dipper case. The advantage of this method is that the RF indicator can be a relative reading device of little intrinsic accuracy, and coupling to the circuit is well defined, unlike in the grid dipper case.

There are various LCR bridge circuits that can also be used, but they are more complex than these simple methods. If built carefully, they will have fewer strays, and give a more pronounced indication at the balance point. Their dials can also be calibrated to read out directly in inductance without need to resort to formulas. See the Handbook for designs.

Gary

--
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534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2324. Re: Newsgroup rec.radio.amateur.homebrew, Articles 8368-8397RE: Duplexors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-03 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun3.142449.11562@ke4zv.atl.ga.us>
Source record: 112480

In article <3qovbi$1br@huron.eel.ufl.edu> afn17891 writes:
>I am looking for the alignment procedeurs commonly used when setting up
>4 & 6 pack cavities for 2 meters... Either the down an dirty quick ways
>or the step by step methods usually used in tweaking in a set of duplexors.
>Any info would be appreciated

Here's a quick and nasty method. All you need is a pair of HTs, one with an S meter, a step attenuator, an inline pad, and a terminator.

Terminate the Tx port, put a HT on the antenna port through the inline pad, and hook the other HT to the Rx port through the step attenuator. Now transmit with the HT on the antenna port at the repeater's *transmit* frequency. Adjust the Rx notches for minimum signal on the Rx port HT, adjusting the step attenuator as necessary to keep a midscale reading on the HT S meter. Now switch to the repeater Rx frequency and peak any bandpass elements of the Rx cavities for max signal to the HT on the Rx port, again adjusting the step attenuator as necessary to keep the reading at midscale (note, you'll probably want to operate the HT on the antenna port at it's lowest power setting during this adjustment). Iterate back and forth between these two sets of adjustments for the best Tx frequency rejection combined with the best Rx frequency pass.

Now switch the HT and attenuator from the Rx port to the Tx port and terminate the Rx port. Go through the same procedures with this set of cans, except reverse frequencies, IE peak the bandpasses with the repeater Tx frequency and dip the notches at the repeater Rx frequency. Iterate as needed for the best combination of notch and pass.

You can now measure the insertion loss of the pass and reject elements by noting the setting of the step attenuator for a midscale reading on the HT then replacing the cavities with a jumper cable and readjusting the step attenuator for the same reading. The difference in step attenuator readings is your insertion loss. Combining the numbers for insertion loss for the Tx port to antenna and antenna to Rx port at the receiving frequency of the repeater gives the isolation in dB between Tx and Rx. It should be 100 dB or better to prevent desense. The insertion loss from Tx to antenna on the repeater Tx frequency should be low, under 3 dB, and similarly, the insertion loss from antenna to Rx port at the repeater Rx frequency should be low, under 3 dB.

Now you would be finished if the antenna presented a 50 ohm non-reactive termination at the two frequencies, and if the Tx and Rx presented 50 ohm non-reactive impedances at their respective frequencies. But of course they won't. So more work is left to be done. The reactance presented by the antenna feedline must be absorbed into the Tx and Rx cavities immediately adjacent to the antenna connection. The reactance presented by the transmitter must be absorbed into the cavity immediately adjacent to the Tx port. And the reactance presented by the receiver must be absorbed by the cavity immediately adjacent to the Rx port. Note: if the *real* part of the impedance on any of these ports strays far from 50 ohms, you'll need to work on the antenna, Tx, or Rx as appropriate to solve that problem. Tweaks to the cavities will only absorb the reactive part of the impedances.

So hook up the repeater in operating configuration and put an inline wattmeter at the antenna port. Key up the transmitter and make slight adjustments to the pass element of the Tx cavity nearest the Tx port and the Tx cavity nearest the antenna port for maximum indicated forward power.

Now hook up a SINAD meter to the receiver output and feed its tone to one of the HTs on low power and terminated in a dummy load, and probably shielded in a metal box as well. What you want is a noisy signal in the receiver. Inhibit the repeater Tx and carefully adjust the pass elements of the Rx cavities nearest the antenna and the Rx port for best SINAD.

Now let the transmitter key up. Unless you're very lucky, the SINAD reading will drop. Now slightly tweak the reject notches nearest the Tx port and Rx port for best SINAD. Now slightly tweak the notches nearest the antenna for best SINAD. If you've done everything right, you shouldn't see any drop in SINAD now with the repeater Tx on or off. You're done.

Gary
--
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534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2325. Re: Looking for conversion info for SSB CB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-03 00:00:00 UTC
From: jdport <jdevenport@lanl.gov>
Message-ID: <3qptpa$q96@newshost.lanl.gov>
Source record: 112481

gull@cyberspace.ORG (David Brodbeck) wrote:
>
> I recently acquired an old TRAM XL5. This is an old 23-channel
> CB, with SSB capability. Does anyone have any ham-band conversion info
> on this radio? It seems to me that the SSB capability would make it a
> great 10m conversion.
>
This dino undoubtedly has 2 banks of crystals to produce the 23 channels
(actually 24 with #24 blocked out by the channel switch). If you
look inside you'll doubtless see 2 rows of crystals fairly close to
the channel switch: one bank with 4 crystals and another with 6.
To get the full 23/24 channels to 10M, you'll have to choose whether
to replace the 4 crystals or the 6. It's been years since I've done
this and am too lazy to cross the yard to the shack to look up the
CB SAMs Photofacts but as I recall replacing the 6 crystals is the best
bet for getting usable channelization in the 10M band, though of course
replacing the 4 in the smaller bank will get all 24 channels onto 10
with less money involved.
I'll post you again in a few, if I have a SAMS that covers your Tram
I'll get you to give me your address so I can send it to you. It is
fairly painless (except for buying the crystals) to install them and
touch up the alignment transmit and receive to get the power and rx
sensitivity up to spec. Whether it's worth $20 or higher to buy the
necessary xtals when one can buy later model SSB synthesized CB's that
require only 1 crystal to convert is up to you. Another thing you can
use the existing CB for AS IS is as an exciter/driver to a VHF/UHF
or even another HF band transverter.
Jim WB5AOX

2326. Help: Baycom decode problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-03 00:00:00 UTC
From: a00074@alumni.laurentian.ca
Message-ID: <1995Jun3.105648@alumni.laurentian.ca>
Source record: 112482

Hi all.

I am in the process to try to install a baycom tnc that I purchased from a fellow ham. I am told it is in working condition and I believe it is.

I do have one problem with though. I cannot decode any transmissions coming from the radio. Reading the manual, I am told that one adjustable resistor should control the voltage on pin 7 of the TCM3105 and that in order to be able to decode anything, the voltage to that pin has to be exactly 2.7volts. However, when I attempt to adjust the resistor from its minimum value to its maximum value, the voltage fluctuates between 1.9v and 2.3v. I believe this is the source of the problem but don't know how to get the voltage to be increased to the pin.

I am no techie by any stretch of the imagination but if I am gently nudged in the right direction with any suggestion, I hope to get this tnc going in no time flat. I do not wish to part with it as it seems to work ok. I am sure it is something right underneath my nose that I am missing.

I am using a MOCOM 35 and all other tests (voltage at the db9 pins are ok, radio transmits ok, my packets are decoded by other stations) seem ok.

Thank you for any help provided and I can be e-mailed at

a00074@alumni.laurentian.ca

73 de Rick, VE3HMR Packet: VE3HMR@VA3BUS

2327. Re: Newsgroup rec.radio.amateur.homebrew, Articles 8368-8397RE: Duplexors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-03 00:00:00 UTC
From: sefranek@iii2.iii.net
Message-ID: <3qqf1t$nue@iii2.iii.net>
Source record: 112483

In article <3qovbi$1br@huron.eel.ufl.edu> afn17891 writes:
>I am looking for the alignment procedeurs commonly used when setting up
>4 & 6 pack cavities for 2 meters... Either the down an dirty quick ways
>or the step by step methods usually used in tweaking in a set of duplexors.
>Any info would be appreciated
>
>De Tom
>
Step 1: get a network analyzer...

Be aware that all adjustments are INTER|ACTIVE!

Cables between the cans are a PRECISE length!

Unused ports MUST be terminated by a GOOD 50 ohm load.

Most systems trade some passband loss for better isolation.
(Expect 2-3 db loss in the passband on both sides [TX & RX])

External adjustable coupling loops are next to Godliness!

If you haven't guessed by now, DON'T touch the cavities!
You probably don't have the experience or proper equipment.
Those modern monitors are NOT good enough to do the right
job on cavities even though they have a tracking generator
to work with the spectrum analyzer.

O.K. The cavities are already messed up, what now?
Use your H.T. into a SWR meter into the TX port of the cavities.
Place an appropriate power meter at the antenna port.
You need to adjust for the best NOTCH at the recieve frequency,
while getting an acceptable (3db or less) bandpass at the transmit
frequency, while maintaining a good SWR at both ports.
Easy no? All of this ASSUMES the cables are the right length,
and quality.

Now, do this with reversed frequencies for the recieve cavities.
Trivial no?

Seriously! Don't fool with the cavities, if you have to ask,
(No insults intended!) your NOT the right guy to tweek them!

Finally, be Darn sure you don't mess up all your work by tightening
the lock nuts etc... without watching the network analyzer.

And yes, you CAN trade hours even days of careful work with simple test equipment for the RIGHT test equipment.

73
Tom

--
Thomas C. J. Sefranek WA1RHP

2328. Hewlet Packard GaSFETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-03 00:00:00 UTC
From: smchenry@freenet.columbus.oh.us
Message-ID: <3qp6dq$r8e@acme.freenet.columbus.oh.us>
Source record: 112484

Someone recently gave me a handfull of the following parts and I have
no idea what to use them for yet. Could someone give me the lowdown on
their design specs (short form)?
ATF-35076
ATF-35176
ATF-35376
All are Hewlet Packard devices. GaSFETS? Would the simple "common"
types of biasing designs work with these? Gain and at what Freq.s? Thanks,
Sean (aka KB8JNE)
--
smchenry@FREENET.COLUMBUS.OH.US In Cyberspace, no one can hear you scream.

2329. Inductor Tester

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-03 00:00:00 UTC
From: werner@acsu.buffalo.edu
Message-ID: <3qom14$da9@azure.acsu.buffalo.edu>
Source record: 112485

Anyone have a schematic that I can build to test the values of various inductors that I picked up recently? Thanks.

2330. Re: Newsgroup rec.radio.amateur.homebrew, Articles 8368-8397RE: Duplexors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-03 00:00:00 UTC
From: afn17891
Message-ID: <3qovbi$1br@huron.eel.ufl.edu>
Source record: 112486

I am looking for the alignment procedeurs commonly used when setting up
4 & 6 pack cavities for 2 meters... Either the down an dirty quick ways
or the step by step methods usually used in tweaking in a set of duplexors.
Any info would be appreciated

De Tom

2331. CW alternatives? [Was "Re: New VK regs - wormholes"]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-04 00:00:00 UTC
From: tvr@cnmat.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Jun3200621@cnmat.CNMAT.Berkeley.EDU>
Source record: 112487
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

You're looking at apples and oranges. Yes, present techniques won't
let us use 56kb on HF, but that's not the point. We *can* send 60WPM
error free through a 63 Hz bandwidth with presently realizable technique.
That's 2 to 3 times better than most Extras can achieve on CW. And,
we can do that using less power and under worse conditions than the
CW operator must have as well.

Please explain! I thought we were limited to 300 baud, or using ASCII
about 30 characters per second. Not great for data, but i remember
that a model 33 Teletype could type about as fast as i could, at least,
in bursts, and that was only 10 cps. Now, 60 WPM means 1 word per second,
and that's 5 cps (maybe 6 if you count the spaces). Not as fast as some
people can type from copy, but comparing this to CW, that's a considerable
improvement, as you well point out. With suitable buffering, that should
work very nicely for comparable purposes. Hmmm...

Now, doing this in a lot less bandwidth than RTTY and error correction,
under worse conditions than CW?? That deserves some explanation!

... More importantly, radio equipment
designed from scratch to be optimized for digital operation can be
of the same order of cost and apparent simplicity as the CW stations
used by those operators.

I studied carefully the R2/T2 pair, and have thought about doing such
for 10m and above (noting that some of the RS birds go in on 2m and out
on 10m) Does that mean it's simple enough to be a QST project, albeit
probably not as easy as a QRP rig?

There must be some problem here i don't get, such as it's in a mode
that we can't use yet in HF... But wait, i might still be able to have
fun with such a device at 6m and above, where we can try out new coding
schemes. Please, tell more, and if you want to UUENCODE diagrams and/or
schematics in some well-known format, i'll even put it in my WWW page for
others to access.
-- KD6PAG (networking old-timer, RF newbie)

2332. Frequencies for personal use???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-04 00:00:00 UTC
From: jeremyf613@aol.com
Message-ID: <3qsn2v$1c1@newsbf02.news.aol.com>
Source record: 112488

I saw a listing of the frequencies that the FCC has aloocated for specific things...I saw some that were allowed for private use. What kind of liceansing is needed for these? Where can I get more info?
Thanks,
Jeremy

2333. Re: CW alternatives? [Was "Re: New VK regs - wormholes"]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun4.173957.16132@ke4zv.atl.ga.us>
Source record: 112489
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <TVR.95Jun3200621@cnmat.CNMAT.Berkeley.EDU> tvr@cnmat.CNMAT.Berkeley.EDU (Tovar) writes:
> You're looking at apples and oranges. Yes, present techniques won't
> let us use 56kb on HF, but that's not the point. We *can* send 60WPM
> error free through a 63 Hz bandwidth with presently realizable technique.
> That's 2 to 3 times better than most Extras can achieve on CW. And,
> we can do that using less power and under worse conditions than the
> CW operator must have as well.
>
>Please explain! I thought we were limited to 300 baud, or using ASCII
>about 30 characters per second. Not great for data, but i remember
>that a model 33 Teletype could type about as fast as i could, at least,
>in bursts, and that was only 10 cps. Now, 60 WPM means 1 word per second,
>and that's 5 cps (maybe 6 if you count the spaces). Not as fast as some
>people can type from copy, but comparing this to CW, that's a considerable
>improvement, as you well point out. With suitable buffering, that should
>work very nicely for comparable purposes. Hmmm...
>
>Now, doing this in a lot less bandwidth than RTTY and error correction,
>under worse conditions than CW?? That deserves some explanation!

We are limited to 300 baud on our HF bands below 10 meters by 97.305, and on 10 meters we are limited to 1200 baud. However, note well that baud is a technical signaling term, and baud does not have to equal bits per second. It's common to overload a single baud with multiple bits. All modern telco modems do it. I'm not speaking about use of such techniques above, however, since they aren't necessary to get the performance I quoted. The signaling technique I was alluding to was simple MSK. Adding FEC etc would reduce the effective data rate from the raw numbers quoted. Sorry if I didn't separate those two ideas clearly.

The 60WPM figure is for a raw Baudot alphabet without error correction at 45 baud using MSK modulation. The 1.4 Hz/baud figure would apply to any alphabet of course. For example, we are limited to an occupied bandwidth of 1 kHz on the lower HF bands for data transmissions. Using MSK, we could run up to 714 baud in that bandwidth if baud higher than 300 were permissible. Using symbol overloading so that one baud represented more than one bit would increase our effective bps even further, of course. Examples of that sort of thing are QPSK and QAM. Those techniques aren't as parsimonious of spectrum as MSK though when SNR is included in the equation, IE we'd have to run higher power to get the same BER and thus limit frequency reuse to an extent.

Now 97.309(a) limits the alphabets we can transmit on HF to Baudot, ASCII, and ISO646. So we can't use unspecified alphabets on HF. But that does not limit how we generate modulations to transfer those alphabets, IE how we express those patterns of ones and zeros as RF, nor does it prohibit us from using higher level protocols to facilitate the transmission of those alphabets, IE block codes, FEC, etc. Nor does it limit us in what those alphabets may *spell*. For example, we can transmit binary files by UUencoding them into the ASCII alphabet. Being restricted to only 3 alphabets is a burden, but not a serious one. We've had to deal with such limitations on computer networks for years. An 8 bit alphabet would be more natural, but we can live with the limitations of a 7 bit alphabet, albeit with considerable unnecessary overhead.

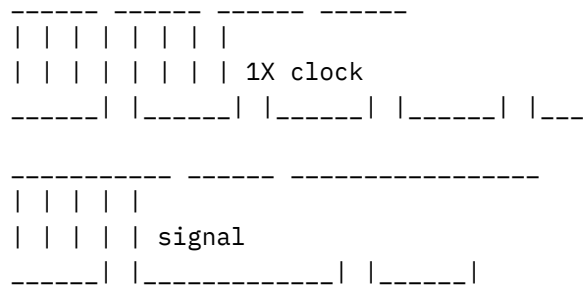
> ... More importantly, radio equipment
> designed from scratch to be optimized for digital operation can be
> of the same order of cost and apparent simplicity as the CW stations
> used by those operators.
>
>I studied carefully the R2/T2 pair, and have thought about doing such
>for 10m and above (noting that some of the RS birds go in on 2m and out
>on 10m) Does that mean it's simple enough to be a QST project, albeit
>probably not as easy as a QRP rig?

Sure. I've seen a number of projects in QST that were far more complex than the GRAPES RF modem (whose baseband is at 10 meters). Note that the GRAPES modem implements MSK, but it isn't the only way to implement MSK, and other circuits could do so with fewer parts, and/or higher performance for HF usage. It is, after all, intended for high speed usage on the UHF spectrum via a transverter, but it does implement the necessary bandwidth conservation techniques, so it serves as an existance proof for the technique.

The transmit modulation generation is simple, but specifically how the demodulator is done ultimately defines the performance of the system. The GRAPES demodulator is done in hardware and optimized for 56 kbaud, so some changes would be required to work most effectively with low rate signals in the noisy HF environment, mainly changes to the IF filter and time constants in the Costas loop. Use of simple DSP would probably make the whole exercise trivial for the baud available at HF. At the time the GRAPES modem was designed, suitable inexpensive DSP chips weren't available to deal with 56 kb and so the design had to be implemented in hardware. That adds circuit complexity that could be eliminated by use of any one of several currently available DSP chips. The GRAPES design is 8 years old, and was intended to be simple, cheap, and easy to build with parts commonly available at the time.

However, the Lowfers have been using low rate codings implemented in hardware for a number of years with remarkable results. They're using effective bandwidths on the order of 0.01 Hz with nothing more elaborate than some opamps, tri-state analog switches, and TTL logic. The key to effective operation is clock synchronization. Once you have that,

correlated oversampling will quickly tighten the effective passband
and rapidly raise the effective SNR. Perhaps a word about this would
be useful. Assume data synchronized to some clock using a simple coding
scheme (a Manchester code in this case).



0 0 1 0 data

A transition of the signal on the falling edge of clock signifies
a 1, no transition on the falling edge of clock signifies a 0.
It doesn't matter which way the signal transitions, only the change
of state matters. The signal always transitions on the rising edge
of clock, thus embedding clock into the signal.

Now if we recover this signal and sample it with a 1X clock, we'll
be looking for the transition on the falling clock edge to determine
if we have a 1 or 0. To resolve that we have to have a fairly high
bandwidth, something on the order of 3X to 5X the clock rate or greater,
otherwise the edges of the signal will be smeared and rounded by the
IF filter and prevent a clear decision. This is undesirable since
it limits the achievable SNR. Adaptive slicers can help a little,
especially for signals that are slewed, but not much.

However, suppose we sample with a high multiple of the clock rate,
say 16x, then we have 8 samples before the suspected transition
and 8 after. If we accumulate these samples and compare their
sums at the end of the bit period, we'll have effectively narrowed
our bandwidth to 1/8th it's previous value with respect to short
duration noise, and we can now use a narrower analog filter with a
bandwidth on the order of 2X clock since a sharp edge is no longer
required to pass in order for the 1 or 0 decision to be made cleanly.

With an even higher oversampling clock, we increase our effective
SNR even more. Now this assumes that the sample time is on the order
of, or less than, the average noise hit. To assure that, we may
have to lower our data rate so that the symbols are long with respect
to noise pulses. But we don't have to narrow the analog filters in
our radio by the same amount to gain the SNR advantage. The sample
and accumulate process has the effect of narrowing the bandwidth
with respect to noise.

Now the GRAPES MSK modem doesn't use this technique, but the Lowfer
system does. It's a fairly powerful technique for low rate signals
that's easy to implement in hardware (it's basically the principle

of a switched capacitor filter, but with the added feature of having
the sample clock locked coherently with the desired signal, and that's
a major improvement). Now, we can extend this same method, or better ones,
there are much better ones, to individual RF cycles if we have sufficient
hardware speed to deal with the high sample clock. Now we have a powerful
technique indeed for separating coherent signals from incoherent noise. The
coherent samples add constructively, but the random noise does not, IE a
rising edge always increments over a series of samples, but the amplitude
of incoherent noise may go down as likely as it goes up at any sample
because of it's statistical nature. Thus it tends to sum to zero, or a
constant bias, over a large number of samples. Foreknowledge of the
phase of the desired signal is one of the most powerful techniques for
separating desired coherent signals from a chaotic channel. It's the
basis for the astounding weak signal performance of the NASA DSN.

>There must be some problem here i don't get, such as it's in a mode
>that we can't use yet in HF... But wait, i might still be able to have
>fun with such a device at 6m and above, where we can try out new coding
>schemes. Please, tell more, and if you want to UUENCODE diagrams and/or
>schematics in some well-known format, i'll even put it in my WWW page for
>others to access.

Clover is an existance proof that modulations other than simple FSK
are allowed on HF. It's perhaps more complex than necessary because
it has to work through ordinary analog SSB radios which are very far
from optimized for digital transmission, but the fact that it exists,
and is permissible under the rules, is ample proof that we can use
other modulations for digital data at HF than crude FSK.

By and large, amateurs haven't used more advanced digital modulation
techniques on HF because (a) they don't know about them, (b) they
think they are too complex or difficult to understand, (c) they
believe (falsely) that they are illegal, (d) they're so brainwashed
into the manual Morse and analog voice paradigms of communications
that they reject out of hand better digital methods, and (e) there
have been no commercial Japanese products implementing the techniques
for amateurs to purchase.

As for the GRAPES RF modem, its details were explained throughly
by Dale Heatherington (its designer) in one of the ARRL Computer
Network Conference Proceedings. Look for a paper on the WA4DSY
modem if you want to know more. Again I would note that this serves
merely as an existance proof for the technique. Alternate implementations
optimized for low rate signals would serve better for HF operations.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2334. Re: Newsgroup rec.radio.amateur.homebrew, Articles 8368-8397RE: Duplexors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-04 00:00:00 UTC
From: bobw@col.hp.com
Message-ID: <3qt0sd$70i@nonews.col.hp.com>
Source record: 112490

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: In article <3qovbi$1br@huron.eel.ufl.edu> afn17891 writes:
: >I am looking for the alignment procedeurs commonly used when setting up
: >4 & 6 pack cavities for 2 meters... Either the down an dirty quick ways
: >or the step by step methods usually used in tweaking in a set of duplexors.
: >Any info would be appreciated

: Here's a quick and nasty method. All you need is a pair of HTs, one with
: an S meter, a step attenuator, an inline pad, and a terminator.

I've used the Step-attenuator-plus-receiver-S-meter measurement technique
and it can be really useful for a variety of applications. I find
that a couple of step attenuators gives me some very powerful measurement
capabilities if I just calibrate a point or two on my receiver's S meter.

However, there are a few very serious caveats that must be considered,
especially when measuring something like a duplexor.

1. How good is the HT receiver? I bet Gary is thinking of a commercial
grade HT, not the typical amateur transceiver. Many modern ham HTs
will respond to signals away from the indicated receive frequency.
Many times this will not be a problem, but trying to make 80 to 100
dB dynamic range measurements (like when tuning a duplexor) with a
a leaky receiver will be difficult. (And if you do this "at the site"
are there any other transmitters on?)

2. There are enough interactive adjustments on a typical duplexor,
its really easy to get them off into the weeds, frequency response
wise. A simple single-point measurement technique will often not
be enough to get all the cavities tuned to where they need to be.
So there is a big difference between, say, tweaking up a duplexor
that was already tuned to the desired frequency and just needs to
be adjusted slightly and one that is tuned for, say, 463 MHz and
is being moved down to the ham band.

So my suggestion is find someone with a network analyzer, or at least
a spectrum analyzer with tracking generator.

Bob Witte / bobw@col.hp.com / HP / EMD / (719) 590-3230 / KB0CY / 7J1AUE

2335. Re: Replacement for 40673?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-04 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <3qt7qv$f4u@ixnews2.ix.netcom.com>
Source record: 112491

I noticed in the MCM catalog that they have MFE-201s for $1.21 ($0.91 for 10) and MFE-211s for $1.42 ($1.06 for 10). I'm assuming these are the same as the 3N2xx/MPF2xx parts, but my transistor book doesn't list them so I couldn't swear to it. These prices seem almost too good to be true, but I have all the dual-gate FETs I'm likely to need so I haven't ordered any. Their number is 800-543-4330.

Mike, KK6GM

2336. Re: Newsgroup rec.radio.amateur.homebrew, Articles 8368-8397RE: Duplexors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun4.212215.277@ke4zv.atl.ga.us>
Source record: 112492

In article <3qt0sd$70i@nonews.col.hp.com> bobw@col.hp.com (Bob Witte) writes:
>
> So my suggestion is find someone with a network analyzer, or at least
> a spectrum analyzer with tracking generator.

Bob, that's fine for rough tuning, but those pieces of equipment
just aren't good enough for final tuning. That's got to be done
at the site with the duplexer hooked up the way it's going to
operate. I've never yet met a real installation where all the
terminations are 50.0+j0.0. The SINAD meter and the inline
wattmeter are the final tuning tools you have to use in every
case to get the duplexer working correctly with the real sources
and loads with which it has to contend.

Anything that will roughly get the duplexer in tune for that
final tweak is good enough, and a couple of HTs, etc are lots
cheaper than a network analyzer or spectrum analyzer and tracking
generator. Sure, I'll use them if they're available. I love high
buck test equipment with lots of knobs and buttons, and they do
make tuneup quicker, but they aren't essential. This is definitely
a case where you can substitute experience for bucks.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2337. Using Surplus YIG Oscillators

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-04 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <3qtbpa$dfa@nntp.Stanford.EDU>
Source record: 112493

I have a pair of YIG oscillators which I recently obtained at the local ham swap. Both units seem to work OK, having applied the appropriate bias, tuning and modulation currents. However, one unit does not work on the lower end of its tuning range until it has warmed up for about 15 min. or so.

Each unit has a pair of heater pins but no markings as to what the voltage or current should be. Is there some standard for this? Perhaps someone can give me a starting point. I have not tried any heater power yet.

One unit is a Systron Donner, the other is a Microsource.

I plan on building sweep generator.

Thanks,

Steve Muther WF6R stevem@W6YX.Stanford.edu
stevem@NAD.3Com.com

2338. WTD: MANUAL FOR RACAL FREQ. METER.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-04 00:00:00 UTC
From: David Bindle <bindle@duke.usask.ca>
Message-ID: <Pine.OSF.3.91.950604172653.24799A-100000@duke.usask.ca>
Source record: 112494

I am looking for a manual or a copy for a RACAL 100 mhz. digital freq.
meter model 801R. This is a solid state unit with Nixie read-out tubes.
Can anyone give me a lead on this piece of equipment? Reply to Ken at
BINDLE@DUKE.USASK.CA or on this newsgroup. Thanks.

2339. Frequency Counter Recommendation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-04 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.950604144853.10694A-100000@pmafire.inel.gov>
Source record: 112495

I am looking to get a frequency counter -- intially for just HF work, but maybe up to 1.2 GHz in the future. Any recommendations on a reasonably priced unit? I could build one, of course, but this seems like a good piece of standard test equipment to purchase (who builds their own DVMs these days?).

Charles Mott

2340. Re: Mods for R-390A or its SSB adapter CV-157 ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <3quk0a$qjd@news2.delphi.com>
Source record: 112496
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <3qkp53$p87@transfer.stratus.com>,
"J.Swenson" <jswenson@jswenson.hqsl.stratus.com> wrote:
>Now I know these rigs are just great the way they are ! I may get some
>people upset at the thought of changing originals but I am new to this
>equipment and don't want to miss out on anything ! Anyone have any neat
>mods for these ? Also let me take this time to thank all who helped in
>the purchase questions on the R390/R390A. As you can see I came up with
>a nice deal on a R390A (ok but but dead 11 & 25 mhz) and a spare for
>parts as well as a CV-157 SSB adapter minus the meters and a few tubes.
>The 157 had a number of problems but mostly minor. It now has one dead
>channel but I are working an that. I still have to get a 390 manual to
>look at the band problems but that should not be too bad. Fixing these
>are half the fun ! Thanks in advance for any reply. 73's N1DVE
>

Do be aware that the R-390A and the R-390 have very different schematics. I do have a set of hacks in mine, including a beam deflection tube SSB/CW detector, a modified noise limiter, hang agc, and "0" to 500KHz reception (of a sort.) Alas, I do not have them written up in a form for posting. Howsosomeever, if you are clever enough it is easy to generate these sorts of hacks for yourself with ideas from the ARRL Handbook and old QSTs. You can build the schematic easily enough by tracing the physical sircuitry yourself. That is how I did it until I got my manual. (I even discovered that the ground "bus" input side of the mechanical filters was never grounded to the chassis. Once I grounded it things suddenly came alive and worked the way I expected. I bet that is why I got this beautiful thing surplus looking so clean. - Um this was back in about '69 or so.) Treat your baby with adequate respect and be careful with the mods. It will then do very well for you.

Mumble - 11MHz and 25MHz dead? Schematics are too hard to get at the moment but that sounds like you either need a dose of contact cleaner or you have at least one more band out.... 0.5 - 8MHz the receiver is triple conversion to a variable 17-25MHz first IF. Nope - your two "out" frequencies are not in that overlap band. Check the crystal sockets in the upper oven. These crystals run 11-34Mhz in 1MHz steps for conversion of a 1MHz band to the 3 to 2Mhz range. (Note the inversion.) You probably have the 14Mhz and 28MHz crystals dead or lose or needing pins cleaned. (It IS possible that 430A and 431E are sick, too. Um, I went and got the schematics anyway...) The actual crystal frequencies are half the injection frequencies in some cases. So look for a bad Y409 at 14MHz. That covers both bad bands.)

No - I won't sell my manual on a bet. Nor do I want to pull it apart for copying. There used to be services that sold copies, though. You want
TM 11-5820-358-35

Field and Depot Maintenance Manual
Radio Receiver R-390A/URR

Hope this is SOME help.

{^_^} Joanne Dow The Wizardess

2341. Re: LNA for GPS (GaAsFET's vs. MMIC's)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <3quk03$qjd@news2.delphi.com>
Source record: 112497

In article <3qnole$nnd@news.sdd.hp.com>, kirk@sdd.hp.com (Kirk Norton) wrote:
>I posted this to sci.electronics, but the response has not
>been huge, so I'll try here...
>
>I am thinking about building a GPS receiver from scratch
>to learn more about this kind of stuff. After looking
>in HP's Communiucations Components data book, I was
>convinced that the best performing LNA to put at the
>base of an antenna would be made from a couple of discrete
>GaAsFET's (like the HP ATF-10170) instead of a MMIC,
>assuming I do the layout properly. Anyone disagree with
>this assessment.
>
>Also, could someone point me to some good reference materials
>on designing (layout, supply isolation, etc.) 1.5 GHz receivers.
>
>Once I figure all of this out, I'll post the results just in
>case anyone is interested.
>
>Thanks for your time!
>
>--
> ~~~~~~~~~~~~~~~~~~~~~~~~~~
> Kirk Norton Hewlett-Packard Company
> Internet: kirk@sdd.hp.com Home Imaging Division
> Phone: (619) 655-8663 16550 West Bernardo Drive, M/S 8-20
> FAX: (619) 655-6686 San Diego, CA 92127-1899
>

Considering the AJ margin built into the GPS signal and that thermal noise is just another form of jamming fighting noisefigure down to very low levels may be less than rewarding. Do remember that you have 99% of the time interference from at least 3 other satellites "jamming" your desired signal. This can go to as great as something like 7 signals during some intervals. I'd suspect that a 2-3dB noise figure should perform as well as a .1dB noisefigure would. (Heck, 6dB would probably do decently.)

{^_^} Joanne Dow The Wizardess

2342. Re: Recverter, VHF down to HF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <D9pAJ1.3I2@freenet.carleton.ca>
Source record: 112498

David Toste (at738@FreeNet.Carleton.CA) writes:
> Does anyone know where I could find plans for a convert that would allow
> me to listen in on the VHF band down on a HF rig? I keep seeing converters
> the bring the shortwave band up to VHF and I'm sure there would be one
> that would allow the other way around. Anyone have any ideas? Or know
> where I can look up the plans>?
>
RSGB VHF/UHF Manual has several plans, but some of the active devices may
be difficult to obtain in North America.

Hamtronics in Hilton, N.Y. sells some workable kits. I've built their
435-to-28MHz receive converter for pacsat use, and it works as advertised.
Dual-gate GaAsfet preamp and mixer make it reasonably sensitive.

Russ, va3rr/aa8lu

2343. REF: 3SK122 dual gate mosfet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: phoa@astoria.pc.my
Message-ID: <phoa.4.0014F01E@astoria.pc.my>
Source record: 112499

I have these Nec dual gate mosfet 3SK122 , willing to sell at a low price to all electronics hobbies.

2344. Re: LNA for GPS (GaAsFET's vs. MMIC's)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995Jun5.134247.30372@arrl.org>
Source record: 112500

Joanne Dow (jdow@BIX.com) wrote:

: Considering the AJ margin built into the GPS signal and that thermal noise is
: just another form of jamming fighting noisefigure down to very low levels may be
: less than rewarding. Do remember that you have 99% of the time interference from
: at least 3 other satellites "jamming" your desired signal. This can go to as
: great as something like 7 signals during some intervals. I'd suspect that a
: 2-3dB noise figure should perform as well as a .1dB noisefigure would. (Heck,
: 6dB would probably do decently.)

This doesn't sound right. I thought the spread spectrum was intelligently
done so that when you despread the signals, they all correlate into
independent data streams that don't interfere with each other.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2345. Re: Hewlet Packard GaSFETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: kirk@sdd.hp.com
Message-ID: <3qvjn9$70t@news.sdd.hp.com>
Source record: 112501

I just happen to have my HP data book right here...

HPPN Gate Width Optimum Test NFo Ga Package
(um) Freq. Freq. (dB) (dB)
(GHz) (GHz)

ATF-35076 200 4-18 12 0.75 10.5 70 mil ceramic
ATF-35176 200 4-18 12 0.85 10.0 70 mil ceramic
ATF-35376 200 4-18 12 1.0 10.5 70 mil ceramic

These parts are listed as low noise GaAs PHEMT's. The book recommends
that the lowest noise part (35076) be used as the first stage of a
cascaded amplified. The following stages could be any of them.

As far as biasing goes, I'm still learning about that myself.

Hope this helps.

In article <3qp6dq$r8e@acme.freenet.columbus.oh.us>, smchenry@freenet.columbus.oh.us (Sean
McHenry) writes:
|>
|> Someone recently gave me a handfull of the following parts and I have
|> no idea what to use them for yet. Could someone give me the lowdown on
|> their design specs (short form)?
|> ATF-35076
|> ATF-35176
|> ATF-35376
|> All are Hewlet Packard devices. GaSFETS? Would the simple "common"
|> types of biasing designs work with these? Gain and at what Freq.s? Thanks,
|> Sean (aka KB8JNE)
|> --
|> smchenry@FREENET.COLUMBUS.OH.US In Cyberspace, no one can hear you scream.
|>

--
~~~~~~~~~~~~~~~~~~~~~~~~~~
Kirk Norton Hewlett-Packard Company
Internet: kirk@sdd.hp.com Home Imaging Division
Phone: (619) 655-8663 16550 West Bernardo Drive, M/S 8-20
FAX: (619) 655-6686 San Diego, CA 92127-1899
~~~~~~~~~~~~~~~~~~~~~~~~~~

2346. Re: Hewlet Packard GaSFETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: wayne@PROBLEM_WITH_INEWS_GATEWAY_FILE
Message-ID: <3qvjpr$kac@tadpole.fc.hp.com>
Source record: 112502

Sean McHenry (smchenry@freenet.columbus.oh.us) wrote:

> Someone recently gave me a handfull of the following parts and I have
> no idea what to use them for yet. Could someone give me the lowdown on
> their design specs (short form)?
> ATF-35076
> ATF-35176
> ATF-35376

These are GaAs FETs. Typical specs, all in dB, Vds=1.5V, Ids=10mA:

ATF-35076 ATF-35176 ATF-35376

optimum NF @ 4 GHz 0.25 0.30 0.40
optimum NF @ 12 GHz 0.75 0.85 1.00

gain @ 4 GHz at optimum NF 16.0 16.0 15.0
gain @ 12 GHz at optimum NF 11.0 11.0 10.0

To make optimum use of these devices, you'll need the S parameters.

Wayne Covington
KD0EA

2347. Re: Replacement for 40673?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: adams@chuck.dallas.sgi.com
Message-ID: <3qvlgq$2fs@murrow.corp.sgi.com>
Source record: 112503

How about the following dual-gate mosfet? It's a Motorola MPF131
and I have a supply of house numbered critters and have been letting
them go for 3/$1 USofA and charging only $0.55 for postage and handling,
but I don't want to be doing this for a living. I really have a job.
These critters are light, so I think I can get a dozen or so in an
envelope with the critters wrapped in Alum. Foil. I do static protection
steps to keep from zapping them and my source has them in Aluminum foil
lined box. I don't have the facilities or the time to test each one,
but they should be OK. I'm not making anything on this to pay for my
valuable time.

Here are the stats:

Ye Ol Motorola manual says:

MPF131
N-channel Dual Gate MOS Field-Effect silicon transistor

depletion mode transistor designed for VHF amplifier and
mixer applications.

RF amplifier @ 60 and 200 MHZ

Max voltage , drain-source = 25 volts
Max current, drain = 30 ma.
Max power dissipation = 350 mw.

gate 2 ___ drain
<======/ \======>
| |
<======__o/======>
gate 1 source

top view

NOT TO SCALE
(must I tell you)

info above from Kaye Hartman, KD8EK

And in another email I got:

MPF131 - Depletion type dual gate MOSfet with diode-protected gates
Speced as RF AMP @ 60 Mhz and 200 Mhz

Dot on plastic package indicates SOURCE lead, going counter-clockwise
from there: DRAIN, GATE2, GATE1.

Max ratings
Volts-drain-source 25
Drain Current 30 ma.
Ta= 25 degrees C 300 mW (hey its QRP!)

Gate 1 to source cutoff voltage -4.0 vDC
Gate 2 to source cutoff voltage -4.0 vDC
Zero-gate voltage drain current Idss = 3ma min, 10ma typ, 30 ma max.

Forward transfer admittance 8000 umho min, 20,000 umho max
this is biassed at Vds 10vDC, Id=10ma, 1Khz

Ciss = 4.5 pf typ, 7.0 pf max
Coss = 2.5 pf typ, 4.0 pf max
Crss = .023pf typ, .05 pf max (in-circuit capacitance usually larger than this)

Noise figure typ max
60 Mhz 2.5dB 5.0dB
200 Mhz 3.0dB 5.0dB

Power gain (common source)
60 Mhz 20dB 27dB
200 Mhz 17dB 20dB

Used as a R.F. amplifier, Gate 2 is usually set at about 4 v D.C. (unless you
want to apply A.G.C. to it).

This I got from Glen Leinweber.

It may do in a pinch as a replacement and is certainly much cheaper. Only problem:
I have to flatten the leads to get them mailed in an envelope. :-) Again, I don't
want to do this for very long and will do it until the supply runs dry. I don't
take checks and the bank doesn't sell MOSFETs. :-) It's a problem of time
to drive to same, etc. Green stamps OK, but email me first to determine if I am
going to have enough. There are only a few thousand of these still around.
I'm in the callbook.

dit dit

--
Chuck Adams K5FO CP-60 adams@sgi.com

2348. Re: Looking for conversion info for SSB CB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3qtqd9$6f2@solaris.cc.vt.edu>
Source record: 112504

In article <3qptpa$q96@newshost.lanl.gov>, jdport <jdevenport@lanl.gov> wrote:
>gull@cyberspace.ORG (David Brodbeck) wrote:
>>
>> I recently acquired an old TRAM XL5. This is an old 23-channel
>> CB, with SSB capability. Does anyone have any ham-band conversion info
>> on this radio? It seems to me that the SSB capability would make it a
>> great 10m conversion.
>>
>This dino undoubtedly has 2 banks of crystals to produce the 23 channels
>(actually 24 with #24 blocked out by the channel switch). If you
>look inside you'll doubtless see 2 rows of crystals fairly close to
>the channel switch: one bank with 4 crystals and another with 6.
>To get the full 23/24 channels to 10M, you'll have to choose whether
>to replace the 4 crystals or the 6. It's been years since I've done
>this and am too lazy to cross the yard to the shack to look up the
>CB SAMs Photofacts but as I recall replacing the 6 crystals is the best
>bet for getting usable channelization in the 10M band, though of course
>replacing the 4 in the smaller bank will get all 24 channels onto 10
>with less money involved.
>I'll post you again in a few, if I have a SAMS that covers your Tram
>I'll get you to give me your address so I can send it to you. It is
>fairly painless (except for buying the crystals) to install them and
>touch up the alignment transmit and receive to get the power and rx
>sensitivity up to spec. Whether it's worth $20 or higher to buy the
>necessary xtals when one can buy later model SSB synthesized CB's that
>require only 1 crystal to convert is up to you. Another thing you can
>use the existing CB for AS IS is as an exciter/driver to a VHF/UHF
>or even another HF band transverter.
>Jim WB5AOX

I have a similar radio, a "Courier Spartan SSB". I was thinking of using one crystal and making the other oscillator a VFO to cover the Novice portion of the band. Then adding another xtal 500 or so KHz higher would open up some more band coverage. Any possible pitfalls with this? One that I could think of is that trying to span over more than the width of the old CB band may cause a loss of sensitivity and/or output power, since the other filters in the radio are fixed-tuned. It seems like a channelized arrangement would limit what I could hear, or is operation in the 10m band traditionally channelized? Also it would seem that a $1.00 imprecise "microprocessor" crystal with a frequency tolerance of 100ppm would work as well as more expensive custom "communication" crystals since the other oscillator would be variable.

-Mike KD4QDM

.

2349. Recverter, VHF down to HF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: at738@FreeNet.Carleton.CA
Message-ID: <D9otvG.1uE@freenet.carleton.ca>
Source record: 112505

Does anyone know where I could find plans for a convert that would allow me to listen in on the VHF band down on a HF rig? I keep seeing converters the bring the shortwave band up to VHF and I'm sure there would be one that would allow the other way around. Anyone have any ideas? Or know where I can look up the plans>?

--
David Toste [VE3TOS] Internet - aa521@freenet.toronto.on.ca
Don Mills, Ontario. SWLOGit - The Ultimate Shortwave Listeners
ftp.virginia.edu /pub/swlogit/ Software. (Fidonet: 1:250/930)
http://itre.uncecs.edu/radio/software/SWLogit.html (SWLOGit Web Page)

2350. Re: Hi Voltage Diodes for HT supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: grhosler1@mmm.com
Message-ID: <3qvglp$iia@dawn.mmm.com>
Source record: 112506

In <825990074wnr@g0ruz.demon.co.uk>, Conrad Farlow <conrad@g0ruz.demon.co.uk> writes:
>Can anyone tell me where I can get some diodes to make a bridge for my
>EHT supply for my new Pa.I will be running 3kv at up to 1.5 Amps.I
>think I saw reference to a place called Silicon Alley or something
>like that.If its in the US do they accept Visa orders by phone?
>Many thanks
>Conrad Farlow G0RUZ
>email conrad@g0ruz.demon.co.uk
>packet radio G0RUZ @ GB7WRG.#19.GBR.EU

You're looking for:
K2AW's Silicon Alley
175 Friends Lane
Westbury, NY 11590
Phone 516-334-7024

Hope the info helps! 73 & GUD DX

2351. Re: Replacement for 40673?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-05 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <8f6_9506060530@mba.mba.org>
Source record: 112507

I'm not sure who originated this thread, but there have been
various suggestions for replacements for 40673 MOSFET's.

What might be important to note is that the 40673 might not
have magically been a great device, but was used in so
many published projects because others had already used them.
When someobody wanted to build a new project, they'd look
at what others had used, and saw that 40673 in common use,
and decided to use it since it must be good or why was it
already chosen.

I remember my first MOSFET's, and they were not 40673's. I
can't remember if I chose something else because I couldn't
get 40673's or because I wanted to find something cheaper.
I looked in a data book, and there were 40841's that looked
nearly as good. So I used them.

The point to all this is that if you can't get 40673's, maybe
the way to go is look through the catalogs until you find
MOSFET's listed, and then check their specs to find something
suitable, instead of looking in a cross-reference guide and then
trying to find a designated replacement for the 40673.

I came up with an interesting source of MOSFET's just last fall,
though I haven't gotten around to using them to see if they
are good or falsely numbered.

It's in those "FM Boosters" that seem to be readily available.
I'd seen them, and passed them by due to cost. Then I saw them
selling for under two dollars in a couple of places. I bought
one out of curiosity. Figured I'd find a bipolar transistor;
maybe I'd be lucky and find something like a 2N5179. I opened
it up, and found a MOSFET, in the 3N200 series if I recall
correctly. I went back to the store, and bought all that they
had (unfortunately, it was a few days later and some had already
been bought), at a dollar each. Good price for MOSFET's. If
anyone sees these FM Boosters (that's for receive, not xmit!)
at a low cost, it might be worth looking into them.
Michael VE2BVW
--
| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

2352. Getting in touch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-06 00:00:00 UTC
From: pirireis@cais3.cais.com
Message-ID: <3r0crn$2m9@news.cais.com>
Source record: 112508

[No readable article body recovered]

2353. Re: Recverter, VHF down to HF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-06 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3r0dhm$msv@parsifal.nando.net>
Source record: 112509

at738@FreeNet.Carleton.CA (David Toste) wrote:
>
> Does anyone know where I could find plans for a convert that would allow
> me to listen in on the VHF band down on a HF rig? I keep seeing converters
> the bring the shortwave band up to VHF and I'm sure there would be one
> that would allow the other way around. Anyone have any ideas? Or know
> where I can look up the plans>?
>

Ther have been a number of VHF to HF converters (and transverters)
published in QST over the years. My 1994 ARRL Handbook has "Linear
Transverters for 144 and 220 MHz" on page 31-17. You could build
just the receive portion if you wanted.

73,
Don W3FPR

2354. Re: Replacement for 40673?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-06 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3r0drg$msv@parsifal.nando.net>
Source record: 112510

Many thanks to all those who responded to my request for 40673 replacements. I have been offered a box of 80 of the critters. I will have lots of fun using them. There seems to have been a lot of interest here, I wish simolar fortune to any others.

73,
Don W3FPR

2355. FET pre-amps and NF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-06 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <D9r2Fn.36y@freenet.carleton.ca>
Source record: 112511

I was planning on building a 10 metre pre-amp from a design in the 1994 ARRL Handbook by Kent Britain. I was hoping to improve my downlink reception for RS-15. The design calls for either a 3sk48, 3sk51 or 3n204 dual-gate MOSFET. The author states that a pre-amp noise figure of 1db to 1.5 db from 28MHz to 220MHz is achievable using the aforementioned devices. These being difficult to find locally, one local supplier suggested an NTE222 as a direct replacement for the 3n204. When I looked at the spec sheet, the NTE222 is described as having a "NF 6dB Max at 200MHz".

This is a far cry from the 1 to 1.5 dB noise figure for which I was hoping. This raises a question:

How is the published NF determined by the manufacturer? Are they referring to noise factor or noise figure? Is noise factor dependant on bandwidth?

In the end, I ended up buying a NTE454, which has a "NF" 1.5 dB less than than the NTE222.

Russ va3rr/aa8lu va3rr@amsat.org

2356. Low-Band DXing errata

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-06 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-0606951254140001@brainiac.hi.com>
Source record: 112512
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Has anyone else noticed the following error in Devoldere's "Low-band DXing"? It's in both editions.

In the section on single-wire Beverage antenna matching transformers, the book gives the following formula for the number of turns on a toroid for a given inductance:

N = 100 sqrt (L / AL)

(Note that in the second edition, the square-root radical sign is misprinted as a multiplication.)

The formula is correct for AL values in units of uH/100 turns.

The book contains a table containing AL values for several types of toroids and the turns-count for transformers to match to 50 ohm and 75 ohm feedlines. The AL values for the iron-core toroids are given in units that match the formula, but the AL values for the ferrite toroids are given in units of mH/1000 turns. Consequently the turns-count for the transformers that use ferrite cores are too high by a factor of the square-root of 10 (about 3).

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

2357. Pesky AL values, was Re: Low-Band DXing errata

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-06 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <3r24kr$227@CUBoulder.Colorado.EDU>
Source record: 112513
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Could anyone tell me why toriods are rated in "AL values" such as uH/100 turns, or mH/1000 turns? These "AL values" are often mislabled "units" but do not have the correct dimensions, which are actually inductance/(turns)^2.

Some vendors sell toroids spec'd as nH/(turns)^2, such as Johnson Shop Products, and simple dimensional analysis yields the correct procedure to get the inductance of a coil wound on one of these. Numerically, but not dimensionally, mH/1000 T = nH/T^2, and (1/10) uH/100 T = nH/T^2.

Could anyone tell me why toriods are rated in "AL values" such as uH/100 Given that AL values seem to lead to confusion, such as the typo in Low Band DXing, and are not even dimensionally correct, why is their use so widespread? I seem to recall quite a bit of space devoted to explanation of AL values in one of the license manuals, and also in the ARRL handbook. Perhaps this space might be put to better use.

Bruce Tiemann
N6URH

2358. Last try

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-06 00:00:00 UTC
From: pirireis@cais3.cais.com
Message-ID: <3r0dni$3ad@news.cais.com>
Source record: 112514

I am trying to get in touch with "Lucky" Hurder. I would appreciate it
if someone would either send me his email address or forward this to him.

Thanks in advance and sorry about the first flubbed posting.

Frank Perry pirireis@cais.com

2359. Re: Component Values for Parasitic Suppressors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-06 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3r0tcr$34o@misc1.microserve.net>
Source record: 112515

Because of one of Tom's (W8JI) posts, I decided to check the parasitic suppressor resistors that I had previously installed in my oscillating HF amplifier. The resistors were "non-inductive" metal film types, but I nevertheless decided to inspect one, just to see. The resistive element was easily exposed by scraping off the outer layer of paint, and to my surprise, there was a distinct spiral-wound pattern in the body of the resistor.

My next task was to find a few 1W or 2W carbon composition resistors that I could install in the suppressors, and this turned out to be a formidable undertaking. In fact, if anyone reading this hasn't tried to find these resistors lately, you're in for a shock. I must've called twenty or thirty distributors and parts houses looking for these, with no luck. All they had were either carbon or metal film.

Newark, which does show them in their catalog, requires a minimum quantity purchase on 2W resistors that amounts to $50 to $100 worth of a single value. Even at that, there's no guarantee the parts are truly non-inductive. Like Tom says, even some carbon comps are constructed in such a way as to introduce inductance into their design.

For me, the problem's resolved. I stopped at a small, old-time parts house recently, purely by accident, and found a good supply of N.O.S. 82 and 120 ohm, 2W carbon comps. I suspect the only reason these were in stock is that they're an unusual value for most solid state equipment. The owner even said that as he sells them out, he orders replacements in carbon/metal film. Needless to say, I have since broken a few apart, just to be sure they really are non-inductive!

So, if you're reading this and you're into tube-type HF amps, now's the time to stock up on a few of these resistors. Don't wait until they are TOTALLY unavailable. Also, if you do find them locally like I did, don't forget to take a pair of Vise-Grips so you can crack one open and look inside. :)

73,

Jack WB3U

2360. Heathkit HX 1681

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-06 00:00:00 UTC
From: Gary.Burcalow@f6518.n124.z1.fidonet.org
Message-ID: <b5e_9506071818@woodybbs.com>
Source record: 112516

Need a construction manual for the Heathkit HX 1681 10-80 Meter CW XMTR. Anyone that would send me a copy would be reimbursed for their trouble. Leave me mail at Gary.Burcalow@Shotsfired.com if you can help.

73 de KC5GFJ
--
|Fidonet: Gary Burcalow 1:124/6518
|Internet: Gary.Burcalow@f6518.n124.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

2361. Re: LNA for GPS (GaAsFET's vs. MMIC's)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-07 00:00:00 UTC
From: zlau@arrl.org
Message-ID: <1995Jun7.141422.21487@arrl.org>
Source record: 112517

Joanne Dow (jdow@BIX.com) wrote:
: In article <1995Jun5.134247.30372@arrl.org>, zlau@arrl.org (Zack Lau (KH6CP)) wrote:
: >Joanne Dow (jdow@BIX.com) wrote:
: >
: >: Considering the AJ margin built into the GPS signal and that thermal noise is
: >: just another form of jamming fighting noisefigure down to very low levels may be
: >: less than rewarding. Do remember that you have 99% of the time interference from
: >: at least 3 other satellites "jamming" your desired signal. This can go to as
: >: great as something like 7 signals during some intervals. I'd suspect that a
: >: 2-3dB noise figure should perform as well as a .1dB noisefigure would. (Heck,
: >: 6dB would probably do decently.)
: >
: >This doesn't sound right. I thought the spread spectrum was intelligently
: >done so that when you despread the signals, they all correlate into
: Read up on spread spectrum some more. What happens is any uncorrelated signal is
: spread out to the greater of the bandwidth of the local estimate of the spread

Thanks for the correction--I really ought to study the details of the
GPS system. It does make sense to provide enough S/N for each signal
so that interference between them isn't a problem.

If all you need is a 4 dB NF, a MAR-6 MMIC at the feedpoint ought to do
just fine. Of course, there are more expensive GaAs devices for even lower
noise figures.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2362. Re: Looking for conversion info for SSB CB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-07 00:00:00 UTC
From: "Paul C. Barnes" <barnes@america.com>
Message-ID: <3r343c$ot2@enterprise.america.com>
Source record: 112518

There was a device called a PAL VXO Tuning Monitor. It plugged into a crystal socket of a CB radio to move it between channels, etc. I have two of these. They came in various standard freqs. that fit the crystal being replaced. It was only a matter of changing the crystal, I believe. I have used this with a CB radio and moved it to 10 meters in the manner you describe. It works great and covers the blank spots between channels. Don't forget you have to retweek the RF sections, both transmit and receive. Not hard at all. I have several converted CB radios that I have used on 10 at different times. The one hang-up is there are Uniden and Radio Shack 10 rigs that are as cheap to buy and use as converting a CB. Good luck.

2363. Re: LNA for GPS (GaAsFET's vs. MMIC's)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-07 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <3r3jmu$cq4@news2.delphi.com>
Source record: 112519

In article <1995Jun5.134247.30372@arrl.org>, zlau@arrl.org (Zack Lau (KH6CP)) wrote:
>Joanne Dow (jdow@BIX.com) wrote:
>
>: Considering the AJ margin built into the GPS signal and that thermal noise is
>: just another form of jamming fighting noisefigure down to very low levels may be
>: less than rewarding. Do remember that you have 99% of the time interference from
>: at least 3 other satellites "jamming" your desired signal. This can go to as
>: great as something like 7 signals during some intervals. I'd suspect that a
>: 2-3dB noise figure should perform as well as a .1dB noisefigure would. (Heck,
>: 6dB would probably do decently.)
>
>This doesn't sound right. I thought the spread spectrum was intelligently
>done so that when you despread the signals, they all correlate into
>independent data streams that don't interfere with each other.
>--
>Zack Lau KH6CP/1 2 way QRP WAS
> 8 States on 10 GHz
>Internet: zlau@arrl.org 10 grids on 2304 MHz

Read up on spread spectrum some more. What happens is any uncorrelated signal is spread out to the greater of the bandwidth of the local estimate of the spread spectrom signal or the signal's original bandwidth. ie a CW signal interfering with a GPS signal would be spread to the original GPS bandwidth while a very broadband noise source would remain a very broadband noise source with some modulation on it that could in theory be recovered using the original noise signal and time delays.

You have data at 50 bits per second riding on the GPS signal that is more or less critical. You have a 1.023 megabits per second chipping rate. This gives you on the order of 1e6/50 or 20,000:1 anti-jam ratio, about 43dB. 7 other such signals at the same level as yours will lower this by a factor of 7 or about 8.5dB. This means that you still have some 34.5dB of anti-jam margin. The jammer can be front end noise as easily as it can be a jammer. This implies noise figure is not "critical".

Since we're talking noise floor of about -204dBW/Hz and an effective bandwidth of 100Hz or so (for roundish numbers) for the data and maybe 10Hz or less for the positioning loop lock we're talking about -184dBW for the data and -194dBW for the position loop. Signals, if I remember correctly, are in the -170dBW range. So you have a VERY healthy carrier to noise ratio in either bandwidth with a "0dB" receiver. A low noise figure helps a bit with vehicle dynamics by reducing "errors" in the data or position loop it has some advantages, particularly with "marginal" receiver designs. But GPS was built to survive some downlink jamming. So any way you cut this analysis you should get decent performance with noise figures even as high as 10dB or 20dB. But in the

interests of an easy receiver design for commercial purposes I suspect 1 or 2dB noise figure is more than adequate. ("Commercial purporses" is a code tracker rather than carrier tracker and is interested in the "advertised" accuracy levels. For differential use the 2dB or better front end is probably well worth it.) (mumble - 1MHz code => 1000' long "chips". 24dB carrier to noise is pretty low so errors on that 1000' is reduced to perhaps 10' or so. *REAL* rough guesstimates here.)

{^_^} Joanne Dow, Amiga Exchange Editor on BIX
jdow@bix.com The Wizardess

2364. NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-07 00:00:00 UTC
From: Jeff Krul <jkrul@equist.com>
Message-ID: <3r4qj0$kuj@noc.tor.hookup.net>
Source record: 112520
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

I am in the process of putting together a new HAM 'shack', and I have
come across an interesting 'snag'.

I have heard, many times before, to be sure the HAM radio ground is NOT
grounded to the house wiring ground system. Various explanations follow,
usually to avoid having the house wiring turn into a massive antenna.

Anyways, I was SURE to separate the two and overlooked one point . . .
packet ! My TNC uses a serial cable, connected to my computer, which in
turn has a grounded chassis! Argh! To top it all off, the serial cable
is NOT the right way to ground to a 'secondary' ground. Talk about a
'high' resistance path to ground, forming an 'ideal' ground loop!!!!

My question is, "How can I avoid this, and if I cannot, what effect will
grounding to the house ground REALLY have?" "What are my OTHER options?"

Thanks for your replies in advance,
Jeff
VE3QED

Please e-mail your responses to jkrul@equist.com

2365. Re: Pesky AL values, was Re: Low-Band DXing errata

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-07 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun7.153802.13603@ke4zv.atl.ga.us>
Source record: 112521
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <3r24kr$227@CUBoulder.Colorado.EDU> tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:
>Could anyone tell me why toriods are rated in "AL values" such as uH/100
>turns, or mH/1000 turns? These "AL values" are often mislabled "units"
>but do not have the correct dimensions, which are actually
>inductance/(turns)^2.
>
>Some vendors sell toroids spec'd as nH/(turns)^2, such as Johnson Shop
>Products, and simple dimensional analysis yields the correct procedure to
>get the inductance of a coil wound on one of these. Numerically, but not
>dimensionally, mH/1000 T = nH/T^2, and (1/10) uH/100 T = nH/T^2.
>
>Could anyone tell me why toriods are rated in "AL values" such as uH/100
>Given that AL values seem to lead to confusion, such as the typo in Low
>Band DXing, and are not even dimensionally correct, why is their use so
>widespread? I seem to recall quite a bit of space devoted to explanation
>of AL values in one of the license manuals, and also in the ARRL handbook.
>Perhaps this space might be put to better use.

AL values are favored for the same reason meters per second are favored over furlongs per fortnight. And that reason is that most calculations can be done easily in your head, rather than having to reach for a calculator. As you note, T^2 is already built into the values, so you don't have to do that in your head when using AL values to calculate the number of turns you need for a given inductance.

This is mostly a historical artifact now that all of us routinely have a scientific calculator close at hand. In the manual arithmetic days, it saved a bit of work, and another possible source of manual math error.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2366. R390A mods etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-07 00:00:00 UTC
From: dcadd@luc.ac.BE
Message-ID: <9506071329.AA01761@alpha>
Source record: 112522

Greetings, from a wet Diepenbeek in N.E. Belgium!

Whoever was looking for R390A mods - I suggest you subscribe and / or post a request to the boatanchors list (if you want details, mail me direct). I've seen literally dozens of bits of info on these radios, many, many people on that list have one and there's a LOT of info going. This last week I've even seen that NEW R390(A?) manuals are available from NIST - sorry, but not being a 390 owner, I ditched the postings.

Mail me if you want to know more.
73,

Duncan Cadd G0UTY / ON9CHU G-QRP 8117

dcadd@luc.ac.be

2367. Re: Heathkit parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-07 00:00:00 UTC
From: raiar@vulcan.inlink.com
Message-ID: <3r2q9q$1fo@news.inlink.com>
Source record: 112523

.
To: Marcel
From: Gary
RE: Heathkit Addresses & Numbers
.
MAIN OFFICE:
Heathkit
P. O. Box 1288
Benton Harbor, MI 49023
.
FREE CATALOG:
1-800-44-HEATH
.
ORDER PHONE:
1-800-253-0570
.
FAX ORDER PHONE:
1-616-925-4876
.
CUSTOMER SERVICE:
1-800-253-0570
.
TECHNICAL CONSULTANTS:
Educational Products 1-616-925-4914
Security & Lighting 1-616-925-5181
.
PARTS REPLACEMENT:
Have Part # Ready 1-616-925-5899
.
PRODUCT REPAIR SERVICE:
1-616-925-3273
.
TTUL - 73+ de Gary - N0ZOI @ K0PFX.#STL.MO.USA.NA
.

2368. Wanted: HP-342A Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-07 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <3r4rn8$rql@newsbf02.news.aol.com>
Source record: 112524

I am looking for the operating and service manual (if one exists) for the HP-342A noise meter. Thanks beforehand. Viny N1VC

2369. Re: REF: 3SK122 dual gate mosfet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3r51pv$4se@misc1.microserve.net>
Source record: 112525

phoa@astoria.pc.my (Phoa Kia Teck) wrote:
>I have these Nec dual gate mosfet 3SK122 , willing to sell at a low price to
>all electronics hobbies.

Phoa, what are the specs on the 3SK122 and how much are you asking?

So we don't both get flamed, please post this info to R.R.A.Swap only.

Thanks,

Jack WB3U

2370. FS 2 mtr power amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-07 00:00:00 UTC
From: kb8jvh@aol.com
Message-ID: <3r5mjp$5u6@newsbf02.news.aol.com>
Source record: 112526

For sale: Commander jr 2 meter power amp. 275-300 watts output with 15 watts
drive. Dowkey TR relay, nearly new tube 4CX250B, Excellent mechanical condition, with minor cosmetic scratches. $475.00 firm and I ship 3 day select in the lower 48 states. Send E-Mail if interested.
Tony Reynolds
KB8JVH@aol.com
114 grids and 30 states on 144mhz

2371. RE: Replacement for 40673

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-07 00:00:00 UTC
From: IFF161@DJUKFA11.BITNET
Message-ID: <95158.110100IFF161@DJUKFA11.BITNET>
Source record: 112527

After seeing the request posted I checked one of my catalogs and found the company still listed the 40673 MOSFET. Another company is still showing the 3N211, another excellent but no longer available type. I have my own supply in storage but if anybody wants the real thing(s), let me know. I have not called to see what quantities, if any, are still available as it would be a long distance phone call in each case, perhaps without cause but if there is someone needing some it would not be a big deal to find out. Please note; I have no plans to subsidize your hobby so you must include post and COD costs in calculating the final cost. These will tend to be a fixed amount and probably will run around DM15 (Post to me, post to you, COD or bank charges for paying the seller, but the amount can vary, depending on the way the seller wants his money and what sort of postal service is possible. The latter depends in part on the quantity.) If there is a lot of interest and a sufficient supply, some of the costs can be distributed over the various buyers (except for the post to you from Germany!)
Bob<iff161@djukfa11>

2372. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3r7q3u$64i@misc1.microserve.net>
Source record: 112528
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

Jeff Krul <jkrul@equist.com> wrote:

>I have heard, many times before, to be sure the HAM radio ground is NOT
>grounded to the house wiring ground system.

This is a potentially dangerous situation. If your amateur gear is totally isolated from AC ground, there couild be a significant difference in voltage potential between the chassis and AC ground. Under these conditions, simultaneously contacting the chassis of the rig and any AC grounded device would place you in the current path.

>usually to avoid having the house wiring turn into a massive antenna.

This will only happen if the feedline radiates due to an improper antenna installation. If this is the case, adding the AC ground as a radiating element probably won't predictably deteriorate your signal any more than the radiating feeder.

>Anyways, I was SURE to separate the two and overlooked one point . . .
>packet ! My TNC uses a serial cable, connected to my computer, which in
>turn has a grounded chassis! Argh! To top it all off, the serial cable
>is NOT the right way to ground to a 'secondary' ground. Talk about a
>'high' resistance path to ground, forming an 'ideal' ground loop!!!!

Ground all nearby "appliances" together, including the rig. This will avoid the risk of electrical shock and will also serve to reduce the liklihood of ground loops.

73,

Jack WB3U

2373. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun8.141125.18173@ke4zv.atl.ga.us>
Source record: 112529
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

In article <3r4qj0$kuj@noc.tor.hookup.net> Jeff Krul <jkrul@equist.com> writes:
>I am in the process of putting together a new HAM 'shack', and I have
>come across an interesting 'snag'.
>
>I have heard, many times before, to be sure the HAM radio ground is NOT
>grounded to the house wiring ground system. Various explanations follow,
>usually to avoid having the house wiring turn into a massive antenna.

Like many folk tales, while there is a grain of truth to this idea in
some *very* special circumstances, it's generally false, not to mention
being a violation of the National Electrical Code.

>Anyways, I was SURE to separate the two and overlooked one point . . .
>packet ! My TNC uses a serial cable, connected to my computer, which in
>turn has a grounded chassis! Argh! To top it all off, the serial cable
>is NOT the right way to ground to a 'secondary' ground. Talk about a
>'high' resistance path to ground, forming an 'ideal' ground loop!!!!
>
>My question is, "How can I avoid this, and if I cannot, what effect will
>grounding to the house ground REALLY have?" "What are my OTHER options?"

Ok, this isn't a simple issue, or a single issue. There are several
related concepts and factors involved. Bear with me and I'll try to
touch on most of them.

There are three general reasons given for grounding a station.

1. Improved RF performance.
2. Elimination of stray RF in the shack.
3. Electrical safety.

Of these three reasons, only the latter has merit except under
special conditions. Lets look at them one by one and see where
the truth lies.

1. Improved RF performance.

This is usually a reason claimed for needing a good ground. It is
actually false except with antennas that must work against ground,
and even then the ground needs to be at the antenna feedpoint and
not at the transmitter (unless the transmitter *is* the feedpoint,
as can be true with some random longwire antennas). A balanced antenna,
such as a dipole, yagi, quad, etc, is ground independent. It does not
need a ground connection to work, and will in fact work in free space
with no ground connection present at all. Many verticals, longwires,
and some other asymmetric designs need to work against a ground reference.

That ground reference, however, doesn't necessarily need to be a connection to Earth. A counterpoise, radials, or the like can serve just as well, or better, than an Earth connection. And that connection needs to be under the antenna, and not back at the shack.

2. Elimination of stray RF in the shack.

This is often a reason given for a RF ground connection to Earth. However, this is like taking aspirn for a brain tumor. It may suppress the symptoms to some extent, but it doesn't address the real underlying problem. The real underlying problem is a station design or layout fault. If the equipment has poor Faraday shielding, or if the feeder currents aren't well balanced, or if station interconnections create daisy chains or ground loops, then there will be stray RF in the shack. Grounding one or more cabinets may actually create more circulating currents which can *increase* the problems of stray RF. In some cases, attachment to a good RF ground will reduce stray RF problems at some frequency, but may increase problems at another frequency. This is not the proper approach to dealing with stray RF. The preferred approach is to eliminate the *cause* of the stray RF.

3. Electrical safety.

This is the *real* reason for an effective grounding system for the shack. There are two different hazards that an effective grounding system will solve. One is ordinary electrical shock hazards. In the US, the National Electrical Code is the standard that addresses this. One of the cardinal rules of the NEC is that *all ground connections must be bonded together*. If you fail to do this, you can have a shock hazard between cabinets connected to different ground references. So the myth that you need to keep utility and RF grounds separate is not only false, it can be a safety hazard. (There are a couple of *very* specialized circumstances where the Code permits isolated grounds, but as a general rule, failing to bond all grounds together is a major Code violation.)

The second reason for an effective grounding system is for lightning mitigation. This can be a difficult problem and must be approached with care. A single mistake can be very costly. Lightning is RF, and like any other RF, downlead inductance is a primary concern in setting up a grounding system. Lightning surges also represent peak currents on the order of 8,000 amperes (with ocasional so called "super bolts" going up to 200,000 amperes). These discharges only last for microseconds, so the average power is low, but the peak power is intense. It only takes a slight amount of inductance in a downlead to generate a potential difference of tens of thousands of volts between one end and the other. If these potentials are allowed to express themselves between equipment cabinets, devastating damage can occur to sensitive electronic components.

There are two concepts you must apply to your station ground system as your first lines of defense against these potentials occurring across your equipment. The first concept is that of a single point ground, and the second is called ground window technique.

Single point grounding is simple in concept, but often subtle in execution. Basically, all connections to Earth must be interconnected at a single common point, and all connections from equipment that needs a ground termination must run to that single point and to *no other connection with Earth*. Daisy chained connections are strictly prohibited. Every connection to the single point must be straight and direct from the equipment requiring the ground connection. Ground "busses" are a serious no-no despite their being touted in amateur literature. They form instant ground loops for the equipment, and at the high currents present in a lightning discharge, they can cause thousands of volts to express themselves across the various cabinets connected to the "ground" buss. Don't do this.

The idea here is that because everything is forced to a single potential, that of the single point, *whatever it is*, no current can flow through the equipment. Zero potential difference results in zero current flow. It's those damaging currents you are trying to control. You don't want the path *to* ground to be *through* any of your equipment. Rather, you want the path to ground to be through the single point, and only through the single point. Note well that "ground" is *not* zero volts, and will not *be* zero volts in any sense except a *relative* one during equipment operation or during a lightning strike. This doesn't matter if your layout topology is correct. All "ground" is supposed to be is a *common* potential for everything in the system to reference against. Use of a single point connection *enforces* this single common potential, whatever it may be at any given instant.

When you start thinking about the many "ground" potential interconnections in your station, achieving a true single point ground system seems a daunting task. This is where the related idea of a ground window can help. The purpose of the ground window is to *short out* any possible ground loops in your system at the station entry point.

A ground window is simple in concept, and simple in execution. Basically, it is a physically small conductive plate through which *every* cable that enters or leaves your station must pass. Every cable that is supposed to be at "ground" potential is bonded directly to this plate as it passes through. Every conductor that is not supposed to be at "ground" potential is bonded to the plate via an appropriate suppressor device. (A book could be written on that subject alone.) Then the plate is connected to your single point ground by a heavy low inductance strap conductor. Now any large potential

difference that tries to express itself across cables
connected to various cabinets in your shack will find itself
shorted out at the ground window.

Note carefully that *every* cable must pass through the ground
window plate on its way in or out of your shack. That includes
power, telco, CATV (if present), and any network wiring as
well as the usual antenna feeders, rotator control leads, etc.
If only *one* wire bypasses the ground window, the protection
it offers is lost. Don't run extension cords to power outlets
that don't pass through the ground window. It can cost you
everything you own in a strike, including your life.

Now since you've taken great pains to do this protective grounding
system right, you'll find that it makes an excellent general purpose
RF grounding system as well. This is not to say that you'll generally
need a general purpose RF ground for the shack if you've done your
homework on antenna feeds, Faraday shielding, and the like, but you'll
have one anyway. And if you've done the job right (which requires
attention to a level of detail I haven't fully addressed here), your
station will be able to work even during the worst thunderstorms,
and even during direct strikes, without damage or interruption.
Proper grounding is a specialized, but well understood, part of the
protective process that radio and television stations, commercial
and military two way, and *amateur* radio stations should understand
and apply.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2374. ATU

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: Anton <zlbaec@zoo.upe.ac.za>
Message-ID: <3r6kbh$o4f@marlin.upe.ac.za>
Source record: 112530

I have recently passed the RAE and aquired a Yaesu HF rig. I have a problem, however, in that homebrewed antennae tuning unit kits are not available in our country. Circuit diagrams from the ARRL manual help little and tuning caps & inductors are unavailable. At the moment I am operating on an inverted V cut for single band operation but would like to widen my horizons. Can anyone help.....

73
Anton

2375. PLL PROM PROGRAM INFO NEEDED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: 4947@mgs.COM
Message-ID: <9506072305.A9321rZ@mgs.com>
Source record: 112531

Prom Programming Information Needed:

I have a Kenwood TK701S VHF and and matching TK 801S UHF
transceiver, currently used on 2 meters and 440 respectively.
These originally were commercial units. A thumbwheel channel
selector selects pre-programmed frequencies determined by
ROM chips inside. I would like to build a PROM burner to
program the PLL frequency determining proms. The proms are
old technology, i.e. one time "burn the fuse" types. The proms
are type MC 54730AP, with 32 bytes of memory. I remember
some time back reading that there is a rather tight spec relating
to the amount of current allowed and duration of burn, to burn
each bit. Too little current will cause localized heating on the
chip before opening the fuse, possibly damaging it, and too
much current can cause molten metallized traces to splatter to
other areas of the chip. Anyone have experience in these chips,
and know the spec for burning them? Also, any other equivelant
chip numbers would be of interest.
I also do not know the format for a similar ROM chip which
is in the PL deck inside the radio. This PL chip has a binary
value for each channel, which will cause the PL module to
generate the proper standard PL tone. Anyone out there know
the coding format?

73, de Pat, AA6EG@K6LY.#nocal.ca.usa.noam
4947@mgs.com
810-B Airport Rd
Monterey CA 93940
TUVA OR BUST!

2376. Homebrewer's magazine: "Hambrew"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-0806951013360001@burdick.interval.com>
Source record: 112532

Some of you may not know about "Hambrew" magazine, a new Sprat-size quarterly that is dedicated to homebrewing. I've only seen one issue, but it was pretty impressive: thick, glossy, nice photos, and not just a newsletter. Nice collection of articles, emhasizing QRP, SSB, FM, and more involvement with 6 meters.

What really surprised me was the $10 subscription rate. If you're into home-brew you might want to take advantage of this before they figure out that they have to raise the price. (Also, since the magazine hasn't been around very long, some would-be authors might have a unique opportunity here.)

Their number is (303) 989-5642. Apparently they used to have an 800 number, but that is no more.

73,
Wayne Burdick, N6KR

2377. Radio Repairs And Info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: n4da@mindspring.com
Message-ID: <n4da.4.001F48F7@mindspring.com>
Source record: 112533

For information on repairs, or for a good place to get your radio fixed; visit my home page. At http://www.mindspring.com/~n4da/top.html

2378. ?? Very Low Freq Receiver 5-100 Hz ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: becker@camg2.icgmfg.mke.ab.com
Message-ID: <becker-0806951154030001@tjbeckermac.mke.ab.com>
Source record: 112534

It's my first post here and to top it off this may be a little off the wall.

Do you have/use a very low frequency receiver on the order of 5 to 100 Hertz?
Did you make it yourself or who manufactures one?
--
Thomas Becker
Allen-Bradley Co.
ph: 414-382-4199
fax:414-382-4444
becker@camg2.mfg.mke.ab.com

2379. HELP PLEASE,Johnson handie programming

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: rpmackin@ashley.business.uwo.ca
Message-ID: <3r7ldu$jtg@falcon.ccs.uwo.ca>
Source record: 112535

HELP PLEASE!

I was in Rochester at the hamvention and bought two
JOHNSON 900 MHz handies.
Part # 242-8591
FCC ID: ATH2428570

I need PROGRAMMING INFO.
I have access to the proper hardware, but I lack the software.
Please, if anyone has any info, I would be very grateful.
I have been told it is the same software as for the 8570.

Thanks again...
de VE3PMK

Pat MacKinnon
75 Beechbank Crescent
London, Ontario, N6E 2P1
Tel: 519 649-1455
Fax: 519 649-7776

2380. Down East Microwave Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: bcieslak@mkelan5.remnet.ab.com
Message-ID: <bcieslak.152.000F93CB@mkelan5.remnet.ab.com>
Source record: 112536

I am trying to trouble shoot my down east Mode S receive converter but I am not having a lot of luck. The LO is working fine. I am able to see the 564 MHz output on a spectrum analyzer ant it is around 20 Dbm.

I can also find it coming into the converter and to the cathode of the diode in the first stage of the converter. It is my understanding at this point I should see all sorts of harmonics of the 564 Mhz signal but when I probe it with the Spectrum analyzer I only see the 564 Mhz signal, no harmonics at all. As I work my way further doesn't the change I even lose the 564 Mhz signal as it is being filtered out.

I was hoping also that if I didn't have an input signal to the receive input I would see the 2256 Mhz LO signal coming out of the Converter, but no. I've replaced D1 thinking it was open with a 1n4148 (that all I had in a pinch) but results were the same.

ANy clues???

2381. Re: FET pre-amps and NF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.204.000C4B64@TRL.OZ.AU>
Source record: 112537

>These being difficult to find locally, one local supplier
>suggested an NTE222 as a direct replacement for the 3n204. When I looked
>at the spec sheet, the NTE222 is described as having a "NF 6dB Max at
>200MHz".

>This is a far cry from the 1 to 1.5 dB noise figure for which I
>was hoping. This raises a question:

>How is the published NF determined by the manufacturer? Are they referring
>to noise factor or noise figure? Is noise factor dependant on bandwidth?

>In the end, I ended up buying a NTE454, which has a "NF" 1.5 dB less than
>than the NTE222.

>Russ va3rr/aa8lu va3rr@amsat.org

Russ, see if you can obtain Philips BF981 (NF 0.7dB) or BF982 (NF 1.2dB). Nice devices, cheap (here in Aus, about $1.50 ea. in small qty's).

Defined in the Philips data book : "Noise Figure at optimum source admittance; Id = 10mA, Vds = 10V, +Vg2-s = 4V, f = 200 MHz".

The long tag is Drain, opposite the package from D is G1, Source is the tag with the extra little tag. G2 is opposite S. Usual handling precautions apply regarding avoidance of static etc.

73, Kind regards, Drew, VK3XU. Telecom Australia Research Laboratories.

2382. 8044 CMOS Keyer I.C.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: rrives@aol.com
Message-ID: <3r5ske$7te@newsbf02.news.aol.com>
Source record: 112538

I am looking for a good source for the 8044 or 8044BM. If anyone can help me please send email to RRives@aol.com .

Thank you

2383. Re: Pesky AL values, was Re: Low-Band DXing errata

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <3r64ni$tk4@CUBoulder.Colorado.EDU>
Source record: 112539

Me:
:Could anyone tell me why toriods are rated in "AL values" such as uH/100
:turns, or mH/1000 turns? These "AL values" are often mislabled "units"
:but do not have the correct dimensions, which are actually
:inductance/(turns)^2.

[...]

:I seem to recall quite a bit of space devoted to explanation
:of AL values in one of the license manuals, and also in the ARRL handbook.
:Perhaps this space might be put to better use.

From gary@ke4zv.atl.ga.us Wed Jun 7 11:18:02 MDT 1995

>AL values are favored for the same reason meters per second are favored
>over furlongs per fortnight.

I'm not sure that's a good example for two reasons: both have the
dimensions of length/time, which is velocity, whereas uH/100 T does _not_
have the same dimension as nH/T^2. And it's not like nH/T^2 is going back
to English units... you still wind up in Henries, so to speak.

>And that reason is that most calculations can be done easily in your head,
>rather than having to reach for a calculator. As you note, T^2 is already
>built into the values, so you don't have to do that in your head when
>using AL values to calculate the number of turns you need for a given
>inductance.

I'm not clear what your point is here. If mH/1000 T is numerically equal
to nH/T^2 (which I think it is... a core of _43_ "mH/1000 T" is also a
core of _43_ nH/T^2) then it takes *exactly* the same amount of
calculation to go from this many turns to that much inductance, and if you
can do one in your head, you can do the other because the 43 (in this
case) doesn't change. (If there are 9 turns, an 81 shows up in both sets
of calculations.) I'd guess there's actually less math, as there's no
extra factor of 1000 (or 100) floating around that you need to square and
divide by, when you use nH/T^2 that you _do_ have to carry around with the
AL values.

>This is mostly a historical artifact now that all of us routinely have
>a scientific calculator close at hand. In the manual arithmetic days,
>it saved a bit of work, and another possible source of manual math error.

Hmmm. First you say it was to avoid "having to reach for a calculator"
and then you say it's "now that all of us have a scientific calculator
close at hand." Again, all I wonder about is the units, not the values, so
the amount of math doesn't change. By discarding "uH/100 T" and "mH/1000

T" and adopting nH/T^2, one gains the benefit of having the units make physical sense, which I would guess lessens the amount of confusion, and the amount of explanation needed to convey their use. (Being versed in dimensional analysis, it took _me_ some effort and head-scratching to understand how to employ AL values "correctly" - and now I read that they're at the root of an enduring typo in a popular book!)

Perhaps they're so widely used because the core-makers persist on using these non-units in their datasheets, and I should bug them and not the readers of this bboard (except possibly the ARRL handbook-editors, etc., here, to whom I submit there is no excuse for propagating physically nonsensical things in technical publications, historical precedent aside).

Bruce Tiemann
N6URH

2384. Gunplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-08 00:00:00 UTC
From: federero@obelix.cica.es
Message-ID: <3r66vg$jiq@obelix.cica.es>
Source record: 112540

A friend of mine is going soon to California and Washington DC for
business. I'm looking for gunplexers diodes. They are difficult
to find here and expensive. Can anyone tell me any place for
ham swap, surplus, flea market, etc around Sacramento, Ca and
Washington to look for such diodes ?
Please send email to federero@obelix.cica.es
73's

2385. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3r8cvq$13i@parsifal.nando.net>
Source record: 112541
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

Jeff Krul <jkrul@equist.com> wrote:
>
> I am in the process of putting together a new HAM 'shack', and I have
> come across an interesting 'snag'.
>
> I have heard, many times before, to be sure the HAM radio ground is NOT
> grounded to the house wiring ground system. Various explanations follow,
> usually to avoid having the house wiring turn into a massive antenna.
>
> Anyways, I was SURE to separate the two and overlooked one point . . .
> packet ! My TNC uses a serial cable, connected to my computer, which in
> turn has a grounded chassis! Argh! To top it all off, the serial cable
> is NOT the right way to ground to a 'secondary' ground. Talk about a
> 'high' resistance path to ground, forming an 'ideal' ground loop!!!!
>
> My question is, "How can I avoid this, and if I cannot, what effect will
> grounding to the house ground REALLY have?" "What are my OTHER options?"
>
> Thanks for your replies in advance,
> Jeff
> VE3QED
>
There should be two separate grounds in the shack - one for the AC
supply and one for RF. Now then comes the confusion, which equipment
should be connected to what. For sure, all the RF output equipment
should go to the RF ground by a low impedance path, and ideally, all
power supplies should be returned to the AC ground. Notice that I
was careful not to say 'equipment chassis' in any of that.

The voltage difference between AC ground and the low impedance RF
ground should be low, maybe a volt or so, but if its higher than
that, check into the cause before doing anything more becauses you
have a potentially dangerous situation.

Take a look at the power cords on your equipment and see which have
3 wire plugs, these will be more difficult to connect to your RF
ground, because by doing so, you have interconnected the AC and
RF grounds.

Interconnecting the grounds may not be a problem in general and
many times you can do it with no ill effects, but be aware that
doing so can cause circulating currents in the whole ground
system which will cause ground circuit noise (result of ground loops).
Separate the grounds often and check for a voltage difference

as a safety precaution. CORRECT THE PROBLEM BEFORE POWERING THE EQUIPMENT.

All power supplies with the output isolated from the chassis should be connected to AC ground only.

Computer chassis are grounded to the AC ground (and good digital design demands that this be only at one point for any one machine. this is why the RS232 interface defines a chassis ground and a separate signal ground. Not all cable manufactures implement this distinction. By convention, the chassis ground is connected to the cable shield and this shield is connected only at one end (usually the computer end). The serial interface card would then handle the signal return (ground) only. This is the way ground loops were handled in the large mainframe computers. You might want to check your computer interface card and your TNC to see what each of them do with pin 1 of a DB25 connector, if it is like the large mainframe implementation, the interface card will ground pin 1 to the chassis and the TNC will leave it open. Signal return will be on pin 7 of the DB25, and a proper cable will not connect pins 1 and 7 together.

All in all, you may have no problem, but you can fix it in your TNC if you have to do it properly. You also could try connecting your TNC chassis to the computer only and not to the rest of your ham gear which would be tied to RF ground. This would give a potential ground loop at the audio interface to the tranceiver, but is not as likely to give problems as one at digital circuits or RF circuits.

Good luck with it,
73,
Don W3FPR

2386. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <3r8tq4$4fo@proffa.cc.tut.fi>
Source record: 112542
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

DB Wilhelm <w3fpr@nando.net> wrote:

[about separate grounds for the shack and the computer]

> All power supplies with the output isolated from the chassis should
> be connected to AC ground only.

> Computer chassis are grounded to the AC ground (and good digital
> design demands that this be only at one point for any one machine.
> this is why the RS232 interface defines a chassis ground and a
> separate signal ground. Not all cable manufactures implement this
> distinction. By convention, the chassis ground is connected to the
> cable shield and this shield is connected only at one end (usually
> the computer end). The serial interface card would then handle the
> signal return (ground) only. This is the way ground loops were
> handled in the large mainframe computers.

Unfortunately, all terminal manufacturers did not isolate the (interface)
circuitry from the chassis and thus the signal ground (pin 7) was directly
connected to the PE (Protective Earth) bar of the building through the
3 wire power cord. The VT100/VT220 series was particulary problematic
in this respect, with lots of ground potential problems.

> You might want to check
> your computer interface card and your TNC to see what each of them
> do with pin 1 of a DB25 connector, if it is like the large mainframe
> implementation, the interface card will ground pin 1 to the chassis
> and the TNC will leave it open. Signal return will be on pin 7 of
> the DB25, and a proper cable will not connect pins 1 and 7 together.

No, this is not a sufficient prerequisite. The important thing is what
happens to signal ground (pin 7) inside your PC. This is most likely
connected to the 0 V output voltage terminal in the power supply. To
this point is also connected the signal returns for the monitor and
the signal returns from the printer (and signal ground fom an external
modem). Only if all circuits in all these equipment float in respect to
their respective chasses, only then is it time to worry if the cable
is connected properly.

I very much doubt that you can find a PC installation (computer, monitor,
printer etc..) in which the circuitry floats respective to the chassis and
thus also floats relative to the PE bar in the building (assuming 3 wire
power cords).

> All in all, you may have no problem, but you can fix it in your TNC
> if you have to do it properly. You also could try connecting your

> TNC chassis to the computer only and not to the rest of your ham
> gear which would be tied to RF ground. This would give a potential
> ground loop at the audio interface to the tranceiver, but is not as
> likely to give problems as one at digital circuits or RF circuits.

A simple solution:
Move the TNC to the computer and take the power from the computer
or from a separate (floating) wallwart. Put audio transformers
(say 600:600 ohms) in the microphone and loadspeaker lines and an
opto isolator for the PTT line. The opto isolator can be omitted,
if both ends of the contact in the PTT relay inside the TNC are
floating. The audio transformer only has to pass 300 - 3000 Hz, so
allmost any audio transformer will do, but if you find a type with
high breakdown voltage specification, it might save your computer
even if your station is damaged during a thunderstorm.

To avoid EMC problems from and to the computer, it is also easier to build
filters for the audio cable than for a high speed serial cable (where you
have to be careful not to distort the waveform).

Paul OH3LWR

--
Phone : +358-31-213 3657 Mail: Hameenpuisto 42 A 26
Internet: Paul.Keinanen@cc.tut.fi FIN-33200 TAMPERE
Telex : 58-100 1825 (ATTN: Keinanen Paul) FINLAND
X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

2387. Re: ATU

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3r8ulf$ud0@info4.rus.uni-stuttgart.de>
Source record: 112543

In article <3r6kbh$o4f@marlin.upe.ac.za>, Anton <zlbaec@zoo.upe.ac.za> wrote:
>I have a
>problem, however, in that homebrewed antennae tuning unit kits are not
>available in our country.

Anton,

There are a large number of antennas which can be tuned to work
fine without an ATU, at least over parts of the HF bands.
Avoid compact designs with loading coils et.c, they are more
demanding as to tuning.

BTW, a ATU can be made from coax cable and swithes or relays.

73, Moritz DL5UH

2388. Re: High intercept, low noise amp - wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jun9.095947.38834@ucl.ac.uk>
Source record: 112544

Following my request for a low noise, high output intercept amp, Steve Byan suggested transformer feedback and asked for any original references on it.

I have found this:

'High Dynamic Randge Transistor Amplifiers, using lossless feedback'
by Dr. D. E. Norton,
Microwave Journal,
May 1976.

Its a good article, fairly simple to understand and well worth a read. It discusses using both transformers and directional couplers, to reduce gain, increase output intercept while keeping the noise figure constant (all compared to using the active device with no feedback). Using resistive feedback obviously degrades the NF.

I have recently discovered the Motorola MRF-136 has a 1dB noise figure at 175MHz and an output power of 15W, so the intercept should be about +50dBm. However, the test circuit given in the data book at 175MHz uses a stabilising resistor of 27 ohms between gate (its a FET) and earth, which I'm sure wont give the NF I want. I'll contact Motorola and ask if they can give me the circuit which gave 1dB NF.

BTW, many devices are said to be high power and low noise, but the NF and powers quoted are often at different collector (drain) currents, so you cant get both together. Fortunatly, for the MRF-136, both are quoted at the same (I think 500mA) drain current.

dave kirkby G8WRB

2389. Re: INFO WANTED: Long Wire Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3r8lc5$6kl@misc1.microserve.net>
Source record: 112545
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Jeff Krul <jkrul@equist.com> wrote:
>My question is, can the long/random wire antenna simple be fed from my
>MFJ949E (which supports tuning of random wire antennas) and wrapped
>around the perimeter of my house? Is this the best way to do it? I do
>not want the antenna visible so just under the rain gutter (or in it!)
>would be ok with me.

Hello again Jeff,

I just realized that you also posted the question regarding the AC ground. The antenna you're planning, in conjunction with the ground system, can be a little tricky.

First, what I said about the AC ground still holds, but this type antenna increases the liklihood of radiation from the chassis of the rig, and therefore from the AC ground.

The problem is that the antenna is fed as an unbalanced radiator right from the output of the (local) tuner. On frequencies at which the feedpoint impedance of the antenna increases, the chassis of the tuner (and therefore the rig) will require a very "strong" connection to RF ground. If a good RF ground is unavailable, the chassis of the tuner and the rig will "float" at a certain RF potential, as will the AC ground.

Rather than disable the AC ground (a practice I consider unsafe), the key is to either provide a good RF ground at the rig & tuner, or use a balanced, rather than end-fed, antenna.

A good RF ground is basically achieved in a multiband situation only by installing a very short cable from the rig to earth ground. The length is required to be shorter as the frequency rises, and for 160-80M, you may be lucky in that regard. BTW, in my experience the gauge of the cable (within reason) will not have a significant impact on the effectiveness of the ground.

This leads to my first question: How long would the cable need to be in order to reach the first available location at which you can install a couple ground rods? My second question is, are you certain you can't install a center-fed dipole, even if it isn't required to be resonant?

Finally, I want to mention that assuming the rain gutter is metal, I would advise against setting the antenna inside it. However, if you are able to inspect the joints of the gutter to ensure electrical continuity, the gutter itself might be a reasonably good radiator. More than a little DX has been worked by hams using pre-existing

structures, and that certainly includes rain gutters. You might want to describe the building itself more fully; things like height above ground, siding and roofing material etc. can be important factors.

73,

Jack WB3U

2390. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: rapp@lmr.mv.com
Message-ID: <D9wont.F4E@mv.mv.com>
Source record: 112546
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

... edited

>Single point grounding is simple in concept, but often subtle in
>execution.

Gary,

Excellent article. One question, however: Assuming you bond
everything properly like a reverse daisy chain to a single point gound
at the meter entrance, is it ok to extend that gound by bonding
multiple ground rods together? Something like this

```
Ground Rod --------+ +--------Stuff in shack
| |
Ground Rod ---------+----------+--------Entrance Panel
| |
Ground Rod ---------+ +--------Tower, etc
```

Thanks,

Larry
--
Larry Rappaport W1HJF
w1hjf@w1hjf.ampr.org
W1HJF@K1UAQ.NH

2391. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3rab67$79v@misc1.microserve.net>
Source record: 112547
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

> And if you've done the job right (which requires attention to a level of
> detail I haven't fully addressed here), your station will be able to work
> even during the worst thunderstorms, and even during direct strikes,
> without damage or interruption.

Gary, this is perhaps the best piece I've ever seen on this topic, particularly considering that it was written within the space constraints of a news post. It is so good, in fact that I've save it for reference, something I seldom do.

I do have one reservation regarding the above paragraph, however. The level of detail you refer to is more properly described as cost of construction. This is the weak link in amateur lightning protection and the reason why most (if not all) amateur installations will never withstand a direct strike, let alone provide operator safety under such conditions.

Anyone who has ever seen a four foot thick concrete base under a commercial FM tower shattered from lightning knows what I'm talking about. There was even an article in the news recently, about a woman who was electrocucted in her bathtub when lightning hit the *underground* water pipes leading to her house.

My point is, in a direct hit, lightning takes *many* paths to ground, not just the shortest or largest cable which we provide. Even assuming that sufficient protection could be guaranteed to the equipment, the operator remains at risk as only a few milliamps are required to stop the heart.

For this reason, barring an expenditure of many thousands of dollars to install protective measures, absolute protection means staying off the air during a lightning storm and disconnecting *all* leads to the equipment. There are no exceptions to this rule.

73,

Jack WB3U

2392. ft736 narrow filter and 50mhz module wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: Conrad Farlow <conrad@g0ruz.demon.co.uk>
Message-ID: <192745954wnr@g0ruz.demon.co.uk>
Source record: 112548

I am looking for a narrow cw filter and a 50 Mhz module for my
FT736r.Please email me.
73 de Conrad G0RUZ
email conrad@g0ruz.demon.co.uk
Packet radio G0RUZ @ GB7WRG.#19.GBR.EU

--

2393. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: Conrad Farlow <conrad@g0ruz.demon.co.uk>
Message-ID: <728843468wnr@g0ruz.demon.co.uk>
Source record: 112549

Gary may I just say thankyou for (finally!) addressing an area where I confess to having some confusion.I now understand what I must do and how I must do it!
73 de Conrad G0RUZ
email conrad@g0ruz.demon.co.uk
packet G0RUZ @ GB7WRG.#19.GBR.EU
"A successful eme'r is the one who wastes the least electricity"

2394. Instructional videos

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: n4da@mindspring.com
Message-ID: <n4da.14.021075DA@mindspring.com>
Source record: 112550

For instructional videos on the repair and alignment of HF radios;
visit the Radio Doctor's home page. At:

http://www.mindspring.com/~n4da/top.html

2395. Re: ATU

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun9.151156.23180@ke4zv.atl.ga.us>
Source record: 112551

In article <3r6kbh$o4f@marlin.upe.ac.za> Anton <zlbaec@zoo.upe.ac.za> writes:
>Content-Transfer-Encoding: 7bit
>X-Mailer: Mozilla 1.1N (Windows; I; 16bit)
>
>I have recently passed the RAE and aquired a Yaesu HF rig. I have a
>problem, however, in that homebrewed antennae tuning unit kits are not
>available in our country. Circuit diagrams from the ARRL manual help
>little and tuning caps & inductors are unavailable. At the moment I am
>operating on an inverted V cut for single band operation but would like
>to widen my horizons. Can anyone help.....

If heavy gauge solid wire is available, then your inductor problem is
solved, IE you can wind your own. The variable capacitors are a bit
more of a problem. If you are mechanically inclined, and have access
to some sheet aluminum, you can make your own capacitors too. The
circuits shown in the ARRL Handbook, and the component data on winding
coils and calculating air gap plate capacitors should be all you need
to proceed to build a good antenna tuner.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2396. RE: Replacement for 40673

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Jun9.112934.292@nad.com>
Source record: 112552

Last time I checked (about a year ago), RF Parts still had them in stock.

Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com

2397. ICM7216 DIPI (freq.counter) chip info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: kerkhoff@mail.utexas.edu
Message-ID: <3ra4s4$kra@geraldo.cc.utexas.edu>
Source record: 112553

I recently aquired a digital freq. readout at a surplus store. It has four digits
and displays freqs. from 100 Hz. to 999.9 kHz. The main part on the board
is the ICM7216 DIPI freq. counter chip. I would like to be able to modify the
circuit to indicate audio freqs. better but I don't have any info on this chip.
Does anyone know of a source of technical info and pinout of it?

Thanks for any help...
Jim Kerkhoff
Recording Manager
INTERNET: kerkhoff@mail.utexas.edu U.S. MAIL: Performing Arts Center
CAMPUS MAIL: Performing Arts Center University of Texas
PAC 2.302 P.O. Box 7818
E3300 Austin, TX 78713-7818
PHONE: 512-471-0392
"Networks are Us!"

2398. Looking for an RF Ground expert?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-0906951524300001@d221-brockway.sierra.net>
Source record: 112554

Sorry I didn't reply directly to your request for advice; you'd have the info more directly.

It's OK to have your power grounds from peripheral equipment and even RF equipment going back to the neutral bus of your house wiring. That third gounding plug on the power plug does serve a purpose, for safety's sake.

For RF sake, it is not desirable to use these connections for RF ground as the grounds have a definite and uncontrolled inductance that can make your RF equipment behave strangely at times depending on the frequency. For example, at some hypothetical frequency, you may find that the so-called ground is actually a quarter wavelength, essentially an open circuit for RF...this is not a good thing...

The classic shack in the attic is likely to suffer more than the classic basement location for obvious reasons.

What you want is, ideally, some broad strip (~12 inches) of solderable metal running along behind -all- your equipment that can accept a short direct physical connection to each piece of equipment. This broad strip is then connected to a physical earth ground as directly as possible, even using flat braid or one inch copper strip. You can buy grounding rods from a building supply for the purpose, they are copper plated steel (so you can hammer on them). If you can't solder to the connections, make them as robust as possible.

This setup, ideally, has such low impedance to earth ground that whatever impedances to ground presented by the house ground wires are shorted out, and don't matter.

You could also build a Faraday cage, but that is a house of another color...

2399. Re: Pesky AL values, was Re: Low-Band DXing errata

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-0906951532460001@d221-brockway.sierra.net>
Source record: 112555
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <3r24kr$227@CUBoulder.Colorado.EDU>, tiemann@spot.Colorado.EDU (TIEMANN BRUCE) wrote:

> Could anyone tell me why toriods are rated in "AL values" such as uH/100
> turns, or mH/1000 turns? These "AL values" are often mislabled "units"
> but do not have the correct dimensions, which are actually
> inductance/(turns)^2.

It has to do with the straightforward (really) nature of the physical structure that makes for a relatively simple inductance formula like nH/T^2. Take a look at a solenoidal inductance formula. The reason is the closed magnetic circuit of the toroid or also that of the core pieces like pot cores or more complicated shapes such as you might find in switchmode power supplies. They all have closed magnetic circuits that greatly simplify the process of getting the inductance for a given number of turns. Granted that the AL value is subject to typo errors, it is still much simpler than a solenoidal approach with open mag circuits.

2400. Re: What is S.C.A receiver ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3ran1t$91c@solaris.cc.vt.edu>
Source record: 112556
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <RAHUL.95Jun9132152@passat.cities.lehman.com>,
rahul@passat.cities.lehman.com (Rahul Vipparthi) wrote:
>
>
>There is a FM station in New York which can be
>cannot be heard through a conventional FM recevier.
>
>They sell "special" radios which are capable of receiving
>this station. The sticker on the back says Manufactured by
>XYZ specialists in S.C.A receivers.
>
>Can this is received through a SONY ICF-SW7600G ?
>
>I would appreciate any help. If this is a wrong newsgroup, I
>apoligize and please direct me to the correct newsgroup.
>
>
>Thanks
>
>-rahul-

Well, this isn't really a digital question (although it could be), or really a purely amateur question, but it is definitely a radio question, and something I know a little about. Perhaps any further followup should be conducted in rec.radio.homebrew, where the topic has appeared before, ironically in a digtal context.

The SCA "radio stations" are actually signals that are combined with the main signal of a broadcast radio station. A conventional FM radio only plays the main station, ignoring the SCA. It's kind of like the process of transmitting stereo FM, this is done in a manner that a mono radio still receives the signal properly in mono.
The "special" radios, therefore, start as conventional FM radios with the tuning fixed to the station that has the SCA signal added. But rather than play the "raw" output, they process the signal additionally to extract the SCA audio.

Uses for this technology are varied, although I don't think it ever really took off because for various reasons the signal quality is not very high, and (except in big cities), there aren't enough potential users to justify all the equipment. Also, it can degrade the main signal slightly, causing a potential loss of listeners. Public radio stations here broadcast a rather amateurish "reading" session of people reading various newspapers and magazines for the benefit of those who are blind or otherwise can't read newspapers and

magazines. In the commercial segement of the band (>92 MHz), programming is likely to be "background music" or digital services of various sorts like paging or stock quotes. In Europe, there were some experiments to link data transmitted via SCA into the "Smart Road" taxpayer-milking scheme. It is probably not legal to publicly receive these without paying a license fee to whoever is providing the service, that license fee is most likely included in the price of the special radio they sell or lease to you.

Into the more technical stuff: The SCA is transmitted as a "subcarrier" on the baseband audio. Looking at the spectrum coming out of the FM demodulator in a conventional radio, before it is de-empahsized, etc:
{Mono audio} P {Stereo Information} {SCA} (P= Stereo Pilot 19.0 KHz tone)
0 19K 38K 67K (Hz)
The SCA carrier, which is usually more than 60 KHz (57 KHz for Europe, usually 67 KHz in the USA, although it can be even higher, up to 100 KHz, especially for narrowband data), will be filtered out by a conventional radio. A good FM receiver will often include a "SCA Trap" tuned to 67 KHz to get rid of this signal entirely so it won't interfere with the stereo audio.

The SCA carrier is FM modulated with about 7 KHz deviation for an audio channel. This gives a frequency response to about 5 KHz in the baseband, so it sounds like AM radio. Actually, everything I've heard on SCA sounds *worse* than a nearby AM radio station. This is due to the other major problem: various nonlinearities in the FM transmitter, the radio channel (multipath), the IF filters, and the discriminator in the radio will cause the main channel audio and stereo information to either (1) produce harmonics in the SCA band and/or (2) cross-modulate the SCA carrier. In either case, the result is that the main channel signal bleeds over into the SCA signal, causing what sounds like static cracks and pops in the SCA when peaks are hit on the main channel, especially in stereo programming. This is not helped by the fact that the SCA signal is only about 10% of the total modulation of the radio station, so it will not take too much power away from the main channel that most receivers are listening to.

Adapters to extract the SCA signal from a conventional receiver used to be a popular magazine project, as it can theoretically be fitted to any receiver that receives commercial FM. I have built a few SCA adapters to experiment with, both magazine designs and my own, and have not been too satisfied. I also tried one commercially-produced SCA receiver and got about the same results, so I don't think my circuitry was too much at fault. I would suggest listening closely to any SCA receiver before you buy it to be sure you can live with the quality.

-Mike KD4QDM

2401. Faxmodem f. JVFAX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-09 00:00:00 UTC
From: klaus.botschan@tdd.snafu.de
Message-ID: <95061004000334@tdd.snafu.de>
Source record: 112557

Hallo Roland !

Ich habe mir vor kurzem Platinen und Eprom zu dem von
Dir und Ulrich entwickelten Faxmodem bestellt.
Nach dem Zusammenbau der Platine pruefte ich zunaechst
den Daten/Adressbus mittels eines NOP-Steckers. Alle
Ausgaenge lieferten Signale, kein Signal war "doppelt".
Soweit so gut.
Nach erwartungsvollem Einbau des Eproms blieb jedoch
das Blinken der LEDs aus :-(.
PSEN- u. ALE- Leitungen liefern die richtigen Signale,
auch ein Versuch mit einem zweiten Prozessor brachte
nichts...
Ein Loetfehler ist mit Sicherheit auszuschliessen, da
ich die Platine *einige* Male daraufhin untersucht habe.
(..in den vielen Jahren meines Schaffens bin ich in der
Beziehung vorsichtig geworden ;-))

Nun gut, es laueft halt nicht, auch am Rechner kein Mucks.
Irgendwie siehts so aus als ob das Programm an einer Stelle
haengen bleibt, am Port0 steht mit Eprom immer dieselbe
Adresse an, an Port2 ist nur A10 aktiv.

Ich habe die SWL-Version 4.7 (vom Feb.94), sie ist mittler-
weile auch schon zu Ulrich unterwegs, der mir ein anderes
Eprom zuschickt.

Ich will Dir hier nichts vorjammern, sondern wollte mal
Deine Meinung dazu hoeren. Irgendwas Dummes muss ja pas-
siert sein, ich kann mir aber keinen Fehler meinerseits
vorstellen. Wenns mit dem anderen Eprom wieder nicht klappt
steht mir eine Lebenskrise ins Haus ;-)

Ach ja : ist der Software- fehler in JVFAX (FM 400 mit
ATC ==>00H) in der Version 7.0 behoben?

so, das wars dann mal

viele Gruesse
Klaus (klabot@tdd.snafu.de)

• OLXWin 1.00 • Backup not found: (A)bort (R)etry (P)anic

2402. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-10 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3rb0kq$c4j@parsifal.nando.net>
Source record: 112558
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

k23690@proffa.cc.tut.fi (Kein{nen Paul) wrote:
>
> I very much doubt that you can find a PC installation (computer, monitor,
> printer etc..) in which the circuitry floats respective to the chassis and
> thus also floats relative to the PE bar in the building (assuming 3 wire
> power cords).
>
It is not necessary that the DC common circuit actually float. The
correct procedure is to connect DC common to the equipment ground
at only one point within any one machine. In PC type computers
there is usually done inside the power supply. In a properly
(read low noise) designed printed circuit board, the "ground" plane
is actually DC common, and should not be confused with earth ground.
In most IBM PC compatible motherboards, there is a mechanical mounting
stud near the keyboard connector that may be mistaken for a motherboard
grounding point - it is not = This mounting stud should have insulating
washers to keep it from grounding the DC common at that point. This
one item has cured many cases of mysterious behavior in PCs.

Again, the rule of thumb for grounding digital circuits is to connect
DC common to equipment ground at only one point within a machine, and
to be connect any signal cable shields to the equipment chassis at
only one end. I am aware that some terminal devices violate this
convention. My cynical response is that it helped them pass the
tests required to get it to market, but caused many service headaches
in the field, but my practical response says that there are always
exceptions to any convention - just be aware, and if you experience a
problem maybe you can identify the root cause a bit faster.

Please re-read Gary Coffman's earlier post on grounding. That is
something that could replace most of the words I have previously
read on grounding, and I checked the ARRL Handbooks section on
station grounding before placing my first post on this subject.
While it was somewhat informative, I found it woefully incomplete
in answering the all important WHY question that is so helpful
when the current conditions don't quite match the 'normal' and I
don't ever seem to encounter a totally 'normal' situation.

73,
Don W3FPR

2403. Re: Looking for an RF Ground expert?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun10.074541.27668@ke4zv.atl.ga.us>
Source record: 112559

In article <tetrault-0906951524300001@d221-brockway.sierra.net> tetrault@sierra.net (Robert Tetrault) writes:
>For
>example, at some hypothetical frequency, you may find that the so-called
>ground is actually a quarter wavelength, essentially an open circuit for
>RF...this is not a good thing...

Why is this not a good thing? Do you have some reason to want to heat earthworms with your hard won RF?

>This setup, ideally, has such low impedance to earth ground that whatever
>impedances to ground presented by the house ground wires are shorted out,
>and don't matter.

What is the impedance of Earth?

Ok, I'm poking a little fun, but think about these questions anyway. Why, in general, do you want to pump RF into the Earth? And just how low impedance is Earth anyway? If it takes a Megger to read the resistance between two points on Earth, how come our wire running to Earth has to be so low impedance? The answers to those questions can help explode some myths.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2404. Re: push-pull grounded screen.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-10 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-1006951330150001@d223-brockway.sierra.net>
Source record: 112560

Grounded screens address the need for a good RF ground at HF. It does mean reverse biassing the cathode to get the effecteive screen voltage though the screen is at DC and RF ground. The output C of a 4CX1000A tube is doubled in Push-Pull, and probably you would not need any fixed or variable plate Tune C, just a variable inductor with variable loading C. I have seen output tanks that did this and used a compressible coil to vary turns spacing to achieve variable L.

2405. Re: Down East Microwave Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-10 00:00:00 UTC
From: mckee@fc.hp.com
Message-ID: <3rd43c$jpi@tadpole.fc.hp.com>
Source record: 112561

Brian Cieslak (bcieslak@mkelan5.remnet.ab.com) wrote:
: I am trying to trouble shoot my down east Mode S receive converter but I
: ANy clues???

Have you called Down East? I had a problem with power output on my Xverter,
and gave them a call. Steve was very helpful, and I have nothing but good
things to say.

Bret

p.s. I am just a satisfied customer. I have no financial stake in DEM
and don't personally know anyone who works there.

2406. Re: 8044 CMOS Keyer I.C.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-10 00:00:00 UTC
From: wyman@bnlux1.bnl.gov
Message-ID: <NEWTNews.29275.802833213.wyman@kwyman.thor.bnl.gov>
Source record: 112562

In article <3r5ske$7te@newsbf02.news.aol.com>, <rrives@aol.com> writes:

>
> I am looking for a good source for the 8044 or 8044BM. If anyone can help
> me please send email to RRives@aol.com .
>
> Thank you
>

I just ordered one today from Mouser Electronics...$19.95....but I didn't do
much shopping around... Phone# is 800-346-6873

de Kevin (KF2VC)

2407. Looking for Spice-based Simulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-10 00:00:00 UTC
From: blombard@iu.net
Message-ID: <D9xn31.5y3@zeno.fit.edu>
Source record: 112563

I guess the title doesn't say it all, but I'm looking for a low-cost Spice simulator that I can use for general purpose analysis. I have access to two big system Spice engines; Cadence Analog Workbench and the HP Microwave Design System. It's just very inconvenient to use them, and I'd like to have one on my desk.

Wish list: nodal input is okay, graphical output preferred. Biggest desires are (1) input spice macromodels from the various vendors' disks, (2) able to do more than a couple of dozen transistors so that I can include 2 or 3 opamps in a circuit model, and (3) DOS or 'Doze. I have the Windoze w32s extensions so that I can run 32 bit apps.

I have the freebie edition of MicroSim Pspice, but I can't get more than one opamp into it (some models are too big and I can't even get one op amp in). Likewise, I found the Papagallo Spice for Windows NT, but it allows even fewer parts than the freebie Pspice, so few that I don't even have any models I can run on it to evaluate it! The Pspice freebie version would be fine if it could just handle, say, 100 transistors instead of 10

Boy, am I fussy or what? Anyway, if there is a worthwhile version of spice out there, please let me know. This news server has a habit of missing articles, so please email, or send me a copy of your posting by mail.

73,
b

--
Bob Lombardi WB4EHS in Melbourne, FL (>))))|||| blombard@iu.net
Microsoft just notified me that they are sueing me for using the name "Bob", which is their registered trademark. You'll have to call me by my new name, "Windows"

2408. Re: Homebrewer's magazine: "Hambrew"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-11 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <279433984wnr@pacsat.demon.co.uk>
Source record: 112564

Do you have an adress for them?

--
+---+
| 73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland |
| Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk |
| AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP **** |
+---+

2409. Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-11 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <220404035wnr@pacsat.demon.co.uk>
Source record: 112565

Im looking at a design in the G QRP mag about a cross field antenna
Do they work and has anyone tried this design (by their art editor)

--
+---+
| 73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland |
| Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk |
| AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP **** |
+---+

2410. Re: Homebrewer's magazine: "Hambrew"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-11 00:00:00 UTC
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org
Message-ID: <1995Jun11.155638.27210@wb3ffv.ampr.org>
Source record: 112566

Wayne Burdick recently commented on Hambrew magazine, noting that it was $10 a year, and hinting that we should take advantage of that before they raise their price. A little historical perspective: it started out at $20 a year, which I thought was quite steep for a small quarterly publication. It wasn't a bad little magazine, but I wasn't about to shell out twenty dollars a year for it. One reason for the high cost was the publishers wanting to use very high quality paper. He recently decided to go to a lesser quality paper (but still far above newsprint in quality) and slashed the price to ten dollars a year--at which point I finally subscribed. I have no data on the effects of the price reduction vs. subscriber base, but I would suspect that he picked up a lot more subscribers when he did it. And it still remains a nice little homebrewers magazine worth looking into. 73 DE WA8MCQ

2411. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: Don Wilhelm <dbworksh@nando.net>
Message-ID: <3ri36b$gl@parsifal.nando.net>
Source record: 112421
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

k23690@proffa.cc.tut.fi (Kein{nen Paul) wrote:

;> Yes, this is good engineering practice, but look what happens when we look
;> at the situation at network level. If we have one computer and some
;> floating device at the other end, then we can apply principle b) above.
;> However, if you are trying to connect two computers, then principle b)
;> can no longer be applied due to the grounding in _each_ PC. This was
;> just the situation with a cumputer and multiple VT100/VT220 terminals,
;> which are connected just like PCs you described. It does not matter what
;> you do with pin 1 (protective ground), you will have circulating ground
;> currents through pin 7 anyway. In this case it might be better to connect
;> both ends of the cable shields for improved noise margin, but I do not
;> recommend it after having replaced line receivers on several terminals :-)
;> You should newer break the signal ground (pin 7) connection on RS-232 to
;> break the ground current, since you will end up with burnt receivers and
;> transmitters very quickly during normal operation.
;>
;> My recommendation is to ground equipment properly for electric safety
;> and use isolation (optoisolators, transformers etc.) to transfer the
;> signals.
;>
;> Sorry for this long ranting, but hope that someone might find something
;> useful, next time when someone is connecting together equipment in
;> different rooms or different buildings.
;>
;> Paul OH3LWR
;>

These are very good points, and Paul's suggested isolation
techniques are good both in theory and practice. The only
qualification I can add is to point out that a long distance
run (like to connect terminals to computers) has a
whole lot of considerations over and above connections
within the range of the RS232 specification. The signals
used in computer to terminal operations will cause DC level
shifts due to accumulation of charge from the signal itself,
and must be dealt with in ways different from the normal
engineering practices involved in a single room or cluster of
rooms. Different signalling waveforms and protocols have been
developed to deal with just this problem. That is not
to discount anything Paul has said, but only to paint it as
a "horse of a different color".

73,
Don W3FPR

2412. Please count items!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: IFF161@DJUKFA11.BITNET
Message-ID: <95163.203813IFF161@DJUKFA11.BITNET>
Source record: 112422

To anyone with the patience;
I cannot believe I am receiving all the postings here. My board shows none since 9 June, 1995 and I suspect our system is sick (similar problems in other groups!). I would appreciate somebody's counting of the postings after the nineth of June, or even better, a listing of the titles. That will give me something in the hand when I seek the trouble. Please send one or the other of the above to me at <iff161@djukfa11>.
Thank you to anyone kind enough to help!
Sincerely, Bob

2413. Does a 2 meter CW kit exist?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: jtesta@freenet.columbus.oh.us
Message-ID: <3rh9j6$4s3@acme.freenet.columbus.oh.us>
Source record: 112423

I am looking for either a kit or plans for building a 2M CW transceiver.

Looking at all modes(new) are too expensive(and only going to get worse) and trying to find a used one is near impossible. So I have started a mission in search of.

Would appreciate any information that could be given.

Why does a 2M all mode cost as much (or more) than a low end HF rig with multiple bands?

Thanx, 73, joe

--
Joseph S. Testa, Database Administrator, Ohio EPA
N8XCT, Emergency Coordinator (EC) & Local Govt Liaison (LGL)
Pickaway County, OH and Official Relay Station (ORS), message content are MY views and NOT my current employer.

2414. Lunar 2 Meter Amp schematic and modification

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: au156@yfn.ysu.edu
Message-ID: <3rhivq$3f0@news.ysu.edu>
Source record: 112424

Does anyone have a schematic the following 2 meter amp that he could
make a copy of for me?

Lunar Electronics Linearized Amplifier, Model 2M10-80P.
(I guess that's 10 IN, 80 OUT, with a preamp.)

I bought this used, and haven't a stitch of printed info on it.
It's a little difficult to trace the DS PCB without separating
the two boards from the heatsink, although I have a general idea
of what is happening.

What I would like to do is to disable the SSB linear bias on the
single transistor (SD1416), because the power drain seems to be
excessive compared to a plain old Class C transistor amp. It has
an FM/SSB switch which I always thought took out the bias on these
types of PAs, but It seems to really just effect the T/R relay
lag time.

Incidentally, there is a 10 watt resistor that gets hot as a pistol
when transmitting for any length of time which must be part of the
linear bias network. For ten RF watts out, the power drain is
something like 4 amps instead of about the 2 amps I'd expect for
a plain *FM only* PA.

Hank
N1LTV

2415. RTTY Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: Anton <zlbaec@zoo.upe.ac.za>
Message-ID: <3rhkoc$35v@marlin.upe.ac.za>
Source record: 112425

As a yachtie we have access to maritime bands, from where important weather information is obtained. Paging through a Maplin catalogue I came asross a CW & RTTY decoder by Waters & Stanton, a Microreader MK II. Is anyone currently operating one of these decoders or can supply information on it? I would like to decode RTTY weather broadcasts on 8 & 12 MHz (maritime frequencies). Will this decoder meet my needs? The reason why I am interrested in this decoder is simply because it does not seem to require a PC of any description to function. This is the biggest downfall of HamComm and Packet on a small yacht, as amps are scarce and salt water gets in every where!
73
Anton

2416. Plans for an Eggbeater Antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: dsantoro@pipeline.com
Message-ID: <3rhjn5$flc@news.nyc.pipeline.com>
Source record: 112426
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Hey folks,

I'm looking to homebrew an eggbeater antenna for 2M. If anyone could post plans or direct me to a publication that has them I would greatly appreciate it.

73
Dave N2VYP

2417. Re: Looking for Spice-based Simulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.802966380.30322.jwicklun@mycroftxxx.halcyon.com>
Source record: 112427

In article <D9xn31.5y3@zeno.fit.edu>, <blombard@iu.net> writes:

>
> Boy, am I fussy or what? Anyway, if there is a worthwhile version of
> spice out there, please let me know. This news server has a habit of
> missing articles, so please email, or send me a copy of your posting by
> mail.
>
It seems to me that I just saw an announcement that Microsim had just
come out with, or lowered the price of, a low cost version of pspice that
sounded like it would do a great deal more than one op amp.

Also, Intusoft has a windows spice package for about $500 that looks very
interesting (with virtual scope, etc). I haven't tried either package so
I can't give you and first hand experiences.

73 de KI7RH (Jay)

2418. Vacuum Tubes Available...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: whit@infi.net
Message-ID: <3rhs6u$pmr@lucy.infi.net>
Source record: 112428

Subj: VACUUM TUBES AVAILABLE
Date: 95-06-12 11:28:59 EDT
From: Whit Gillon (WA4UPL)

NEW ELECTRON TUBES

Following is a list of new electron tubes available immediately along with the unit price.
Quantity orders are encouraged
Shipping and COD charges extra. Minimum order $100.

Raytheon QKK-759A $125.00
Raytheon 2K45 $25.00
Raytheon 6133 $25.00
Raytheon 2K28 $20.00
Raytheon 6115A $20.00
Raytheon DOD-001 $20.00

Phillips 6SL7WGT $1.70
Phillips 6C4WA $ .60
Phillips 6CB6A $ .50
Phillips 5749W $ .50
Phillips 5750 $ .50

GE 6AK6 $ .60
GE 6005W $ .60
GE 6AV6 $ .60
GE 6BF5 $ .50

All tubes are new and in original boxes. To place order, e-mail ﷺwhit@ infi.net﷽with the following information:

1. Name
2. Business Name
3. COD Shipping Address
4. Telephone Number
5. Quantity & Tube Number

2419. 440 HT limitations and homebrewing [was: * CLOSED REPEATER QUESTION]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: tvr@cnmat.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Jun12113001@cnmat.CNMAT.Berkeley.EDU>
Source record: 112429
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.homebrew

This 440 band plan is in Part 97 ... guarenteed simplex ... no repeater coordinator can grab it for their friends...

These folks bought a dual band radio with two thirds of the 440 band missing. We would see similar issues raised on 2 meters if the radios were cut down to one or two MHz at the high end of that band.

That's because the manufacturers have only requested type-acceptance on 440-450 MHz. And, for my rig, there's no mod to get the rest of the 440 band without running the risk of transmitting out-of-band, e.g. it's all or nothing. I think that may have been all that was available within my price range when i got my license, so i didn't have alot of choice in the matter. Since then, a few HT cover the full band. And how is a new licensee supposed to know about these things?

During this past week-end contest there was more activity in the 432 area of the 440 band than on all two meter repeaters...SIMPLEX on 440 is between 431 and 435 if you are fm spread out from the side band guys operating slightly above 432.

Good to hear that.
Real hams know how to use a vfo and buy
multi-mode radios that cover all of the band. Some of them have been known to operate cw ... simplex no less

Real hams also homebrew, don't they? But except for 1.2G and above, almost all of the projects i've seen for VHF/UHf assume the existance of HF hardware. While there exists 440-capable IC's and off-the-shelf helical filters to solve intermod and spectral quality problems, i haven't seen any projects other than transverters and PAs (except for a simple 2 meter monitoring receiver and a discussion on how to use the R2/T2 pair [phasing direct conversion SSB] on 2 meters).

There are lots of HF QRP projects. How about ideas on how a non-HF ham can get started in homebrewing RF? (I've already build a packet modem and a 7.5V/13.8 moderate-speed charger.) Also, can folks comment on working the 'Lowfer' band?

-- KD6PAG (networking old-timer, RF newbie)

2420. How do you charge NiMh (not NiCd) cells?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDA2u9G.Et0@netcom.com>
Source record: 112430

I've found a source for AA-size Nickel Metal Hydride (NiMh) cells
(fyi DC ACE ELECTRONICS, Linconshire Il, 708 821 8122) and would like
to know how to recharge them. Have any sample circuits been published?
Any rules or recommendations? I'll be using them in a laptop computer
that takes AA cells.

Thanx,

73 Dave WB0GAZ dgf@netcom.com

P.S., I have no dealings with the vendor above except having received their
flyer.

2421. Re: Does a 2 meter CW kit exist?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3rhspp$r4t@info4.rus.uni-stuttgart.de>
Source record: 112431

In article <3rh9j6$4s3@acme.freenet.columbus.oh.us>,
Joseph Testa <jtesta@freenet.columbus.oh.us> wrote:
>Looking at all modes(new) are too expensive(and only going to get worse) and
>trying to find a used one is near impossible.

Well, thereis the Yaesu FT290R. Not that it is a particularly
good rig, but they sell here s/h at reasonable prices.

As to building, there was in the VHF-UHF Manual from the RSGB
a direct conversion receiver. This might be a starting point.

73, Moritz DL5UH

2422. Re: Looking for an RF Ground expert?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: lynnc@sos.net
Message-ID: <3rgeds$p1a@cleese.nas.com>
Source record: 112432

> tetrault@sierra.net (Robert Tetrault) writes:
> Sorry I didn't reply directly to your request for advice; you'd have the
> info more directly.
>
> It's OK to have your power grounds from peripheral equipment and even RF
> equipment going back to the neutral bus of your house wiring. That third
> gounding plug on the power plug does serve a purpose, for safety's sake.
>
> For RF sake, it is not desirable to use these connections for RF ground as
> the grounds have a definite and uncontrolled inductance that can make your
> RF equipment behave strangely at times depending on the frequency. For
> example, at some hypothetical frequency, you may find that the so-called
> ground is actually a quarter wavelength, essentially an open circuit for
> RF...this is not a good thing...
>
> The classic shack in the attic is likely to suffer more than the classic
> basement location for obvious reasons.
>
> What you want is, ideally, some broad strip (~12 inches) of solderable
> metal running along behind -all- your equipment that can accept a short
> direct physical connection to each piece of equipment. This broad strip
> is then connected to a physical earth ground as directly as possible, even
> using flat braid or one inch copper strip. You can buy grounding rods
> from a building supply for the purpose, they are copper plated steel (so
> you can hammer on them). If you can't solder to the connections, make
> them as robust as possible.
>
> This setup, ideally, has such low impedance to earth ground that whatever
> impedances to ground presented by the house ground wires are shorted out,
> and don't matter.
>
> You could also build a Faraday cage, but that is a house of another color...
>
>>>>
since there is no such thing as true ground, a true RF ground expert will
be hard to find. A tuned ground system or counterpoise is useful if your
intent is in radiating energy (an antenna system), but if the efforts are in
an attempt to reduce the evils of loose RF energy, RFI and its cousins,
the material above are very good practices. W7LTQ

2423. Re: Does a 2 meter CW kit exist?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <3rid1o$iro@newshost.lanl.gov>
Source record: 112433

jtesta@freenet.columbus.oh.us (Joseph Testa) wrote:
>
>
> I am looking for either a kit or plans for building a 2M CW transceiver.
>
> Looking at all modes(new) are too expensive(and only going to get worse) and
> trying to find a used one is near impossible. So I have started a mission
> in search of.
>
> Would appreciate any information that could be given.
>
> Why does a 2M all mode cost as much (or more) than a low end HF rig
> with multiple bands?

Well, for one thing, watt for watt, transistors that operate at VHF
cost more than those operating at HF, where gain is higher and efficiency
also.
I'm not aware of any cw-only 2 meter kits available but the ways I've
gotten on 2 Meter SSB/CW are by using inexpensive garage-sale SSB
CB radios as exciters for the VHF bands. Hamtronics sells a very
affordable transmitting converter for 144, 220, and 432 MHZ, as well
as receiving converters.
My "homebrew" 2 meter transverter consists of a Hamtronics transmit
converter (28 to 144 MHZ). Since the Hamtronics already has a good
local oscillator (LO) for transmitting, I used a 2 or 3 pf. capacitor
to tap out the LO (116 MHZ) energy from the TX converter to the mixer
(40673) of a homebrew receive converter a la the older ARRL handbooks,
my favorite lowcost high performance converter being the "Rochester"
converters. I used spdt reed relays with rg58 shield surrounding them
and wound with a homebrew coil for coaxial relays for this transverter,
though Motorola replacement relays for Micor and Mocom 70 radios cost
around $20 apiece last time I bought any and will work fine too.
This design is a bit dated with most using Mini-Circuits mixers instead
of 40673's or modern day replacements but it still works fine and has
a total cost of less than $100.00.
6 meters can be accessed a number of similar and other ways. I
converted an old garage sale SSB CB directly to 6 meters by installing
a different LO crystal in the "crystalplexer" to produce desired 50
MHZ operation. Had to remove all the padding caps in the RF stages
to get it to tune properly that high in frequency and when I got done
the TX power was close to stock (5 watts) but the RX needed a preamp
to get it to hear decently. Plus, I only changed one crystal which
resulted in only 4 channels at 50 MHZ but those 4 were 50.100, 50.110,
50.120, and 50.140, which gave me years of good activity when I was

still active on 6.
Many have done the same thing, changing the LO crystal, to the Heathkit style HF transceivers (HW-100, HW-101, SB100, SB102, etc) which gives them 6 meters on an old tube-type transceiver! The ones I've talked to just changed out one of the crystals for a less desired band. The tuning is done normally, albeit a bit sharp on 6 meters, little to no other mod required.
Lots of ways to skin a low-cost cat......
Jim WB5AOX

2424. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <3rguc3$1bp@proffa.cc.tut.fi>
Source record: 112567
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

This is drifting a bit off the original topic, but here is some thoughts of how to operate computers, computers and TNCs or computers or remote rotator control boxes in different rooms or different buildings and how to solve the ground potential/ground loop problems.

This is based on my experience planning and maintaining computer terminal networks that are spread over a large area (one or more buildings). It is also based on the 4 wire wiring practice (three phases and neutral) used over here (230/400V) and thus is not directly aplicable to the U.S. wiring practices, but the principles are the same.

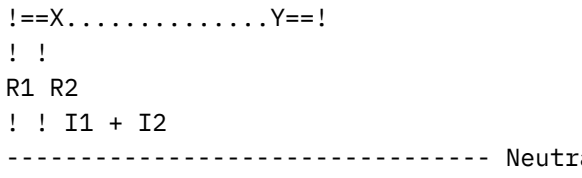
In a three phase power distribution system, no curent is supposed to flow in the neutral wire if all phases are equally loaded. The neutral wire is connected to the earth at the power company and usually in every house. In homes and offices most loads are single phase (connected between one phase and neutral) and thus the full load current is flowing in both the live and neutral wire in the cable between the fuse box and the load (wall outlet, lamps etc.) The neutrals from these cables are connected together and some cancelling takes places if loads are powered by different phases.

The protective earth (PE) in a 3 terminal wall outlet is connected to neutral in any convinient place, previously this was directly in the wall outlet, but nowadays this is usually done in a distribution box feedig the outlet.

In the ASCII drawing below, two loads are connected to the same phase (this is the worst case, but full cancellation will not occure even if they are connected to two different phases) and some computer equipment is connected to the same outlets as these big loads.

Current I1 is returning from load 1 flowing thrugh a lead resistance R1. In a similar way the return current I2 from load 2 flows through lead resistance R2. Two equipment X and Y (say a PC and a TNC) are connected as shown, the == symbol indicates Neutral and PE (the live connection is not shown). The PE is connected to N at the wall outlet or some other distribution box close to it.

```
Live I1 + I2
-------------------------------------
! !
Load1 Load2
! !
I1 ! ! I2
! Rs !
```



Putting in some typical values to illustrate what happens.
If R1 = 0.3 ohms and R2 = 0.3 ohms and I1 = 1 A and I2 = 10 A,
then X is at 0.3 V and Y at 3 V and a 2.7 V potential difference
between X and Y. If the DC-ground is connected to the chassis in
both equipment, then this voltage difference can be measured between
the signal ground terminals (pin 7). If a serial cable is connected
between the equipment with signal ground lead resistance Rs of 2.7 ohm,
allmost 1 A is flowing through the signal ground lead and also through
the circuit boards of both equipment.

The noise margin is greatly deteriorating, since the transmitter
generates the output voltage relative to its local ground reference
and the receiver senses the input voltage relative to the local ground
at its end of the line.

If a thicker wire is used, the current between X and Y will increase
and the voltage difference will drop improving the noise margin.
If Rs could be set to 0 ohms, the voltage difference would dissapear
but 4.5 A would flow through the traces on the PCB causing lots of
problems.

However, if the protective ground (pin 1) or a separate pig tail is
connected directly to the chassis _at_both_ends_ and a better conductor
(such as the shield of the cable) are used for protective ground, the
current flow through the PCB is reduced to a tolerable level.

IMHO, this is far from a good situation, since large currents are
flowing in the shield with a potential fire risk and the current will
induce interference currents into the signal lead. Connecting and
disconnecting the serial cable will most likely burn the receivers or
transmitters if done in the wrong order.

There are several ways to improve the situation

a) Rebuild the power distribution system in the building so that the
PE is kept separate from the neutral and the PEs from the wall outlets
are brought to a single point. This point is also connecting to the
neutral and the grounding electrode of the building. In the normal
(no isolation fault) case, no current is flowing in the PE network
and consequently there are no voltage drops in the wiring, thus all
PE terminals in every wall outlet (and all chassises) are at the
same potential and no ground loop currents are flowing in the serial
cable, even if the the signal/protecting grounds are connected.
This 5 wire wiring system (3 phases, Neutral and PE) are installed
on all new office buildings. However, this solution is usually not
practical for old building, neither does it help if you are connecting

two computers in two different buildings with each own grounding
electrode.

b) If the DC ground of one of the equipment can safely be floated, such
as an external modem powered by a double isolated wallwart, this is the
simplest solution. The cable shield should only be connected at the
grounded equipment end.

c) Use balanced (such as RS-422) lines. In this case both equipment can
be grounded and no signal/protective ground lines are connected in the
serial cable. As long as the ground potential difference between X
and Y are smaller than the common mode voltage range of the receiver
(usually 6.. 30 V) this will work fine. This is currently often used in
industrial sites, where there can be quite large ground potential
differences.

d) Use completely isolated (no galvanic connection) connection between
X and Y. The simplest way is to use current loop (20 mA) signaling
and optoisolators. The cable shield should be connected at one end only.
This was previously (at relatively low data rates) the most common way
to get around the ground potential problem. My suggestion (in a previous
post) to use audio transformer between the TNC and the rig is a variation
of this principle.

Now, responding to Don W3FPR

DB Wilhelm <w3fpr@nando.net> wrote:

> k23690@proffa.cc.tut.fi (Kein{nen Paul) wrote:
>>
>> I very much doubt that you can find a PC installation (computer, monitor,
>> printer etc..) in which the circuitry floats respective to the chassis and
>> thus also floats relative to the PE bar in the building (assuming 3 wire
>> power cords).
>>
> It is not necessary that the DC common circuit actually float. The
> correct procedure is to connect DC common to the equipment ground
> at only one point within any one machine.
========================

Yes, this is good engineering practice, but look what happens when we look
at the situation at network level. If we have one computer and some
floating device at the other end, then we can apply principle b) above.
However, if you are trying to connect two computers, then principle b)
can no longer be applied due to the grounding in _each_ PC. This was
just the situation with a cumputer and multiple VT100/VT220 terminals,
which are connected just like PCs you described. It does not matter what
you do with pin 1 (protective ground), you will have circulating ground
currents through pin 7 anyway. In this case it might be better to connect
both ends of the cable shields for improved noise margin, but I do not
recommend it after having replaced line receivers on several terminals :-)
You should newer break the signal ground (pin 7) connection on RS-232 to

break the ground current, since you will end up with burnt receivers and transmitters very quickly during normal operation.

My recommendation is to ground equipment properly for electric safety and use isolation (optoisolators, transformers etc.) to transfer the signals.

Sorry for this long ranting, but hope that someone might find something useful, next time when someone is connecting together equipment in different rooms or different buildings.

Paul OH3LWR

--
Phone : +358-31-213 3657 Mail: Hameenpuisto 42 A 26
Internet: Paul.Keinanen@cc.tut.fi FIN-33200 TAMPERE
Telex : 58-100 1825 (ATTN: Keinanen Paul) FINLAND
X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

2425. 3cx800 wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: Conrad Farlow <conrad@g0ruz.demon.co.uk>
Message-ID: <543586510wnr@g0ruz.demon.co.uk>
Source record: 112568

Hello,I am looking for a used but good 3cx800 and base for a 6m Pa.It must work and it must be cheap,please email me if you can help.

73 de Conrad G0RUZ
email conrad@g0ruz.demon.co.uk
Packet Radio G0RUZ @ GB7WRG.#19.GBR.EU
"A sucessful eme'r is the one who wastes the least electricity"

2426. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-12 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3rgq38$i1b@info4.rus.uni-stuttgart.de>
Source record: 112569

Simon Lewis <slewis@pacsat.demon.co.uk> wrote:
>Im looking at a design in the G QRP mag about a cross field antenna
>Do they work and has anyone tried this design (by their art editor)

Hi Simon,

I saw the design in the wireless world. It looks very much like an
aprils fools joke, I am surprized that the G-QRP mag bothers with it.
Try a wet shoe lace first.

73, Moritz DL5UH

2427. ** FLEA at MIT ** Sunday 18 June Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: w1gsl@ATHENA.MIT.EDU
Message-ID: <3rj9c2$536@senator-bedfellow.MIT.EDU>
Source record: 112434
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics,ne.forsale,ne.general,misc.forsale.computers.d,rec.radio.amateur.homebrew

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****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

2428. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun13.182726.14388@ke4zv.atl.ga.us>
Source record: 112435
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

In article <D9wont.F4E@mv.mv.com> rapp@lmr.mv.com (L. M. Rappaport) writes:
>gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>... edited
>>Single point grounding is simple in concept, but often subtle in
>>execution.
>
> Excellent article. One question, however: Assuming you bond
>everything properly like a reverse daisy chain to a single point gound
>at the meter entrance, is it ok to extend that gound by bonding
>multiple ground rods together? Something like this
>
> Ground Rod --------+ +--------Stuff in shack
> | |
> Ground Rod ---------+----------+--------Entrance Panel
> | |
> Ground Rod ---------+ +--------Tower, etc

Daisy chaining of any sort is generally to be avoided. However,
this is not a daisy chain if I read the diagram correctly. What
you have is a star connected group of grounds (I'm assuming you
left out a couple of |'s in the drawing) that are connected to
a single entrance point. That's a perfectly acceptable way to
do it. IE

```
G
|
G---x------------------->house
|
G
```

That's fine. Now, if you were to do this;

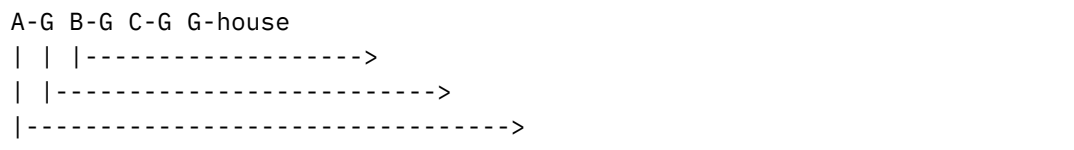
```
G------G------G-----G------G--------->house
```

That would be Ok too, but not as desirable because of the accumulated
voltage drops in the daisy chain. What you want to avoid is this;

```
A----G----G----B-----G-----C----G->house
| | |--------->
| |---------------------->
|----------------------------------->
```

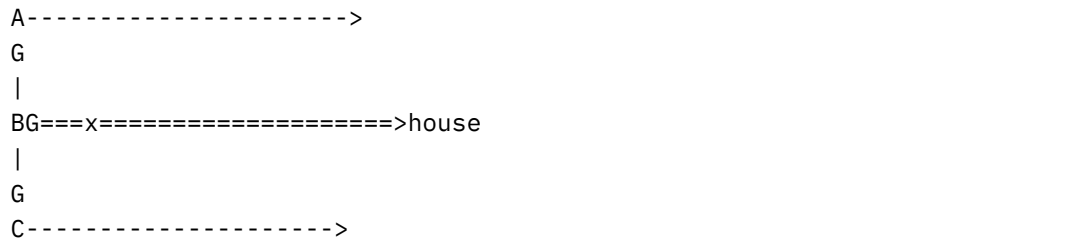
with A, B, and C representing antennas or other external
equipment. Now you have a nasty ground loop through the
chain of G's and that's going to lead to trouble. If you

do this;



This is *real* trouble. Now you're depending on the (poor) conductivity of Earth to tie the grounds together, and they'll be at wildly different potentials during a strike. Those potentials will be reflected on the cables from A, B, and C, and will do big time damage to the station if not shorted by a ground window.

Now the better way is to do this;



B's cable closely parallels the star ground run in the drawing. Since A, B, and C's grounds are tied in star, they will be at nearly the same potential. Best, however, would be individual ground runs from A, B, and C's grounds back to a single common point at the house. That avoids any ground loops.

Any of the situations that create external ground loops can be shorted by a ground window at the station entrance. That will protect the equipment *inside*, but equipment in the external circuit, preamps, rotators, etc, can still be damaged by the circulating ground currents. So it's best to avoid ground loops in the external circuit and always use a star topology.

Remember, for lightning, just having good DC conductivity isn't enough. In the first place, at 8,000+ amps of surge, even good conductivity is rarely enough to prevent substantial voltage drops. More important, however, is that lightning is RF, and low *impedances*, including reactance, are important to keep the potential differences at bay. It's always the *difference* in potential that matters. It doesn't matter if everything becomes elevated in potential, as long as everything is elevated to the *same* potential. Star topology is important to make this happen.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2429. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3rish1$a0g@parsifal.nando.net>
Source record: 112436
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

In the interest of home (and ham) safety, let me tell you about my experience earlier tonight.

Funny what happens when you are talking about grounding. During a storm yesterday, one of the GFI circuits in the house was tripped. Problem was that it wouldn't reset, so I went hunting for the cause. I found a defective outlet, but along the way I also found some other things that made me shudder - in the first receptacle along the wiring path, I found an exposed neutral wire that broke when I examined it. Having repaired that, I was hoping I was done, but no such luck, the next outlet on the string had 2 outbound wires from the outlet box, and there was *no* safety ground wire connecting to the duplex receptacle and the safety return wires were not adequately connected together. Correcting the open ground wire condition finally lead me to the culprit receptacle on the rear deck.

What is my point? Simply stated - trust nothing until you have checked it out. This is in a recently built house in a community that *supposedly* has one of the toughest inspection teams in the area for new structures. You can be certain that I have a task ahead of me, and I will not rest comfortably until I have checked each and every connection point in the electrical system here.

I will also be communicating what I found to the town council and the building inspection department. This is the least I can do for the protection of others as well as myself.

73,
Don W3FPR

2430. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: bblohm@boi.hp.com
Message-ID: <3rkhj0$oin@hpbs3591.boi.hp.com>
Source record: 112437
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:

: A ground window is simple in concept, and simple in execution.
: Basically, it is a physically small conductive plate through
: which *every* cable that enters or leaves your station must
: pass. Every cable that is supposed to be at "ground" potential
: is bonded directly to this plate as it passes through. Every
: conductor that is not supposed to be at "ground" potential
: is bonded to the plate via an appropriate suppressor device.
: (A book could be written on that subject alone.) Then the
: plate is connected to your single point ground by a heavy
: low inductance strap conductor. Now any large potential
: difference that tries to express itself across cables
: connected to various cabinets in your shack will find itself
: shorted out at the ground window.

Question: Does every cable have to pass _through_ this, or
could this ground window be, for example, a strip of aluminum
along the back of the table (protected from accidental touching,
of course) to which all grounds for all pieces of equipment are
connected? All the power connections, serial cables, etc. such
as you mention would have their ground connection applied to
this aluminum strip, and that would be connected to the house
grounding system, probably via an outlet box as there are no
pipes in that area to connect to.

Workable?

Bill B.
KC7JSD

2431. Synthesiser Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: cfishman@fsac3.pica.army.mil
Message-ID: <9506130820.aa19387@FSAC3.PICA.ARMY.MIL>
Source record: 112438

Has anybody out there got a microcontroler for the Mototola
frequency systhesiser chips that use a serial interface???
I am experimenting with the Basic Stamp and would like to use
a PIC chip......Let's exchange ideas...I would like to use
these systhesiers in some QRP tranceiver designs I have...

I am good with RF and not so hot with digital design...

Let me know what's happening

Clark Fishman WA2UNN cfishman@pica.army.mil

2432. Re: Does a 2 meter CW kit exist?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <DA4223.L2G@freenet.carleton.ca>
Source record: 112439

Joseph Testa (jtesta@freenet.columbus.oh.us) writes:
> I am looking for either a kit or plans for building a 2M CW transceiver.
>
> Looking at all modes(new) are too expensive(and only going to get worse) and
> trying to find a used one is near impossible. So I have started a mission
> in search of.
>
> Would appreciate any information that could be given.
>
Kanga US sells the KK7B single signal direct converstion stuff as either just
boards or complete kits. You *could* make a 2 metre CW/SSB transceiver
with those. I've been thinking about building one up myself.

I think Kanga's URL is http://ncc1701-d.cc.nd.edu/kanga/.

Russ, va3rr/aa8lu

2433. CHECK YOUR RELAY PILE!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: af104@detroit.freenet.org
Message-ID: <3rk4qj$opm@detroit.freenet.org>
Source record: 112440

Looking for the following relay:

Potter & Brumfield R10-E1Y4-J10.0K

This is 4PDt current-actuated relay with
a 10,000 ohm coil. Also need socket.

This relay will replace a P&B MH-3665-1
relay with similar characteristics,
manufactured for Hallicrafters in 1958
for use as a changeover relay in the
HT-32A.

Obviously, a MH-3665-1 would be just
fine too!

Socket also need if appropriate.

Thanks!

--
Jeff
WB5KZW
(810)-855-9209 (Near Detroit)

2434. Re: Synthesizer Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <3rk7t8$lc7@nntp.Stanford.EDU>
Source record: 112441

>From: cfishman@fsac3.pica.army.mil (Clark Fishman, FSAC)

>Has anybody out there got a microcontroler for the Mototola
>frequency systhesiser chips that use a serial interface???
>I am experimenting with the Basic Stamp and would like to use
>a PIC chip......Let's exchange ideas...I would like to use
>these systhesiers in some QRP tranceiver designs I have...

>I am good with RF and not so hot with digital design...

>Let me know what's happening

>Clark Fishman WA2UNN cfishman@pica.army.mil

While I am not much of a processor expert either, if you just need something to start with that will verify the operation of your PLL designs, Motorola National and Philips all offer test programs for their respective synthesizers. These programs run on a PC and send the PLL programming data, clock and latch signals out 3 wires of the parallel port. You can connect these lines directly to the PLL.

I have worked on the analog/RF side of satellite receivers which use the 8031 and its relatives as a controller for multiple synthesizers.

Good luck

Steve Muther WF6R stevem@w6yx.stanford.edu

2435. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DA40EE.MDn@hpqmoea.sqf.hp.com>
Source record: 112442

moritz@ipers1.e-technik.uni-stuttgart.de wrote:

: I saw the design in the wireless world. It looks very much like an
: aprils fools joke,

It does, doesn't it. Believe me, the people who originated it take
it very seriously indeed and spent a lot of time and money on patenting
it. Whether it works effectively is a separate question.

The idea of simultaneously generating E and H fields is perfectly
valid. Conventional antennae generate one component field predominantly
and the other develops as the field propagates through space. An antenna
that really did create both would simply have no "near field" region
with unbalanced E and H components.

So far so good. There is nothing that makes this *implicitly*
inefficient, or troublesome. Where I have doubts are:

Does this have any influence on antenna size versus frequency?
Does it permit directional concentration from small structures?
Are the field generators efficient ?

From having seen demos and having had a close look at them, my chief
concern is with the effectiveness of the interface between a 50 Ohm coax
environment and capacitive structures. I suspect that this area could
easily spoil the performance of the whole thing, and it would be easy
but erroneous to interpret this as invalidating the basic principle.
Synopsis: the basic principle is novel, interesting and deserves
thorough investigation, but I feel the implementation of the things so
far seen in print leaves room for much further development.

:I am surprized that the G-QRP mag bothers with it.

George is open to publishing just about anything in Sprat, there is
no heavy technical vetting, though he does sometimes mail stuff to
various people with "What do you think about this..." notes attached
While this openness means that readers have to be selective, it
provides a channel for occasional odd ideas and unusual approaches that
can stimulate new ideas

I didn't take the tin can CFA seriously when I saw it in Sprat, I
found it amusing, but guessed that you could likely get comparable
results by tuning up to a wire coat hanger.

: Try a wet shoe lace first.

Probably not far off some of the oddball antennae ;-)

Cheers
David GM4ZNX

2436. Need Maxim MAX038 Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: eighmy@scott.net
Message-ID: <3rkdes$grm@koala.scott.net>
Source record: 112443

Does anyone have a source for the Maxim MAX038 HF Waveform Generator IC? I have checked with Digi-key and some of the other mainstream distributors and can't find anyone with stock. I need 10 or more, so sampling is out of the question.

Thanks,
Gene
WD4MPS Birmingham, AL
wd4mps@scott.net
eighmy@scott.net

2437. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: gcouger@jsun.agen.okstate.edu
Message-ID: <3rius7$187e@bubba.ucc.okstate.edu>
Source record: 112444

In article <3rgq38$i1b@info4.rus.uni-stuttgart.de>,
<moritz@ipers1.e-technik.uni-stuttgart.de> wrote:
>Simon Lewis <slewis@pacsat.demon.co.uk> wrote:
>>Im looking at a design in the G QRP mag about a cross field antenna
>>Do they work and has anyone tried this design (by their art editor)
>
>I saw the design in the wireless world. It looks very much like an
>aprils fools joke, I am surprized that the G-QRP mag bothers with it.
>Try a wet shoe lace first.
>
I followed the whole thing over about a year. As I recall no one could
duplicate the results. WW would print some stuff that was a one time
non repeatable event.

Some where I have a copy of one of their articals that observed signals
traveling at greater than the speed of light. I talked with an EE of
considerable reputation that thought that it was possible that two
converging signals could produce a phase front that exceeded the speed
of light.

Gordon
Gordon Couger - 624 Cheyenne, Stillwater, OK 74075
gcouger@master.ceat.okstate.edu 405-624-2855 evenings
I do not speak for my employer

2438. Re: CHECK YOUR RELAY PILE!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: ghiscox@netcom.com
Message-ID: <ghiscoxDA4EAz.G4L@netcom.com>
Source record: 112445

Jeffrey L. Bauman (af104@detroit.freenet.org) wrote:

: Looking for the following relay:
:
: Potter & Brumfield R10-E1Y4-J10.0K
:
: This is 4PDt current-actuated relay with
: a 10,000 ohm coil. Also need socket.
:

Jeff,
How about just buying one from Potter & Brumfield Inc., Richland Creek Drive, Princeton, IN 47670 phone (812) 386-1000 or fax (812) 386-2289.
They may provide you with the address of a distributor in your area where you can go or perhaps you can order one direct.
Good luck!

George L. Hiscox	Very funny Scotty...Now
ghiscox@netcom.com	beam down my clothes!!!
WA6RIK @ WB6YMH.#soca.ca.usa.na	^^^^^^^^^^^^^^^^^^^^^^^^

2439. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3rkilk$ca3@hpscit.sc.hp.com>
Source record: 112446

In article <3rius7$187e@bubba.ucc.okstate.edu>,
Gordon Couger <gcouger@agen.okstate.edu> wrote:
>
>Some where I have a copy of one of their articals that observed signals
>traveling at greater than the speed of light. I talked with an EE of
>considerable reputation that thought that it was possible that two
>converging signals could produce a phase front that exceeded the speed
>of light.
>Gordon

PHASE VELOCITY <> GROUP VELOCITY!

In waveguide, phase velocity is always greater than the speed of light
in the medium in the waveguide (usually air), and approaches infinity
at the cutoff frequency. This has nothing to do with violating the
law of relativity.

Imaging a wave in the ocean moving at 10 MPH hitting a straight
beach at almost perpendicular incidence. The wavefront will "move"
along the beach at hundreds of MPH. But the wavefront is a mathematical
abstraction, not a physical object, so the swimmers are in no danger
of being swept away in a tidal wave.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2440. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <389022607wnr@pacsat.demon.co.uk>
Source record: 112447

In article: <3rgq38$i1b@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de
() writes:

> I saw the design in the wireless world. It looks very much like an
> aprils fools joke, I am surprized that the G-QRP mag bothers with it.
> Try a wet shoe lace first.
>
> 73, Moritz DL5UH
>
>
>

Hmmmmm I wouldnt write it off that quick! A commerical company here in the UK has patented the ideas and is marketing a commerical version.

I also spoke to the author and he swears by it! Uses nothing else and he sent me a photocopy
of a qsl card for an 80m g-vk qso he had on it (supposedly) - so i aint too sure yet!

--
+---+
| 73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland |
| Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk |
| AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP **** |
+---+

2441. Re: Homebrewer's magazine: "Hambrew"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <805688917wnr@pacsat.demon.co.uk>
Source record: 112448

Wheres the bloody address!!!! Ahhhhhhhhhhhhhhhhhh!!!! (English Humour!!)

--
+---+
| 73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland |
| Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk |
| AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP **** |
+---+

2442. RCA Series 1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: ah662@dayton.wright.EDU
Message-ID: <9506131926.AA11210@dayton.wright.edu>
Source record: 112449

I have two okd RCA mobiles that I am trying to convert to 6-m. One of
them works fine, the other reiceves but will not transmit. Could anyone
tell me how to get my hands on a scematic or a service manual?
The following was coppied from a sticker on the top cover:
RCA Series 1000
TX = CT1-003A
Model CMFM7MMHDR

Thanks in advance! de KB8STB <ah662@Dayton.Wright.edu

2443. 900 MHZ Cordless Freqs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: jschmoe21@aol.com
Message-ID: <3rkuc3$l49@newsbf02.news.aol.com>
Source record: 112450

I've heard about a range of frequencies allocated for personal use (cordless phones, remote controls, etc.) within one's own house on limited power. I wanted to know if there was a way to build my own equipment on such bands.

Interesting possibilities might include homebrew cordless phones, possible ways to put your xmitter closer to the antenna by having a remote control full-duplex repeater in your hand where you like to work.

Post some stuff up if you have any ideas. Thanks.

2444. Re: Synthesizer Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: jschmoe21@aol.com
Message-ID: <3rkuj2$l6g@newsbf02.news.aol.com>
Source record: 112451

What motorola data book did you find this stuff in? I have the motorola RF device databook, and I can't find any of those frequency synthesizer chips, one chip receivers, etc... Am I looking in the wrong book?

Reply to bob@works.com -- Thanks in advance.

2445. Source of Kapton or Ultem needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: Conrad Farlow <conrad@g0ruz.demon.co.uk>
Message-ID: <31637353wnr@g0ruz.demon.co.uk>
Source record: 112452

Hello,I am just about to recommision my 2m PA.It is the 4cx1000a from the ARRL handbook.I have had problems with the occaisional flashover when the PA was in standby.I tracked it down to a tiny perforation in the PTFE sandwich on the anode line.I know that either of these two materials will cure the problem,I think the ptfe is a little bit too thin or I'm not careful enough one or the other.Anyway if anyone has enough for this PA I would be glad to buy it.
73 de Conrad G0RUZ
email conrad@g0ruz.demon.co.uk
Packet Radio G0RUZ @ GB7WRG.#19.GBR.EU
"A sucessful eme'r is the one who wastes the least electricity"

2446. Synthesiser Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-13 00:00:00 UTC
From: hduff@humnet.westonia.com
Message-ID: <7885-216228201@humnet.westonia.com>
Source record: 112453

>
> Has anybody out there got a microcontroler for the Mototola
> frequency systhesiser chips that use a serial interface???
> I am experimenting with the Basic Stamp and would like to use
> a PIC chip......Let's exchange ideas...I would like to use
> these systhesiers in some QRP tranceiver designs I have...
>
> I am good with RF and not so hot with digital design...
>
> Let me know what's happening
>
> Clark Fishman WA2UNN cfishman@pica.army.mil

Hi Clark... I have sucessfully used an Intel 8031 micro to control
a Motorola MC145190 serially programmed PLL chip.
Also used and 8031 to control the Kenwood TM-741/742 series of VHF/UHF
modules independant of the radio (same idea...serial programmed).
You basically need 3 parallel I/O lines...CLOCK,DATA and ENABLE.
Toggle the ENABLE line then clock the data in, i bit at a time.
The basic concept is not difficult but the trickier programming comes
into play when you want the thing to be frequency agile as well as
control a display and deal with input from a keypad or rotary encoder.
Let me know if you have any specific questions...
regards...Hugh Duff VA3TO Toronto

 NFX v1.3 [000]

--

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2447. Re: High Efficiency MOSFET HF Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: sefranek@iii1.iii.net
Message-ID: <3ro0vn$421@iii1.iii.net>
Source record: 112371

Hey Steve!
I was just talking to a guy near you, in Pepperell... on A.M.
Sound a lot like you... Maybe you could consult...
:) :) :)

I have made a few MOSFET transmitters and amplifiers, keep me posted,
better still Ham nite is Mondays at my place!

Tom

--
Thomas C. J. Sefranek WA1RHP

2448. Remote Transmatch Help Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: Tony Stalls <ras@us.net>
Message-ID: <Pine.BSI.3.91.950605203103.1383D-100000@laurel.us.net>
Source record: 112372

Does anyone have any experience with remoting an transmatch? If you have, I would very much appreciate your sharing what kinds of motors, indicators, etc. you usd.

I have seen a number of likely candidates for motors in the Herbach & Rademan and Fair Radio catalogues (other sources?), but I'm undecided about the number of rpm's to have to drive the varible capacitors, rotary inductors, and maybe switches. (Remoting switches seems to be another can of worms all by themselves.) One person suggested using electric screwdrivers, but they seem less practical that reversable moters.

Anyway, a hamfest a couple of weeks ago yielded several key components I had been looking for and I'm getting dangerously close to actually starting construction. Any advice will be most appreciated.

73,

Tony
K4KYO

<ras@us.net>

2449. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3rn0k3$1npj@info4.rus.uni-stuttgart.de>
Source record: 112373

In article <389022607wnr@pacsat.demon.co.uk>,
Simon Lewis <slewis@pacsat.demon.co.uk> wrote:
>A commerical company here in the UK has patented
>the ideas and is marketing a commerical version.

Simon,

If the fact, that an antenna design is marketed had to do
with it's quality, we would have to re-write engineering textbooks
and possibly even Maxwell's equations.

Well, on amateur radio conventions you see really fancy dummy loads.

BTW, Do you have their adress? if it sells well, I will be happy to
market them over here.

73, Moritz DL5UH

2450. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: "J.Swenson" <jswenson@jswenson.hqsl.stratus.com>
Message-ID: <3rlf5g$ltj@transfer.stratus.com>
Source record: 112454

I am looking for a power transformer or its equivalent from a CV-157
which is an SSB/AFC unit for the R390A receiver. Originally made by The
Industrial Transformer Corporation of Gouldsboro PA.
Part # DP-7152 , Spec # TF1RX03YY, Drawing # SM-D-180211.
Specs. as follows:Max temp rise 35'c, wkg vol.@700 max, primary 48-62 cps
Primary taps at 105,110,115,120,125,210,220,230,240 (will need 115vac)
Sec. 5v@4a with 375 wkg v., 1000v CT (2@500v/250ma), 6.3v@2.5a,
6.3v@1.25a,
400v CT (2@200v/30ma)with 500 wkg.v.and 6.3v@16.5a
(see diagram below if it comes out)

pin# 1 2 3 4 5 6 7 8 9 10 11
! ! ! ! ! ! ! ! ! ! !
primary C 105v 110v 115v 120v 125v 210v 220v 230v 240v 250v
vac
UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU

---
^^^^^^ ^^^^^^^^^^^^^^^ ^^^^^^ ^^^^^^^ ^^^^^^^^^^^^^^^ ^^^^^^
!5v-4a ! ! 500v ! 500v ! !6.3v! !6.3v ! ! 200v ! 200v ! !6.3v !
! 375 ! ! rms ! rms ! !2.5a! !1.25a! ! rms ! rms ! ! ! !
!wkg v.! ! 250ma ! ! ! ! ! ! 30ma ! !16.5a!
! ! ! ! ! ! ! ! ! ! wkg. v. 500 ! ! ! !
! ! ! ! ! ! ! ! ! ! ! ! ! ! !
12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

The working voltage seems to be the maximum dc across these windings.
Thanks in advance for any help you may give me in locating this unit.

2451. Where can I find this transformer ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: "J.Swenson" <jswenson@jswenson.hqsl.stratus.com>
Message-ID: <3rlfeg$ltj@transfer.stratus.com>
Source record: 112455

```
I am looking for a power transformer or its equivalent from a CV-157
which is an SSB/AFC unit for the R390A receiver. Originally made by The
Industrial Transformer Corporation of Gouldsboro PA.
Part # DP-7152 , Spec # TF1RX03YY, Drawing # SM-D-180211.
Specs. as follows:Max temp rise 35'c, wkg volt.@700 max, primary 48-62cps
Primary taps at 105,110,115,120,125,210,220,230,240 (will need 115vac)
Sec. 5v@4a with 375 wkg v., 1000v CT (2@500v/250ma), 6.3v@2.5a,
6.3v@1.25a, 400v CT (2@200v/30ma)with 500 wkg.v.and 6.3v@16.5a
(see diagram below if it comes out)

pin# 1 2 3 4 5 6 7 8 9 10 11
! ! ! ! ! ! ! ! ! ! ! !
primary C 105v 110v 115v 120v 125v 210v 220v 230v 240v 250v
vac
UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU
-------------------------------------------------------------------------
_________________________________________________________________________
^^^^^^ ^^^^^^^^^^^^^^^ ^^^^^^ ^^^^^^^ ^^^^^^^^^^^^^^^ ^^^^^^
!5v-4a ! ! 500v ! 500v ! !6.3v! !6.3v ! ! 200v ! 200v ! ! 6.3v !
! 375 ! ! rms ! rms ! !2.5a! !1.25a! ! rms ! rms ! ! ! !
!wkg v.! ! 250ma ! ! ! ! ! ! 30ma ! ! 16.5a!
! ! ! ! ! ! ! ! ! ! wkg. v. 500 ! ! ! !
! ! ! ! ! ! ! ! ! ! ! ! ! ! !
12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

The working voltage seems to be the maximum dc across these windings.
Thanks in advance for any help you may give me in locating this unit.
```

2452. Re: Lonely Lily - Still Alive!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: clifto@indep1.chi.il.us
Message-ID: <DA4zFL.8nt@indep1.chi.il.us>
Source record: 112456

PLEASE note the FORGERY!
vvvvvvvvvvvvvvvvvvvvvvvvv
In article <3ri3te$c3c@news.asiaonline.net> clewis@ferret.ocunix.on.ca (Sylvia Wong) writes:

As you can see from the References: line above, this article originated on asiaonline.net, not on ocunix.on.ca.

>No e-mail please.

She doesn't mean it. swong@pobox.com needs a few copies of the source code to KA9Q and she doesn't have an unzip program. Help her out. She'll have better things to do than slow spams.

--
Cliff Sharp Never get into fights with ugly people.
WA9PDM They have nothing to lose.
clifto@indep1.chi.il.us --The Fourth Law of Reality

2453. EPROM Burner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: Barry Newberger <bsn@fusion.ph.utexas.edu>
Message-ID: <3rloap$3t1@geraldo.cc.utexas.edu>
Source record: 112457

I'm interested in building an EPROM burner and if anyone
knows of a nice "roll your own" design I would appreciate
hearing about it. One with a serial interface would be
icing on the cake.

Please reply to my e-mail address: bsn@fusion.ph.utexas.edu

Thanks,
Barry Newberger

2454. Re: Faxmodem f. JVFAX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: robertov@hqlab.ico.olivetti.com
Message-ID: <3rlvke$5t6@sfgw.ICO.Olivetti.Com>
Source record: 112458

In article <95061004000334@tdd.snafu.de>, klaus.botschan@tdd.snafu.de
says...
>
>
>Hallo Roland !
>
>Ich habe mir vor kurzem Platinen und Eprom zu dem von
>Dir und Ulrich entwickelten Faxmodem bestellt.
>Nach dem Zusammenbau der Platine pruefte ich zunaechst
>den Daten/Adressbus mittels eines NOP-Steckers. Alle
>Ausgaenge lieferten Signale, kein Signal war "doppelt".
>Soweit so gut.
>.....
.....

Dear Sir,
if you want to speak to Mr. Roland I THINK YOU could send to him
a mail .
Otherwise using the newsgroup I suggest you to you to write in a language
that can be understood by the most of the people here aroud .
I am Italian BUT I never write in italian here because I realize
that only a very few people can understand it.
If you wrote in english most of the people here can take advantage
from your ideas , opinions or experiences

I could be wrong I could be right this is just my opinion Klaus.

regards

Roberto VALFREDINI

P L E A S E N O T E
Ing. C. Olivetti S.p.A takes no responsibility for the views expressed in
this mail/post. They are the personal views of the user concerned.

A T T E N Z I O N E
La Ing C. OLIVETTI S.p.A. non assume nessun tipo di reponsabilita' sulle
opinioni espresse in questa posta. Esse sono opinioni personali dell' uti
lizzatore coinvolto.

2455. **1ST EVER HAM OPINION POLL, NOW ON THE WEB**

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: john_fay@lightside.com
Message-ID: <john_fay-1406950000130001@user52.lightside.com>
Source record: 112459

I have estalished a WWW site that includes the 1st ever Ham opinion poll.
The question this month is "Do you support the new vanity call program,
about to go into effect in the US?" The poll takes into account license
class and the age of the voter. Your vote is tallied instintly and you see
the results on-line.
Check this site out at, http://www.csz.com/sarrio.html.

2456. Re: EPROM Burner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: nstacey@crl.com
Message-ID: <3rm2if$pi2@crl11.crl.com>
Source record: 112460

Barry Newberger (bsn@fusion.ph.utexas.edu) wrote:
: I'm interested in building an EPROM burner and if anyone
: knows of a nice "roll your own" design I would appreciate
: hearing about it. One with a serial interface would be
: icing on the cake.

: Please reply to my e-mail address: bsn@fusion.ph.utexas.edu

: Thanks,
: Barry Newberger

There was a good article in either QST or QEX a few years back. Sorry
that I can't put my finger on it. Most of my old issues go to the newer
hams in our area. Perhaps someone can recall which issue.

Good luck,

N6ZVZ

2457. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: rapp@lmr.mv.com
Message-ID: <DA5y6I.64A@mv.mv.com>
Source record: 112461
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

...edited

```
>> Ground Rod --------+ +--------Stuff in shack
>> | |
>> Ground Rod ---------+----------+--------Entrance Panel
>> | |
>> Ground Rod ---------+ +--------Tower, etc
```

>Daisy chaining of any sort is generally to be avoided. However,
>this is not a daisy chain if I read the diagram correctly. What
>you have is a star connected group of grounds (I'm assuming you
>left out a couple of |'s in the drawing) that are connected to
>a single entrance point. That's a perfectly acceptable way to
>do it. IE

Yes, the idea is the entrance panel is connected to several ground rods using individual cables and then not only regular house wiring but also the tower and shack rf wiring goes to the same point. Like a big star. (For some reason I can't draw that)

Where my scheme breaks down at the moment is that the tower has two individual ground rods and there is one on each of three guy wires. I'd guess that could cause a loop, eh?

Thanks,

Larry
--
Larry Rappaport W1HJF
w1hjf@w1hjf.ampr.org
W1HJF@K1UAQ.NH

2458. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun14.144331.17978@ke4zv.atl.ga.us>
Source record: 112462
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

In article <DA5y6I.64A@mv.mv.com> rapp@lmr.mv.com (L. M. Rappaport) writes:
>
>Yes, the idea is the entrance panel is connected to several ground
>rods using individual cables and then not only regular house wiring
>but also the tower and shack rf wiring goes to the same point. Like a
>big star. (For some reason I can't draw that)
>
>Where my scheme breaks down at the moment is that the tower has two
>individual ground rods and there is one on each of three guy wires.
>I'd guess that could cause a loop, eh?

Connect them in a star at the tower base, and then connect that
point back to the star at the house. A star of stars is an acceptable
topology.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2459. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: brian@nothing.ucsd.edu
Message-ID: <3rnh4t$gm6@news1.ucsd.edu>
Source record: 112463
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

Current practice (i.e., what I've seen recently) on mountaintop radio sites around here seems to be to have replaced the feedthrough ground plate with a simple grounding bar to which all of the incoming coaxes are bonded before they enter the building.

I can see that this is simpler and much less prone to water entrance problems, and it seems to me this might be adequate.

Is this the new practice or did someone just get real lazy?
- Brian

2460. Re: Need Maxim MAX038 Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.803138346.25.jwicklun@mycroftxxx.halcyon.com>
Source record: 112464

In article <3rkdes$grm@koala.scott.net>, <eighmy@scott.net> writes:

> Does anyone have a source for the Maxim MAX038 HF Waveform Generator IC? I
> have checked with Digi-key and some of the other mainstream distributors and
> can't find anyone with stock. I need 10 or more, so sampling is out of the
> question.

For small quantities, you can buy them direct from Maxim with a visa or MC.

73 de KI7RH (Jay)

2461. Re: Synthesizer Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: sefranek@iii1.iii.net
Message-ID: <3rn488$bna@iii1.iii.net>
Source record: 112465

In article <3rkuj2$l6g@newsbf02.news.aol.com> jschmoe21@aol.com (JSchmoe21) writes:
>What motorola data book did you find this stuff in? I have the motorola RF
>device databook, and I can't find any of those frequency synthesizer
>chips, one chip receivers, etc... Am I looking in the wrong book?
>

Try Motorola Communications Device Data book.
Also the Micro-controller Data books.

I prefer the 68HC11 when programming the PLL chips.

>Reply to
bob@works.com -- Thanks in advance.

Tom

--
Thomas C. J. Sefranek WA1RHP

2462. High Efficiency MOSFET HF Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: cloutier@eisner.decus.org
Message-ID: <1995Jun14.125209.10242@eisner>
Source record: 112466

First, hello and all. This is my first time in this news group.

I'm curious if there are any fellow readers out there who are interested in building high efficiency solid state or low impedance tube transmitters for HF?

If anyone has built such a transmitter, I'd like to know your experiences.

I have just recently completed a 180 Watt (input) solid state transmitter for 75 and 160 meters. It uses the cheap IRF610 power mosfet (cost of between .75 and $1.00 each). The transmitter uses 18 such fets in a totum pole arrangement.

The efficiency is achieved by running the MOSFETs as switches and keeping the rise and fall times very low (10ns typical).

Currently, this is set up for AM, and I'm modulating the final with 6 IRF620 Mosfets set up as a Pulse Width Modulator. If you're not familiar with a Pulse Width Modulator, it's simply a highly efficient series modulator. It's standard AM at the output.

I'm getting around 90% efficiency. I'm using standard TTL throughout, with some Mosfet drivers (from motorola, .60 each) to achieve the higher voltage (10 V) needed to drive the gates of the MOSFETS.

The transmitter is very simple. So is the modulator. The transmitter uses no oddball ferrite transformers and the output network is a standard L-PI network built with broadcast variable capacitors and air core coils.

While this transmitter is interesting and all, I don't think I could get the thing up above 75 meters using this design (switching at RF to get high efficiency). MOSFETs have a fairly high input capacitance, and a high reverse transfer capacitance which increases dramatically when the Fet is in saturation mode.

It is quite practical to drive these Fets as a linear amplifier, but that would be highly inefficient.

I'v been thinking about building a similar transmitter using the 6C33C-B triode. This tube is a very low impedance device (around 100 ohms), and should easily do 300 volts at 600mA per tube. Given that, it would be farily easy to build a KW transmitter with 5 or 6 of these tubes.

I'd run 300 volts at 3.3 amps or thereabouts. It could be easily modulated by power mosfets set up in a Pulse Width Modulator.

I suspect it will take around 100 volts (RF) to drive it into saturation. I'd probably use a couple Mosfets in totum pole to drive the grid with

square waves. I'v achieved 90% plate efficiency tubes in the past, buy using square wave drive, and turning the tube on hard.

Anyone had any experience with the 6C33C-B, or for that matter with using MOSFETs as RF switches.

One parameter I can't seem to find for the 6C33C-B is the maximum grid dissipation.

Regards,
Steve KA1SI (Northern Mass).

2463. Re: Need Maxim MAX038 Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: cloutier@eisner.decus.org
Message-ID: <1995Jun14.125930.10243@eisner>
Source record: 112467

In article <3rkdes$grm@koala.scott.net>, eighmy@scott.net writes:
> Does anyone have a source for the Maxim MAX038 HF Waveform Generator IC? I have
> checked with Digi-key and some of the other mainstream distributors and can't
> find anyone with stock. I need 10 or more, so sampling is out of the question.
>
> Thanks,
> Gene
> WD4MPS Birmingham, AL
> wd4mps@scott.net
> eighmy@scott.net
>
>
Try Future/Active Industrial. They have an amazing stock, and their prices
are lower. You will not be able to buy onzie-twozie quantities.. for
ICs, you'll probably have to get a minimum of 10, but you'll also find that
for some items they are 80% less (yes, a $4 item at digikey costs $1.70
at FAI - I bought such an item) in cost.

tel: 508-779-3111.

THere is probably a division near you.

DIsclaimer: I don't work for FAI or have any association with them except
for being a satisfied customer.

Regards,
Steve Cloutier, KA1SI Mass

2464. Re: Homebrewer's magazine: "Hambrew"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-1406951223310001@burdick.interval.com>
Source record: 112468

slewis@pacsat.demon.co.uk wrote:

> Wheres the bloody address!!!! Ahhhhhhhhhhhhhhhhhh!!!! (English Humour!!)

And I, acknowledging my omission, replied:

Hambrew
POB 260083
Lakewood, CO 80226-0083

(303) 989-5642
Andromedo@aol.com

Wayne, N6KR

2465. Re: High intercept, low noise amp - wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-1406951608330001@d225-brockway.sierra.net>
Source record: 112469

In article <1995Jun9.095947.38834@ucl.ac.uk>, davek@medphys.ucl.ac.uk wrote:

> I have recently discovered the Motorola MRF-136 has a 1dB noise figure at 175MHz
> and an output power of 15W, so the intercept should be about +50dBm. However, the
> test circuit given in the data book at 175MHz uses a stabilising resistor of
> 27 ohms between gate (its a FET) and earth, which I'm sure wont give the NF I want.
> I'll contact Motorola and ask if they can give me the circuit which gave 1dB NF.
>

Motorola in the same source depicts the low noise circuit, which is a narrow band amp. Recent articles in QST (last three years, by Mahkinson and Ulrich Rhodes, et al) describe broadband 50 Ohm I/O low noise amps with high intercepts (approx 45 dBm) that are bipolar and have not the high current consumption of the Motorola FET.

2466. Re: Looking for Spice-based Simulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-14 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-1406951625530001@d225-brockway.sierra.net>
Source record: 112470

In article <NEWTNews.802966380.30322.jwicklun@mycroftxxx.halcyon.com>, Jay Wicklund <jwicklun@mail.halcyon.com> wrote:

I myself strongly recommend the version of SPICE produced by Spectrum Software in Silicon Valley, 408 738 4387, fax 408 438 4702. It is available for all versions of PC and Power PC, and the eval version is only 250 USDollars, runs 25 nodes, full function, and FAST!

2467. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: n7tcf@primenet.com
Message-ID: <3rpa3g$qls@news.primenet.com>
Source record: 112374
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

In <3r4qj0$kuj@noc.tor.hookup.net>, Jeff Krul <jkrul@equist.com> writes:
>I am in the process of putting together a new HAM 'shack', and I have
>come across an interesting 'snag'.
>
>I have heard, many times before, to be sure the HAM radio ground is NOT
>grounded to the house wiring ground system. Various explanations follow,
>usually to avoid having the house wiring turn into a massive antenna.
>
>Anyways, I was SURE to separate the two and overlooked one point . . .
>packet ! My TNC uses a serial cable, connected to my computer, which in
>turn has a grounded chassis! Argh! To top it all off, the serial cable
>is NOT the right way to ground to a 'secondary' ground. Talk about a
>'high' resistance path to ground, forming an 'ideal' ground loop!!!!
>
>My question is, "How can I avoid this, and if I cannot, what effect will
>grounding to the house ground REALLY have?" "What are my OTHER options?"
>
>Thanks for your replies in advance,
>Jeff
>VE3QED
>
>Please e-mail your responses to jkrul@equist.com
>
First, don't get bent out of shape until you find there is a problem.
Second, build your own serial cable with only one end of the shield ground
connected.
73 Jim n7tcf@primenet.com

2468. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_803219959@rtfm.mit.edu>
Source record: 112375
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb, rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet mailing list counterparts and complements. It is intended to serve as a guide for the new reader on what to find where. Questions and comments may be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October 1994 to add the discussion of non-Usenet mailing lists and streamline most of the history discussion, and to change the moderator information for rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions were held on the mailing list, and sent to the mailboxes of those who had signed up for it. When the Usenet software was created, and net news as we now know it was developed, a newsgroup was created for hams: net.ham-radio. The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became progressively higher. First one by one, and then as part of two reorganizations, what was once one group became many. In the process, developments elsewhere on the net were reflected in the groups as they were created, most notably the change to place all of the ham radio groups in one hierarchy.

The collection of newsgroups continues to grow as more people join the net, and as more topics of discussion gain volume, I expect to see more groups be created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the notable exception being rec.radio.swap. There are also a few mailing lists that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them, and not to the groups that aren't. The whole idea of having different

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

2469. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: tvr@cnmat.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Jun14220209@cnmat.CNMAT.Berkeley.EDU>
Source record: 112376
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

I found a defective outlet, but along the way I also found some other things that made me shudder - in the first receptacle along the wiring path, I found an exposed neutral wire that broke when I examined it. Having repaired that, I was hoping I was done, but no such luck, the next outlet on the string had 2 outbound wires from the outlet box, and there was *no* safety ground wire connecting to the duplex receptacle and the safety return wires were not adequately connected together. Correcting the open ground wire condition finally lead me to the culprit receptacle on the rear deck.

What is my point? Simply stated - trust nothing until you have checked it out. ...

Right! Folks, (if you haven't done so already) get yourself what some of us in the computer business refer to as a "Win-Lose" box. You plug it into an outlet, and two out of three lights will light up at the same intensity if things seem to be wired right. It's not perfect (my own apartment fails in an odd way, which i recognized by slightly dim light, which i know is hard to fix, being old enough to be pre-conduit), but at least you will know what you're up against. Likewise, if you're moving into a new building, do yourself a service and go around checking every outlet so you find out while it's still easy to fix.

-- KD6PAG (who is happy not to have learned the hard way...)

2470. Re: CW alternatives? [Was "Re: New VK regs - wormholes"]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: tvr@cnmat.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Jun15022414@cnmat.CNMAT.Berkeley.EDU>
Source record: 112377
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

>Please explain! I thought we were limited to 300 baud, or using ASCII
>about 30 characters per second. Not great for data, but i remember
>that a model 33 Teletype could type about as fast as i could, at least,
>in bursts, and that was only 10 cps. Now, 60 WPM means 1 word per second,
>and that's 5 cps (maybe 6 if you count the spaces). Not as fast as some
>people can type from copy, but comparing this to CW, that's a considerable
>improvement, as you well point out. With suitable buffering, that should
>work very nicely for comparable purposes. Hmmm...
>
>Now, doing this in a lot less bandwidth than RTTY and error correction,
>under worse conditions than CW?? That deserves some explanation!

We are limited to 300 baud on our HF bands below 10 meters by 97.305,
and on 10 meters we are limited to 1200 baud. However, note well that
baud is a technical signaling term, and baud does not have to equal
bits per second.

Yes, and that's one reason that the 1200 *baud* limitation does not seem
so bad to me. Let's take that up to the 440 band. The motorola single-IC
UHF transmitter does both AM and FM, and can do both at once. So, i guess
there's two bits per transition right there. More seem possible with an
DAC/ADC, and indeed folks like Maxim already make such chips. So, instead
of running 9600 bps, it doesn't seem hard to go to 19.2 without increasing
the channel bandwidth. Right? And bandwidth is the major concern; the
intent is not to force us to go slow.

It's common to overload a single baud with multiple
bits. All modern telco modems do it.

As us computer people have been aware of for years. For example, having
four phase states per transition, which is how the old 1200 bps Bell modems
did it. And before they became prevalent, some of us ran 1200/150 modems
(many homebrewed), as we can't type that fast anyway! That's right, folks,
the same thing we run today on VHF, but with an almost subaudible reverse-
channel.

There's a nice chart in reasonably current ARRL handbooks that summarize
Bell and CCITT modem characteristics [p. 19-34 in the 1993 edition].

I'm not speaking about use of
such techniques above, however, since they aren't necessary to get
the performance I quoted. The signaling technique I was alluding to
was simple MSK. Adding FEC etc would reduce the effective data rate
from the raw numbers quoted. Sorry if I didn't separate those two
ideas clearly.

Let's see now, it says MSK is minimum shift keying, "a form of FSK in which the frequency shift is one half the signaling rate in bauds" [ibid., p 19-30], i can't seem to find out much more about it than that. I guess FEC [ibid., p. 21-6] is like what us computer-folk know of as ECC, a fairly powerful technique...

The 60WPM figure is for a raw Baudot alphabet without error correction at 45 baud using MSK modulation. The 1.4 Hz/baud figure would apply to any alphabet of course. For example, we are limited to an occupied bandwidth of 1 kHz on the lower HF bands for data transmissions. Using MSK, we could run up to 714 baud in that bandwidth if baud higher than 300 were permissible. Using symbol overloading so that one baud represented more than one bit would increase our effective bps even further, of course. Examples of that sort of thing are QPSK and QAM. Those techniques aren't as parsimonious of spectrum as MSK though when SNR is included in the equation, IE we'd have to run higher power to get the same BER and thus limit frequency reuse to an extent.

OK, so QAM is how Bell/CCITT would run 9600 over their voice-grade lines, but i'm not sure what QPSK is like. What escapes me is how any of this is relevant to a homebrewer...

Now 97.309(a) limits the alphabets we can transmit on HF to Baudot, ASCII, and ISO646. So we can't use unspecified alphabets on HF. But that does not limit how we generate modulations to transfer those alphabets, IE how we express those patterns of ones and zeros as RF, nor does it prohibit us from using higher level protocols to facilitate the transmission of those alphabets, IE block codes, FEC, etc. Nor does it limit us in what those alphabets may *spell*. For example, we can transmit binary files by UUencoding them into the ASCII alphabet. Being restricted to only 3 alphabets is a burden, but not a serious one. We've had to deal with such limitations on computer networks for years. An 8 bit alphabet would be more natural, but we can live with the limitations of a 7 bit alphabet, albeit with considerable unnecessary overhead.

Thank you for explaining that, it wasn't clear to me. So we don't have to use straight ASCII or straight Baudot, there merely needs to be some kind of mapping into one of those whose intention is facilitate communications, not obscure them.

> ... More importantly, radio equipment
> designed from scratch to be optimized for digital operation can be
> of the same order of cost and apparent simplicity as the CW stations
> used by those operators.
>
>I studied carefully the R2/T2 pair, and have thought about doing such
>for 10m and above (noting that some of the RS birds go in on 2m and out
>on 10m) Does that mean it's simple enough to be a QST project, albeit
>probably not as easy as a QRP rig?

Sure. I've seen a number of projects in QST that were far more complex than the GRAPES RF modem (whose baseband is at 10 meters). Note that

the GRAPES modem implements MSK, but it isn't the only way to implement MSK, and other circuits could do so with fewer parts, and/or higher performance for HF usage. It is, after all, intended for high speed usage on the UHF spectrum via a transverter, but it does implement the necessary bandwidth conservation techniques, so it serves as an existance proof for the technique.

I didn't realize GRAPES does MSK. It makes sense, though. Is there any on-line documentation of that device?

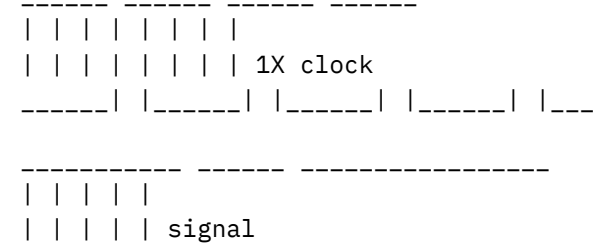
...

filter and time constants in the Costas loop. Use of simple DSP would probably make the whole exercise trivial for the baud available at HF. At the time the GRAPES modem was designed, suitable inexpensive DSP chips weren't available to deal with 56 kb and so the design had to be implemented in hardware. That adds circuit complexity that could be eliminated by use of any one of several currently available DSP chips. The GRAPES design is 8 years old, and was intended to be simple, cheap, and easy to build with parts commonly available at the time.

Yeah, using a DSP to be more than brick-wall filter for CW makes alot of sense in the HF world. I bet it could do neat things to SSB as well. I'd like it if someone would come up with DSP circuitry to run moderate (>19.2Kbps) speed packet. Heck, if someone were to properly explain the algorithms, and provide a PROM burning and/or download facility, i might even be convinced to look seriously at doing the programming.

However, the Lowfers have been using low rate codings implemented in hardware for a number of years with remarkable results. They're using effective bandwidths on the order of 0.01 Hz with nothing more elaborate than some opamps, tri-state analog switches, and TTL logic.

Wow! How does one get started in the Lowfer band (especially if one has no foreseeable interest in HF equipment)? Again, is there on-line material on this? I've never gotten along very well with the local Postal Service...
The key to
effective operation is clock synchronization. Once you have that, correlated oversampling will quickly tighten the effective passband and rapidly raise the effective SNR. Perhaps a word about this would be useful. Assume data synchronized to some clock using a simple coding scheme (a Manchester code in this case).



```
______| |_____________| |______|

0 0 1 0 data
```

A transition of the signal on the falling edge of clock signifies
a 1, no transition on the falling edge of clock signifies a 0.
It doesn't matter which way the signal transitions, only the change
of state matters. The signal always transitions on the rising edge
of clock, thus embedding clock into the signal.

Right, MFM (called DM in the Handbook [ibid., p. 19-38, also Figure 41])
allow one to recover both the data and the clock, and run at a baud
rate less than or equal to the data rate.

Now if we recover this signal and sample it with a 1X clock, we'll
be looking for the transition on the falling clock edge to determine
if we have a 1 or 0. To resolve that we have to have a fairly high
bandwidth, something on the order of 3X to 5X the clock rate or greater,
otherwise the edges of the signal will be smeared and rounded by the
IF filter and prevent a clear decision. This is undesirable since
it limits the achievable SNR. Adaptive slicers can help a little,
especially for signals that are slewed, but not much.

However, suppose we sample with a high multiple of the clock rate,
say 16x, then we have 8 samples before the suspected transition
and 8 after. If we accumulate these samples and compare their
sums at the end of the bit period, we'll have effectively narrowed
our bandwidth to 1/8th it's previous value with respect to short
duration noise, and we can now use a narrower analog filter with a
bandwidth on the order of 2X clock since a sharp edge is no longer
required to pass in order for the 1 or 0 decision to be made cleanly.

Yeah, they used to make IC's to do just that about a decade ago, like
the old 6409. Alas, nowadays, such logic is buried deep inside a disk
controller chip, or if not, expects to run in the megabit region (+/-
an order of magnitude or so). Maybe i haven't looked hard enough.
Yeah, it needed something like x16 or x32 clocks. (But UARTS want that,
too.)

With an even higher oversampling clock, we increase our effective
SNR even more. Now this assumes that the sample time is on the order
of, or less than, the average noise hit. To assure that, we may
have to lower our data rate so that the symbols are long with respect
to noise pulses. But we don't have to narrow the analog filters in
our radio by the same amount to gain the SNR advantage. The sample
and accumulate process has the effect of narrowing the bandwidth
with respect to noise.

Of course, we don't need analog filters at all with a DSP, and then one
can use filters that don't do annoying things, like ring.

Now the GRAPES MSK modem doesn't use this technique, but the Lowfer
system does. It's a fairly powerful technique for low rate signals

that's easy to implement in hardware (it's basically the principle
of a switched capacitor filter, but with the added feature of having
the sample clock locked coherently with the desired signal, and that's
a major improvement). Now, we can extend this same method, or better ones,
there are much better ones, to individual RF cycles if we have sufficient
hardware speed to deal with the high sample clock.

Or i presume if we want to operate in the VHF region, we can play these
same games, and use a DBM to get in and out of the desired band.

Now we have a powerful
technique indeed for separating coherent signals from incoherent noise. The coherent
samples add constructively, but the random noise does not, IE a
rising edge always increments over a series of samples, but the amplitude
of incoherent noise may go down as likely as it goes up at any sample
because of it's statistical nature. Thus it tends to sum to zero, or a
constant bias, over a large number of samples. Foreknowledge of the
phase of the desired signal is one of the most powerful techniques for
separating desired coherent signals from a chaotic channel. It's the
basis for the astounding weak signal performance of the NASA DSN.

OK, but can i do it at home?

>There must be some problem here i don't get, such as it's in a mode
>that we can't use yet in HF... But wait, i might still be able to have
>fun with such a device at 6m and above, where we can try out new coding
>schemes. Please, tell more, and if you want to UUENCODE diagrams and/or
>schematics in some well-known format, i'll even put it in my WWW page for
>others to access.

Clover is an existance proof that modulations other than simple FSK
are allowed on HF. It's perhaps more complex than necessary because
it has to work through ordinary analog SSB radios which are very far
from optimized for digital transmission, but the fact that it exists,
and is permissible under the rules, is ample proof that we can use
other modulations for digital data at HF than crude FSK.

Good, so there's something to point at when someone looks at me askew after
hearing one of these new signaling methods.

By and large, amateurs haven't used more advanced digital modulation
techniques on HF because (a) they don't know about them, (b) they
think they are too complex or difficult to understand, (c) they
believe (falsely) that they are illegal, (d) they're so brainwashed
into the manual Morse and analog voice paradigms of communications
that they reject out of hand better digital methods, and (e) there
have been no commercial Japanese products implementing the techniques
for amateurs to purchase.

I don't know what we can do about (d), and i'm not sure what folks who
fall into category (e) are doing in the amateur service... But (a), (b),
and (c) are things that are changable. An good article in QST might at
least dispense with (c) and possibly make a dent in (a) and (b). It's

too bad than coded technicians can still only operate non-CW on 10 meters.
No wonder the real work is happening in the 'Lowfer' band.

As for the GRAPES RF modem, its details were explained throughly
by Dale Heatherington (its designer) in one of the ARRL Computer
Network Conference Proceedings. Look for a paper on the WA4DSY
modem if you want to know more. Again I would note that this serves
merely as an existance proof for the technique. Alternate implementations
optimized for low rate signals would serve better for HF operations.

There's alot on the WWW about such things, i'll have to see if that's
on-line or merely referenced. I know the GRAPES folks have some WWW
stuff, so i'll report back if i find it. Please tell more about MSK,
and while the signal schetch was appreciated, again, circuits would be
nice, particularly things we could try out on our own, even just 'on
the bench' [literally or computationally].

-- KD6PAG (networking old-timer, RF newbie)

2471. Re: Soldering Copper to Aluminum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: n7tcf@primenet.com
Message-ID: <3rp9jg$qls@news.primenet.com>
Source record: 112378

In <augxt01-240295174443@47.226.128.144>, augxt01@nt.com (Garry Taylor) writes:
>In article <01HNE0K8564200AERY@uthscsa.edu>, MUENZLERK@uthscsa.EDU
>(Muenzler, Kevin) wrote:
>
>>
>> wmfawns@netcom.com (William Fawns) WRITES:0
>>
>> >I am building some "coax traps" and need to solder the aluminum braid to
>> >the copper center conductor. So far, I am having ZERO success!
>> >
>> >Can anyone tell me how to solder aluminum to copper? If you prefer, you
>> >can e-mail your response to wmfawns@netcom.com.
>> >
>> >Thanks
>> >
>> >73 de KE6HEZ - Bill
>>
>> You can't solder copper to aluminum.
> I have soldered copper to aluminum, so you can't say you can't do it.
> A special type of flux is required to do the job.
> All that said, your connector suggestion is by far the best in this
> application.
>
>73 de VK3XYX - Garry.
> ____
>| Garry Taylor Nortel Aust. Pty. Ltd. |
>| 5/380 St Kilda Rd. |
>| EMAIL:augxt01@nt.com Melbourne 3004 |
>|____|

I am in the air conditioning trade where this comes up more often and it a real pain
to deal with. There are low temp solders, the flux is acid-based, electrical connections
shouldn't be made with acid-based flux, but thats not all...
Aluminum needs to be extremely clean. Sandpaper is needed. The oxide layer is
very tough. This oxide rapidly reforms and will ruin any soldering job. I have never
tried a soldering iron as a heat source (for aluminum). A torch may be necessary to
apply heat fast and evenly before the oxide reforms.
All in all, I'd try mechanical connections with a antioxidizing compound between
the two metals.

73 Jim n7tcf@primenet.com

2472. Re: Remote Transmatch Help Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3roeef$7b9@solaris.cc.vt.edu>
Source record: 112379

Tony Stalls <ras@us.net> wrote:
>Does anyone have any experience with remoting an transmatch? If you
>have, I would very much appreciate your sharing what kinds of motors,
>indicators, etc. you usd.
>
>I have seen a number of likely candidates for motors in the Herbach &
>Rademan and Fair Radio catalogues (other sources?), but I'm undecided
>about the number of rpm's to have to drive the varible capacitors, rotary
>inductors, and maybe switches. (Remoting switches seems to be another can
>of worms all by themselves.) One person suggested using electric
>screwdrivers, but they seem less practical that reversable moters.
>
>Anyway, a hamfest a couple of weeks ago yielded several key components I
>had been looking for and I'm getting dangerously close to actually
>starting construction. Any advice will be most appreciated.
>
>73,
>
>Tony
>K4KYO
>
> <ras@us.net>

I haven't actually remoted a transmatch before, but based on my experience with other projects I would suggest:

-Replace rotary switches with relays. Either one SPST relay for each postion on the switch, or a binary tree of SPDT relays if the switch has more than 3 or 4 postions and the extra power and control logic to close more than one relay at once is not a problem.

-For tuning roller inductors, a screwdriver motor might actually be a good choice since it has lots of torque and turns reasonably fast. These are easily reversible since they use a permanent magnet DC motor. Their 2.4 Volt high-current requirements are not optimum for driving through a long cable though.

-Tuning of variable capacitors may be tougher since they only go 1/2 turn from minimum to maximum. A stepper motor might work here, but at the usual 1.8 degrees per step there would be only 100 steps from min to max. Using a gear reduction assembly like is sometimes used with a manual knob for precise tuning could help make final adjustments easier in the higher bands. Also, a nonlinear varaible capacitor like is used in old (and new, for that matter) AM radios would be useful for this, but I don't know if there are any built for high voltage.

-Stepper motors can be driven to intermediate steps for fine tuning, but the driver circuitry gets more complicated, although probably not prohibitively more so.

-Of course variable inductors and capacitors could also be replaced with a bunch of relays and fixed components. The SGC automatic units supposedly work that way. Not much use if you have the Transmatch already and want an inexpensive way to remote it though.

-For indicators, if stepper motors are used you just need to count the number and direction of step pulses applied. This technique needs to be synchronized by running the motor to one end of its range against a stop or limit switch and setting the counter to zero every time the count is lost (which will most likely be only if the power is turned off).

-Indicating the position of a shaft driven by a screwdriver motor is harder. Also you probably want some sort of feedback (either manual or automatic) to confirm that the shaft is actually turning. Attaching an optical encoder disk to the shaft would be one way. Attaching the encoder to the motor shaft (before the gearbox) would give really good resolution, but I don't think there's an easy way to get access to it in most of the screwdriver mechanisms. I have had some success putting Hall effect sensors on the outside of the gearbox to sense the passage of the gears inside.

-The obvious remote indicator is a potentiometer driven by the shaft. More mechanical work required to couple it on than there would be just counting pulses applied to a stepper motor. Also digital encoders would be nice if a digital computing device is used at the control head.

-Really old remoted stuff like radar antennas used selsyns or (other "syns" or synchros, I forget exactly what they were called) to indicate the position. One is driven by the shaft and alters the phase of an AC signal supplied to another one, which drives the pointer. Really neat, having continuous resolution over one turn. Probably could be found surplus if you look, I think they are too antiquated for most catalogs. I'll bet the military still uses them in a lot of stuff.

-Another method of indication would be to temporarily remotely disconnect the capacitors and inductors from the circuit and remotely measure their capacitance and inductance. This could be done with an oscillator that uses the component as part of its frequency determing network feeding a frequency counter at the remote control head. I would classify this technique as "experimental" and maybe not too practical since you would need to turn the transmitter off in order to take a measurement.

-Mike KD4QDM
Wet Rims Require Increased Stopping Distance

2473. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3rojar$ljb@newsbf02.news.aol.com>
Source record: 112380

>I also spoke to the author and he swears by it! Uses nothing else and he sent >me a photocopy
>of a qsl card for an 80m g-vk qso he had on it (supposedly) - so i aint too sure >yet!

I've worked VK and Europe on 160 SSB Mobile. I wonder if my being so angry when I was driving in traffic has caused my antenna to be a cross field antenna? Seriously, does that mean my antenna is great? I think not. The measured efficiency is around 1 percent, so who I have worked is no real proof of a great antenna or a remarkable invention, and neither is a patent. 73 Tom

2474. Re: IF filter - how to test?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3rojud$lmt@newsbf02.news.aol.com>
Source record: 112381

Dave, I use a spec anal and a noise generator to test passband circuits on occasion. It has the advantage of having a log scale. My sweep generator is the most convient for linear measurements (in voltage not dB).

Either method would allow you to try different loading resistors as you watch the passband ripple, but you would have to use bridging pads, transformers, or active devices (like a JFET) to "bridge" the loading resistors.

73 Tom

2475. Re: Synthesiser Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: kirkland@bnr.ca
Message-ID: <3rp9hr$6lc@bcarh8ab.bnr.ca>
Source record: 112382

>The basic concept is not difficult but the trickier programming comes
>into play when you want the thing to be frequency agile as well as
>control a display and deal with input from a keypad or rotary encoder.
>Let me know if you have any specific questions...
>regards...Hugh Duff VA3TO Toronto

Have you done the "trickier" part you mention. The reason I ask
is that I am planning to do the same for a rig I am building. I
will be using the 68HC11 u-controller. I would be interested in
hearing any comments or suggestions that you might have.

Bill Kirkland
VE3JHU

2476. Re: 440 HT limitations and homebrewing [was: * CLOSED REPEATER QUESTION]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: kd4awq@iglou.com
Message-ID: <DA749D.Jp@iglou.com>
Source record: 112383
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.homebrew

In article <TVR.95Jun12113001@cnmat.CNMAT.Berkeley.EDU>, tvr@cnmat.CNMAT.Berkeley.EDU (Tovar) says:
>That's because the manufacturers have only requested type-acceptance on
>440-450 MHz.

There's no such thing as "type acceptance" for ham gear other than HF power amps. The only FCC approvals needed for a VHF or UHF HT are under Part 15, for the receiver and (in some cases) for the microcontroller if used.

>And, for my rig, there's no mod to get the rest of the 440 band without
>running the risk of transmitting out-of-band, e.g. it's all or nothing.

If you aren't taking the care needed to keep from going out of band, you shouldn't have gotten into amateur radio.

2477. Re: Does a 2 meter CW kit exist?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3rpe50$obg@vixen.cso.uiuc.edu>
Source record: 112384

In a previous article, jtesta@freenet.columbus.oh.us (Joseph Testa) says:

>
>I am looking for either a kit or plans for building a 2M CW transceiver.
>
>Looking at all modes(new) are too expensive(and only going to get worse) and
>trying to find a used one is near impossible. So I have started a mission
>in search of.
>
>Would appreciate any information that could be given.
>
>Why does a 2M all mode cost as much (or more) than a low end HF rig
>with multiple bands?
>
>Thanx, 73, joe
>
>
>--
>Joseph S. Testa, Database Administrator, Ohio EPA
> N8XCT, Emergency Coordinator (EC) & Local Govt Liaison (LGL)
> Pickaway County, OH and Official Relay Station (ORS), message content
> are MY views and NOT my current employer.
>

Hi,
You didn't say how much you are willing to spend.
A real performer is the KK7B R2/T2 combination built for 2
meters. The R2 design was in January 1993 QST. (Receiver board).
The T2 design was in April 1993 QST (Xmtr board). An article which gives
circuits for VFO's for 2 meters and how to put it all together was in May
1993 QST (All by Rick Campbell KK7B.)
This will get you on 2 meter CW and SSB.
I think mine cost about $150 all together.

73, Zack W9SZ

2478. Re: Remote Transmatch Help Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <3rpgq3$6nd@ixnews3.ix.netcom.com>
Source record: 112385

In <3roeef$7b9@solaris.cc.vt.edu> mkeitz@bev.net (Mike Keitz) writes:

>
>
> Tony Stalls <ras@us.net> wrote:
>>Does anyone have any experience with remoting an transmatch? If you
>>have, I would very much appreciate your sharing what kinds of motors,
>>indicators, etc. you usd.
....lots of stuff deleted

I agree with Mike on most of the stuff. I built one with the help of a friend who understands digital servos and steppers and all that stuff a remote tuner needs. We used stepper moters from old 8" floppy drives, used the optical encoders from Digital Equipment workstation mice, the ones with two buttons instead of a ball. This allowed us to have dials to turn for the steppers.

The main disadvantage of the stepper is the number of wires required to control it, luckily I had a spool of 30 pair phone wire.

We found electric rotary switches at a surplus place, they do exist, these were 5 position 3 wafer switches fairly heavy.

Indicators was where we fell down, tried various methods and wimped out and used a rather unusual method that would be very expensive if we didn't already have a large junk box.

We mounted lights on the tuner to indicate the switch positions, and a little halogen light to illuminate the whole thing, then mounted a black and white closed circuit TV camera above it, with a monitor in the Shack. I use it to tune a pair of delta loops made from the guy wire of a vertical, fed with ladder line.

It works, was it worth the effort or expense absolutely not, but it was a fun project and I learned a lot. I have the contraption in the attic and the ladder line through the roof, and have nightmares everytime it storms. I will probably go back to the old method of ladderline throught the glass in a window and a manual tuner and alligator clips to connect it to the ground bus in the shack when it storms.

QST had plans that we based our design on in 89 or 90 I think, it was called either a Balanced balanced tuner, or a double balanced tuner. It uses 2 roller inductors, and two capacitors in either parallel, or series configurations. We of course had to tweek it to add other combinations that don't do much.

Good luck
KI5GY

2479. 2M CW Kit/Rig Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: w4qo@america.NET
Message-ID: <Pine.SV4.3.91.950615110523.6857D-100000@atl1.america.net>
Source record: 112386

I would suggest that you look for an AMECO TX-62 transmitter at hamfests. They turn up quite regularly here in Atlanta. And I have seen them in the Yellow Sheets. They go for about $30 to 50 bux and run about 35 watts output. If you can find the matching VFO, you have it made, otherwise you would need to build one or use crystals. Definitely usable on OSCAR, etc. The parts in these things are worth much more than the price they are commanding.

73/72/jim/w4qo

2480. Re: Looking for Spice-based Simulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3rpo84$be7@hpscit.sc.hp.com>
Source record: 112387

In article <tetrault-1406951625530001@d225-brockway.sierra.net>,
Robert Tetrault <tetrault@sierra.net> wrote:
>In article <NEWTNews.802966380.30322.jwicklun@mycroftxxx.halcyon.com>, Jay
>Wicklund <jwicklun@mail.halcyon.com> wrote:
>
>I myself strongly recommend the version of SPICE produced by Spectrum
>Software in Silicon Valley, 408 738 4387, fax 408 438 4702. It is
>available for all versions of PC and Power PC, and the eval version is
>only 250 USDollars, runs 25 nodes, full function, and FAST!

It's called "Microcap" by Spectrum Software in Sunnyvale, CA (which is
in Silicon Valley, if not the capital of such!).

This is a great program I have been using for years. I know many other
happy users. It is much easier to use than Intuit IS-Spice or Microsim P-Spice.
That is why they can get $250 for it, while P-Spice gives away their
eval version (you get what you pay for). If your time is worth anything,
get Microcap. If you're a starving student who never sleeps, get P-Spice
for free off the net.

Rick Karlquist, N6RK
rkarlqu@scd.hp.com

2481. Ferrite design equations

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: jeffa@pax.ssd.loral.com
Message-ID: <1995Jun15.175428.9556@ssd.loral.com>
Source record: 112388
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

A number of people have asked how to design circuits or systems w/ ferrite components. I am posting several key equations here that are of use:

Standard Design Equation for Sizing (Determining B, flux density max.)

```
E * 10^8
B(peak) = -------------
Wf * f * N * Ae
```

where: E = RMS voltage applied to transformer/core
Wf= waveform factor (sine=4.44, 50% square wave = 4.0)
f = frequency (Hz)
N = number of turns
Ae= Core's effective cross sectional area (cm^2)

Determining H, field strength max.

```
0.4 * Pi * N * Ip
H(peak) = -------------------
Le
```

where: Pi= the constant
N = number of turns
Ip= peak current (Amps)
Le=Core's effective path length (cm)

Determining N, number of turns

```
( L )
N =( ------ ) ^0.5
( Al )
```

where: L = inductance (nanoHenries)
Al= inductance factor (nanoHenries/turn^2)

Determining Po, power handling capability of a core

```
1.47 * f * Bp * Ae * Aw * 10^-3
Po = --------------------------------
D
```

where: f = frequency (Hz)
Bp= flux density max. (gauss)
Ae= Core's effective cross sectional area (cm^2)
Aw= Core's winding area (cm^2)
D = wire current density (circular mils/Amp)

Core materials good for high frequency power transformers (various manufacturers):
Reccommended frequency of operation is core specific (see manufacturer's data)

3C8, 3B7, 24B, 77, 78, 75, F, T, H7C1, N27

2482. Re: 440 HT limitations and homebrewing [was: * CLOSED REPEATER QUESTION]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: tvr@cnmat.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Jun15164837@cnmat.CNMAT.Berkeley.EDU>
Source record: 112389
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.homebrew

In article <TVR.95Jun12113001@cnmat.CNMAT.Berkeley.EDU>, tvr@cnmat.CNMAT.Berkeley.EDU (Tovar) says:
>That's because the manufacturers have only requested type-acceptance on
>440-450 MHz.

There's no such thing as "type acceptance" for ham gear other than HF power amps. The only FCC approvals needed for a VHF or UHF HT are under Part 15, for the receiver and (in some cases) for the microcontroller if used.

Well, that's what the rep. at Icom said was why he couldn't provide a mod to transmit in the rest of the 440 band. Was i not given good information? He did tell me where others could provide a generalized out-of-band mod, but that's not what i wanted.

>And, for my rig, there's no mod to get the rest of the 440 band without
>running the risk of transmitting out-of-band, e.g. it's all or nothing.

If you aren't taking the care needed to keep from going out of band, you shouldn't have gotten into amateur radio.

If i were designing the software, i'd put PTT lock on a per [memory] channel basis. I don't want to transmit in the OSCAR subband by mistake, either, and after doing that a couple times, i get those channels a repeater offset, so at least if i stomp on anyone, at least it would be some terrestrial user. I really try to be careful, but when my concentration is on driving, for example, i may not be able to look at the frequency for as long as i would like to, or other times, i might bump the rig without noticing. An HT doesn't ask "Are you sure?" like my computer does, when i try to do something that i might not have intended.

-- KD6PAG (networking old-timer, RF newbie)

2483. Re: 8044 CMOS Keyer I.C.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: Jim Stafford-W4QO <w4qo@america.net>
Message-ID: <Pine.SV4.3.91.950615155745.29165B-100000@atl1.america.net>
Source record: 112390

You can order the 8044 from Mouser Electronics. Their number is floating around the internet and they have a small ad in some of the magazines.

But did you notice the small comment on page 76 of QST this month about the chip from the Radio Adventures Corp in PA? It goes for 14.95 in single lots and seems to have a few more goodies than the Curtis chip. 2 ma awake and 5 micro amp sleep modes, etc. Their number is 814-677-7221.

73/72/jim/w4qo

On 8 Jun 1995, RRives wrote:

> I am looking for a good source for the 8044 or 8044BM. If anyone can help
> me please send email to RRives@aol.com .

2484. Synthesiser Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: hduff@humnet.westonia.com
Message-ID: <7887-198054901@humnet.westonia.com>
Source record: 112391

>
> Has anybody out there got a microcontroler for the Mototola
> frequency systhesiser chips that use a serial interface???
> I am experimenting with the Basic Stamp and would like to use
> a PIC chip......Let's exchange ideas...I would like to use
> these systhesiers in some QRP tranceiver designs I have...
>
> I am good with RF and not so hot with digital design...
>
> Let me know what's happening
>
> Clark Fishman WA2UNN cfishman@pica.army.mil

Hi Clark... I have sucessfully used an Intel 8031 micro to control
a Motorola MC145190 serially programmed PLL chip.
Also used and 8031 to control the Kenwood TM-741/742 series of VHF/UHF
modules independant of the radio (same idea...serial programmed).
You basically need 3 parallel I/O lines...CLOCK,DATA and ENABLE.
Toggle the ENABLE line then clock the data in, i bit at a time.
The basic concept is not difficult but the trickier programming comes
into play when you want the thing to be frequency agile as well as
control a display and deal with input from a keypad or rotary encoder.
Let me know if you have any specific questions...
regards...Hugh Duff VA3TO Toronto

 NFX v1.3 [000]

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2485. Synthesiser Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-15 00:00:00 UTC
From: hduff@humnet.westonia.com
Message-ID: <7887-198041502@humnet.westonia.com>
Source record: 112392

>
> >The basic concept is not difficult but the trickier programming comes
> >into play when you want the thing to be frequency agile as well as
> >control a display and deal with input from a keypad or rotary encoder.
> >Let me know if you have any specific questions...
> >regards...Hugh Duff VA3TO Toronto
>
> Have you done the "trickier" part you mention. The reason I ask
> is that I am planning to do the same for a rig I am building. I
> will be using the 68HC11 u-controller. I would be interested in
> hearing any comments or suggestions that you might have.
>
>
> Bill Kirkland
> VE3JHU

Hi Bill. I am in the process of doing the "trickier" part of the programming. I've been held up with work, fatherhood and other domestic obligations lately but plan on getting back to it soon (hopfully) !
I personally know and use the Intel MCS-51 and Microchip PIC16Cxx families of controllers...not too familiar with the HC11 but my buddy designs aircraft radios using the HC11 as well as the Motorola PLL chips. If you run into any HC11-specific snags I could request his assistance if you like.
Of course, the programming concept is the same regardless of which controller is used. Have you decided what you're doing for display..ie.. discrete LEDs, Smart ASCII LCD or ??? How about input...keypad, rotary encoder, both ??? (easier solution...BCD thumbwheel switches take care of both display and frequency control but are not as cool, functionally or esthetically.)
You'll want to get the hardware sorted out before you delve into the programming.

Basically, the direct digital frequency is entered and stored in a working set of registers then each digit is multiplied by a wieghted constant and added to an accumulator... a cleared set of registers that represent the data word that the PLL understands as the equivalent to the actual frequency.
The wieghted constant will be different for each digit and are dependant on the PLL chip that you're using. This represents the BCD (actual frequency as entered) to Binary (the binary word that the PLL wants to see) conversion.
Once the accumulated value for that particular frequency has been tallied, it can be clocked into the PLL to set the frequency. This all occurs in the blink of an eye, then the micro would go back and read the working set of registers and repeat the calculations and load the PLL if any change has taken place.

I have a port pin polling the PTT line, when TX is sensed, the PLL is loaded with the TX frequency before transmitting and when the PTT line is released, the RX calculation and loading takes place. In my case with the TM-741/742 modules, the RX frequency is 10.7 Mhz different than the TX frequency (the I.F.) so I have a seperate bank of RX and TX registers. The TX rgisters can be offset plus or minus for repeater split or left alone for simplex. (I'm using the 2 meter FM module.)

You didn't give too much detail of what your are doing and using so I won't elaborate any further. I may put what I have done for the 8031 and these modules up on the local FTP site for anyone that might want to have a look. Lemme know if you're interested.

Regards...Hugh VA3TO...Toronto
`

• NFX v1.3 [000]

--

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2486. Re: CW alternatives? [Was "Re: New VK regs - wormholes"]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun16.020040.24825@ke4zv.atl.ga.us>
Source record: 112393
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <TVR.95Jun15022414@cnmat.CNMAT.Berkeley.EDU> tvr@cnmat.CNMAT.Berkeley.EDU (Tovar) writes:
> We are limited to 300 baud on our HF bands below 10 meters by 97.305,
> and on 10 meters we are limited to 1200 baud. However, note well that
> baud is a technical signaling term, and baud does not have to equal
> bits per second.
>
>Yes, and that's one reason that the 1200 *baud* limitation does not seem
>so bad to me. Let's take that up to the 440 band. The motorola single-IC
>UHF transmitter does both AM and FM, and can do both at once. So, i guess
>there's two bits per transition right there. More seem possible with an
>DAC/ADC, and indeed folks like Maxim already make such chips. So, instead
>of running 9600 bps, it doesn't seem hard to go to 19.2 without increasing
>the channel bandwidth. Right? And bandwidth is the major concern; the
>intent is not to force us to go slow.

Yes. Unfortunately that was done by hardcoding baud into the regulations instead of simply being satisfied with a bandwidth specification.

> I'm not speaking about use of
> such techniques above, however, since they aren't necessary to get
> the performance I quoted. The signaling technique I was alluding to
> was simple MSK. Adding FEC etc would reduce the effective data rate
> from the raw numbers quoted. Sorry if I didn't separate those two
> ideas clearly.
>
>Let's see now, it says MSK is minimum shift keying, "a form of FSK in
>which the frequency shift is one half the signaling rate in bauds"
>[ibid., p 19-30], i can't seem to find out much more about it than
>that.

There is more to it than that, however. Simply cranking the shift down on ordinary FSK to 1/2 the baud still leaves a fairly wide spectrum. The modulation has to be coherent to take maximum advantage of the spectrum conservation offered by MSK. A typical way to generate it is with a pair of four quadrant multipliers operated in phase quadrature with the carrier.

>I guess FEC [ibid., p. 21-6] is like what us computer-folk
>know of as ECC, a fairly powerful technique...

FEC is Forward Error Correction, and basically means that information is coded into the transmission to allow the receiver to recover damaged bits without requesting a retransmission. Since the FEC information has to be transmitted on the channel with the data, it reduces effective

throughput on a noiseless channel, but because it reduces the need for retransmissions, it can in practice increase effective throughput on noisy error prone channels. There are a number of FEC techniques, some of them are identical to the common ECC methods used with computer memories, some are not.

> The 60WPM figure is for a raw Baudot alphabet without error correction
> at 45 baud using MSK modulation. The 1.4 Hz/baud figure would apply to
> any alphabet of course. For example, we are limited to an occupied
> bandwidth of 1 kHz on the lower HF bands for data transmissions. Using
> MSK, we could run up to 714 baud in that bandwidth if baud higher than
> 300 were permissible. Using symbol overloading so that one baud
> represented more than one bit would increase our effective bps even
> further, of course. Examples of that sort of thing are QPSK and QAM.
> Those techniques aren't as parsimonious of spectrum as MSK though
> when SNR is included in the equation, IE we'd have to run higher
> power to get the same BER and thus limit frequency reuse to an
> extent.
>
>OK, so QAM is how Bell/CCITT would run 9600 over their voice-grade lines,
>but i'm not sure what QPSK is like. What escapes me is how any of this
>is relevant to a homebrewer...

QAM is Quadrature Amplitude Modulation. QPSK is Quadrature Phase Shift Keying. They are both methods of impressing modulation symbols on a carrier, and both have in common the use of four quadrant multipliers operated in phase quadrature to the carrier. For the homebrewer, this means that the hardware needs to contain a pair of multipliers, IE MC1496 or SBL-1, etc, and that they need to operate on the carrier with a 90 degree phase shift network feeding them. A pair of multipliers, or a pair of pairs of multipliers properly arranged, can be used to generate any arbitrary modulation on a carrier depending on the modulating waveforms used. In the proximate case of the GRAPES RF modem, a pair of MC1496s are fed with waveforms from a lookup ROM. The data is encoded by changing the lookup addresses to the ROM.

> Now 97.309(a) limits the alphabets we can transmit on HF to Baudot,
> ASCII, and ISO646. So we can't use unspecified alphabets on HF. But
> that does not limit how we generate modulations to transfer those
> alphabets, IE how we express those patterns of ones and zeros as RF,
> nor does it prohibit us from using higher level protocols to facilitate
> the transmission of those alphabets, IE block codes, FEC, etc. Nor does
> it limit us in what those alphabets may *spell*. For example, we can
> transmit binary files by UUencoding them into the ASCII alphabet. Being
> restricted to only 3 alphabets is a burden, but not a serious one. We've
> had to deal with such limitations on computer networks for years. An 8 bit
> alphabet would be more natural, but we can live with the limitations of
> a 7 bit alphabet, albeit with considerable unnecessary overhead.
>
>Thank you for explaining that, it wasn't clear to me. So we don't have to
>use straight ASCII or straight Baudot, there merely needs to be some kind

>of mapping into one of those whose intention is facilitate communications,
>not obscure them.

Right.

> ...
>
> filter and time constants in the Costas loop. Use of simple DSP would
> probably make the whole exercise trivial for the baud available at HF.
> At the time the GRAPES modem was designed, suitable inexpensive DSP
> chips weren't available to deal with 56 kb and so the design had to
> be implemented in hardware. That adds circuit complexity that could
> be eliminated by use of any one of several currently available DSP
> chips. The GRAPES design is 8 years old, and was intended to be
> simple, cheap, and easy to build with parts commonly available at
> the time.
>
>Yeah, using a DSP to be more than brick-wall filter for CW makes alot of
>sense in the HF world. I bet it could do neat things to SSB as well.
>I'd like it if someone would come up with DSP circuitry to run moderate
>(>19.2Kbps) speed packet. Heck, if someone were to properly explain the
>algorithms, and provide a PROM burning and/or download facility, i might
>even be convinced to look seriously at doing the programming.

TAPR offers a DSP card, and of course AEA has a DSP based unit. And
several of the DSP chip manufacturers offer (cheap) evaluation kits,
such as the ones from TI and Analog Devices, that can be used for this
purpose. The rest, as they say, is just software. The TI chip is most
popular, but I like the Analog Devices chip because it's much easier
to program.

> However, the Lowfers have been using low rate codings implemented in
> hardware for a number of years with remarkable results. They're using
> effective bandwidths on the order of 0.01 Hz with nothing more elaborate
> than some opamps, tri-state analog switches, and TTL logic.
>
>Wow! How does one get started in the Lowfer band (especially if one
>has no foreseeable interest in HF equipment)? Again, is there on-line
>material on this? I've never gotten along very well with the local
>Postal Service...

I'm not aware of any on-line resources, but the Lowfers publish a
newsletter called The Lowdown, and articles have appeared in several
magazines, including Communications Quarterly, about their circuits
and efforts. The spectrum 160 kHz to 190 kHz is available to any
citizen with the restriction of 1 watt power and antenna and feedline
length of no more than 50 feet. No license is required (yet, the ARRL
is making a grab to make this a ham band and close it off to most
of the existing experimenters).

> With an even higher oversampling clock, we increase our effective
> SNR even more. Now this assumes that the sample time is on the order

> of, or less than, the average noise hit. To assure that, we may
> have to lower our data rate so that the symbols are long with respect
> to noise pulses. But we don't have to narrow the analog filters in
> our radio by the same amount to gain the SNR advantage. The sample
> and accumulate process has the effect of narrowing the bandwidth
> with respect to noise.
>
>Of course, we don't need analog filters at all with a DSP, and then one
>can use filters that don't do annoying things, like ring.

Actually, we do still need analog filters. The dynamic range of even
16-bit ADDAs is insufficient to deal with the mixture of strong and
weak signals present on HF. We still need analog filters and AGC to
tame those differences between the desired and undesired signals on
the band. But, with DSP, we don't need to do *all* of the filtering
in the analog domain. This relaxes the filter constraints and allows
us to avoid things like analog filters so narrow that they ring.

> Now the GRAPES MSK modem doesn't use this technique, but the Lowfer
> system does. It's a fairly powerful technique for low rate signals
> that's easy to implement in hardware (it's basically the principle
> of a switched capacitor filter, but with the added feature of having
> the sample clock locked coherently with the desired signal, and that's
> a major improvement). Now, we can extend this same method, or better ones,
> there are much better ones, to individual RF cycles if we have sufficient
> hardware speed to deal with the high sample clock.
>
>Or i presume if we want to operate in the VHF region, we can play these
>same games, and use a DBM to get in and out of the desired band.

Only if we can preserve phase coherency. To apply the technique to
individual RF cycles would require the LO to be phase locked with
the source. In practice, this is possible but complex, normally we'd
use TRF receiver designs if we wished to do oversampling directly on
the RF waveform. TRF receivers fell into disfavor when superhets
came along because the superhet allowed a simple analog IF filter scheme
that won't work with TRF, and because the discrete circuits of the
day made TRF receivers prone to instability. That's easily solved
today with higher integration circuits, and we're doing the bulk
of our filtering in the digital domain, so the IF filter is no longer
necessary.

> Now we have a powerful
> technique indeed for separating coherent signals from incoherent noise. The coherent
samples add constructively, but the random noise does not, IE a
> rising edge always increments over a series of samples, but the amplitude
> of incoherent noise may go down as likely as it goes up at any sample
> because of it's statistical nature. Thus it tends to sum to zero, or a
> constant bias, over a large number of samples. Foreknowledge of the
> phase of the desired signal is one of the most powerful techniques for
> separating desired coherent signals from a chaotic channel. It's the

> basis for the astounding weak signal performance of the NASA DSN.
>
>OK, but can i do it at home?

Absolutely. In fact about the only way you can do it is to homebrew
the necessary circuitry. The DSN uses atomic clocks as their precision
reference, but terrestrially we can use more mundane common clock
references. The absolute value of the clock is unimportant as long
as both transmit and receive are in sync. Any signal that can be
heard in common by transmitting and receiving stations can be used.
Broadcast transmissions are a good source of a common clock reference.
If both stations are in range of an AM or SW broadcast station, that
carrier can be used as the common reference. WWV is another source
of a common reference, as are the color subcarriers recovered from
TV-sat signals. (You can't depend on terrestrial retransmissions of
network TV signals anymore due to the near universal use of frame
synchronizers at the local stations, but the signals distributed
to the stations by satellite all originate from the same point,
and subcarrier recovered directly from a TVRO receiver will work
as a common reference.)

The common clock needed for coherent data recovery is much relaxed
from the common clock needed for actual RF cycle processing. For
data recovery, ordinary crystal stability is sufficient to keep
pairs of stations' data clocks locked together. For RF cycle
processing, either atomic references or a common external clock
source is required.

> Clover is an existance proof that modulations other than simple FSK
> are allowed on HF. It's perhaps more complex than necessary because
> it has to work through ordinary analog SSB radios which are very far
> from optimized for digital transmission, but the fact that it exists,
> and is permissible under the rules, is ample proof that we can use
> other modulations for digital data at HF than crude FSK.
>
>Good, so there's something to point at when someone looks at me askew after
>hearing one of these new signaling methods.

> As for the GRAPES RF modem, its details were explained throughly
> by Dale Heatherington (its designer) in one of the ARRL Computer
> Network Conference Proceedings. Look for a paper on the WA4DSY
> modem if you want to know more. Again I would note that this serves
> merely as an existance proof for the technique. Alternate implementations
> optimized for low rate signals would serve better for HF operations.
>
>There's alot on the WWW about such things, i'll have to see if that's
>on-line or merely referenced. I know the GRAPES folks have some WWW
>stuff, so i'll report back if i find it. Please tell more about MSK,
>and while the signal schetch was appreciated, again, circuits would be
>nice, particularly things we could try out on our own, even just 'on
>the bench' [literally or computationally].

The GRAPES webpage doesn't have any technical data. That can be obtained from the referenced paper, or by ordering the manual for the modem direct from GRAPES. There is also a 1/2 hour video I produced that has the designer presenting the system in detail at the ARRL National Convention. The tape is also available from GRAPES.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2487. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: greg@core.rose.hp.com
Message-ID: <DAAEFC.CA8@icon.rose.hp.com>
Source record: 112394
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

DB Wilhelm (w3fpr@nando.net) wrote:
: In the interest of home (and ham) safety, let me tell you about my
: experience earlier tonight.

snip

: What is my point? Simply stated - trust nothing until you have
: checked it out. This is in a recently built house in a community
: that *supposedly* has one of the toughest inspection teams in the
: area for new structures. You can be certain that I have a task
: ahead of me, and I will not rest comfortably until I have checked
: each and every connection point in the electrical system here.

Imagine my surprise a few years ago when my wife mentioned, off hand,
that one of our wall switches was warm... Turned out that the electrician
didn't like to use wire nuts, and instead had used these little crimp rings
to bond wires together. Over time, any circuit with significant current
would corrode due to the relatively small contact area, which generated heat,
corroding it more, etc. By that time the black tape used to insulate the
joint was toast. Shortly after fixing that box, we got a reminder to check
the rest of the house *now*; a similar junction behind the smoke alarm down
the hall got toasty enough to set off the alarm. I found two others that were
well on their way, and decided to replace *all* connections with wire nuts.

Besides our sleeping better, the lights don't dim as much when someone plugs in
the hair dryer.

Greg KO6TH

2488. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun16.135719.27303@ke4zv.atl.ga.us>
Source record: 112395
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

In article <3rnh4t$gm6@news1.ucsd.edu> brian@nothing.ucsd.edu (Brian Kantor) writes:
>Current practice (i.e., what I've seen recently) on mountaintop radio
>sites around here seems to be to have replaced the feedthrough ground
>plate with a simple grounding bar to which all of the incoming coaxes
>are bonded before they enter the building.
>
>I can see that this is simpler and much less prone to water entrance
>problems, and it seems to me this might be adequate.
>
>Is this the new practice or did someone just get real lazy?
> - Brian

The latter.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2489. FM demodutator - any good chips?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jun16.113902.59449@ucl.ac.uk>
Source record: 112396

I'm looking to build an FM demodulator. Anyone aware of a decent chip to do the job?
I am *not* looking for the complete receiver (some chips have mixers, IF amps etc).
One book (8 yrs old) suggests the CA 3089, but I cant easily find this, and expect
there is something better available now. I want it for a communications receiver.
Any outputs (S-meter, tuning meter, AGC etc) other than the audio would be nice.

I was contemplating building from scratch, since I guess most are made for the
Hi-Fi market, where low distorsion, rather than sensitivity is necessary.

IF is 10.7MHz.

davek G8WRB.

2490. Finals and Drivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: spackard@moran.Mines.Colorado.EDU
Message-ID: <3rsl5a$m37@moran.Mines.Colorado.EDU>
Source record: 112397

Hey Guys,
I'm testing out a theory about my 2510, but I need to find some parts first. The 2510 has a 50 watt MRF477 final with a 20 watt 2SC2166 driver, both have a casing style TO-220. I'm looking for a 100 watt final and 50 watt driver to replace them. They need to be the same casing style and be interchangable with the final and driver afore mentioned. If any of you know where I could order these parts, such as RF parts, or the part numbers, please E-mail me at spackard@slate.mines.colorado.edu. Thanks!

Steven M Packard
314 "The Dynamite Kid"
Saline Michigan

2491. need Curtis mode A/B sourcecode, C or assembler

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-1606951222110001@burdick.interval.com>
Source record: 112398

I want to compare my PIC keyer code with other existing, working code if any is available. C or any assembler will do, even if the I/O scheme is idiosyncratic.

Thanks,
Wayne
N6KR

2492. Design Advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: john.dolan@wdn.com
Message-ID: <8AB63A9.08BD00051F.uuout@wdn.com>
Source record: 112399

The Heathkit HF Transceiver SB102 with the SB650 (digital frequency display) operated (as I understand it) by varying a LMO from 5.0 to 5.5 and mixing that with a hetrodyne oscillator with various xtals for various bands. The SB650 display (as I understand it) read those two frequencies and one other frequency (a carrier oscillator, I think) and then calculated the transmitting or receiving frequency.

I have a SB102 and would like to build a digital frequency display, for transmitting and receiving. I am soliciting advice on the approach. Any suggestions or comments welcome. I have not ruled out a simple outboard frequency meter (but never having experimented in this area, I don't know the pros and cons of just sampling the input freq to the driver on transmit and the and the...hmmm not sure here what to sample in the receive mode. Thanks in advance. K3FIG...

---
* RM 1.3 01435 * Experience is what you get after you need it!

2493. Sources for Cheap Double Sided PC board?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1995Jun16.201319.6362@schbbs.mot.com>
Source record: 112400

Anyone know of cheap sources of double sided or single sided PC board? I use this as both my chassis and to build my circuits on.

I use the "ugly" method of construction where components to ground are used to support all other junctions in mid air. The unmodified PC board copper surface then serves as a solid sheet of ground plane. This method is very easy to work with, no etching required. ICs are mounted upside down, pins up.

Brand new G10 type PC board is fairly expensive. A 14" by 24" double sided sheet can cost about $30. If not full size sheets, I would think that there would at least be sources that have scrap pieces that could be much more reasonable in price.

Thanks!

- Dan Tayloe, WB0NVB, Phoenix, Az.

2494. RF design layout

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: bon@paradox.win.net
Message-ID: <311@paradox.win.net>
Source record: 112401

I would like to get a deeper knowledge about the layout design for
VHF and UHF circuits. Any reference (books, articles, files...) is
more than welcome.
73 de JB

--
bon@paradox.win.net (Joaquin Bonilla, Forest, MS, USA)

2495. Linear amps and purity of sine wave?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDAADDE.5qw@netcom.com>
Source record: 112402

I'm wondering how well the cleanness of a sine wave carrier
(before low pass filtering) correlates with adequate SSB linearity.

I ask because I've been fiddling with a PA based on DeMaw's "10 watt
Linear" in "W1FB's Design Notebook". It's a pair of MRF475's in
push-pull, and bears lots of resemblance to the stages used in Motorola's
bulletin AN779. Have been using NTE236's as a locally-available substitute.

Now most of my low-level (Class A) stages give a close resemblance to a
sine wave up to their rated power, and clip cleanly at their limits. But
the above mentioned PA, with the original bias circuit, gives only about 4
watts with reasonable cleanness; above that, it looks god-awful, but a
peak still shoots up to about 9 watts (probably limited by my 1 watt
driver). Of course, this looks fine after filtering, but would this have
a snowball's chance in hell of measuring decently in a 2-tone test? (Which
I am not yet equipped to do, otherwise I would have done it :-)).

Adding an adjustable bias circuit (string of diodes to provide about 1.8
volts, feeding a pot which feeds a pass transistor) makes it possible to
get a clean sine wave up to about 6 watts, but of course at the price of
Class A operation! (About 2 amps idling current gives me no noticeable
change in waveform till 5 watts) Beyond this limit, the clipping is much
more smooth as peaks continue up to the 9 watt limit -- a sharply angled
flat topping making for a fairly "pointy" waveform, but muuuuuuch better.

My hunch says to use this amp in Class A for a nice driver for my CCI
140-watt amplifier (based on Motorola AN762), but it made me wonder if
class AB amps really look that bad on a sine wave before filtering! The
only other amp I had to compare was my Ten Tec Argosy -- with no filter,
the 5 watt driver (class AB) was real clean, and the 50 watt PA showed a
flattening with about a 45 degree tilt throughout the power range from 0
to 50.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di dah, di dah, di dah...
: Minneapolis / (sorry, Duke!)

2496. Re: Sources for Cheap Double Sided PC board?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-1606951603210001@squaw-d120.sierra.net>
Source record: 112403

In article <1995Jun16.201319.6362@schbbs.mot.com>, tayloe_d@sat.mot.com wrote:

> Anyone know of cheap sources of double sided or single
> sided PC board? I use this as both my chassis and to
> build my circuits on.

I do this myself all the time and then turn it upside down and use the
board as a cover sheet for a chassis box.

My common tactic is the dumpsters of PCB fab houses or there are sometimes
big boxes of bare etched boards in the surplus electronics houses. Often
the stuff is drilled and through plated but not etched...

Good luck

2497. Re: Lonely Lily - Still Alive!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: adair@scr.siemens.com
Message-ID: <DAAFJo.1I7@scr.siemens.com>
Source record: 112404

In article <DA4zFL.8nt@indep1.chi.il.us>,
Clifton T. Sharp <clifto@indep1.chi.il.us> wrote:
...
>She doesn't mean it. swong@pobox.com needs a few copies of the source code
>to KA9Q and she doesn't have an unzip program. Help her out. She'll have
>better things to do than slow spams.

Uhhh... I wouldn't mailbomb anyone at pobox.com over this either.
They are victims of a previous spam from this person.

In fact, I wouldn't mailbomb anyone over this or any other spam.
One polite note from everyone would accomplish at least as much.

--
Jonathan E. Adair Web Page: http://marathon.csee.usf.edu/adair/
adair@scr.siemens.com (primary address for now) PGP Key (617E4D49) Fingerprint
adair@bigpine.csee.usf.edu (almost permanent address) 12 54 48 F3 EA B4 E7 9C
ccastje@prism.gatech.edu (many moons ago) F9 85 CD F5 17 60 B3 76

2498. Re: Soldering Copper to Aluminum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun16.142842.27540@ke4zv.atl.ga.us>
Source record: 112405

In article <3rp9jg$qls@news.primenet.com> n7tcf@primenet.com writes:
>In <augxt01-240295174443@47.226.128.144>, augxt01@nt.com (Garry Taylor) writes:
>>In article <01HNE0K8564200AERY@uthscsa.edu>, MUENZLERK@uthscsa.EDU
>>(Muenzler, Kevin) wrote:
>>> wmfawns@netcom.com (William Fawns) WRITES:0
>>> >Can anyone tell me how to solder aluminum to copper? If you prefer, you
>>> >can e-mail your response to wmfawns@netcom.com.
>>> You can't solder copper to aluminum.
>> I have soldered copper to aluminum, so you can't say you can't do it.
>> A special type of flux is required to do the job.
>
> I am in the air conditioning trade where this comes up more often and it a real pain
> to deal with. There are low temp solders, the flux is acid-based, electrical connections
>shouldn't be made with acid-based flux, but thats not all...
> Aluminum needs to be extremely clean. Sandpaper is needed. The oxide layer is
>very tough. This oxide rapidly reforms and will ruin any soldering job. I have never
>tried a soldering iron as a heat source (for aluminum). A torch may be necessary to
>apply heat fast and evenly before the oxide reforms.
> All in all, I'd try mechanical connections with a antioxidizing compound between
>the two metals.

Here's a trick I've used for years to solder copper to aluminum.
The trick is to tin the aluminum first *under oil*. Transformer
oil or a high flashpoint mineral oil can be used. Coat the aluminum
part with oil, sand or scrape the oxide layer away, and tin the
surface with ordinary solder using a large iron *right through the
oil*. The oil keeps oxygen away from the aluminum so that oxides don't
reform and ruin the connection. Once you've tinned the aluminum, you
can clean off the oil and solder normally to copper. This works great
for bonding a copper wire to an aluminum chassis, or for joining aluminum
and copper wires. You'll need a *lot* of heat, I use a 300 watt
American Beauty Iron, and the oil will likely smoke like crazy,
so this is best done outdoors.

There are special aluminum "solders" available, but I find the
above technique produces a better electrical joint. You've got
to get that aluminum oxide layer completely off to make a good
electrical connection. I find you can't do that with a torch.
The aluminum re-oxidizes too quickly while you're heating it
because it's not shielded from oxygen. A TIG rig might work Ok.
You might be able to flood the area with argon while scraping
away the oxide, and the arc torch would then supply tinning
heat. Working under oil with an iron is probably more practical
for most home projects.

You can use a mechanical bond, but even with NoAloX, the joint
will become higher in resistance than a properly soldered
joint as the aluminum oxidizes.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2499. Re: CHECK YOUR RELAY PILE!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: "Tony Stalls (K4KYO)" <ras@us.net>
Message-ID: <Pine.BSI.3.91.950616103221.7503A-100000@laurel.us.net>
Source record: 112406

On 13 Jun 1995, Jeffrey L. Bauman wrote:

>
> Looking for the following relay:
>
> Potter & Brumfield R10-E1Y4-J10.0K
>
> This is 4PDt current-actuated relay with
> a 10,000 ohm coil. Also need socket.

Jeff,

I need a similar relay to add PTT to my Johnson Viking Ranger II and I have called P&B looking for it. (The original relay was a P&B LM-11 which was discontinued in 1984.) They said that the R-10 series will replace the LM-11 and suggested contacting Newark, their largest distributor.

Good luck & 73,

Tony
K4KYO

2500. Re: Sources for Cheap Double Sided PC board?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-16 00:00:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <199506161612360SYSMAS@MVS.OAC.UCLA.EDU>
Source record: 112407

>I use the "ugly" method of construction where components
>to ground are used to support all other junctions in mid
>air. The unmodified PC board copper surface then serves
>as a solid sheet of ground plane. This method is very easy
>to work with, no etching required. ICs are mounted upside
>down, pins up.

I like to be able to read the chip so I bend the pins out and
mount the chip right side up (except for ground pins)..

Sometimes I cut off the tail of the pins leaving just tabs
sticking out of the IC.

2501. Re: Sources for Cheap Double Sided PC board?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <803387313snz@lfheller.demon.co.uk>
Source record: 112321

In article <3ru5f9$pj6@proffa.cc.tut.fi>
k23690@proffa.cc.tut.fi "Kein{nen Paul" writes:

> Dan Tayloe (tayloe_d@sat.mot.com) wrote:
>
> > I use the "ugly" method of construction where components
> > to ground are used to support all other junctions in mid
> > air. The unmodified PC board copper surface then serves
> > as a solid sheet of ground plane. This method is very easy
> > to work with, no etching required. ICs are mounted upside
> > down, pins up.
>
> While on the subject of double sided PC boards, does anybody know
> if double sided stripboards are available in small quantities,
> ie 'Veroboards' with the component side covered with a solid
> (well, punctured) ground plane. These would be ideal for mounting
> DIL packages in RF circuits and possibly usable for mounting
> MAR-n MMICs, since the impedance of the strip (or maybe two
> strips soldered together) would not be very far from an ideal
> 50 ohm microstrip transmission line.
>
> In an article in QST within a last few years, there was a construction
> article with mentioned that a double sided stripboard was used to
> build the prototype. Unfortunately, I have not been able to find that
> article again.

I recall seeing something on this in RadCom a few years ago. Apparently
Vero *can* supply "unrouted" Veroboard - I think it is single-sided, though,
with no strips - but only for orders of #250 minimum. Some companies
apparently buy it like this for prototyping purposes. Mine doesn't,
unfortunately, although we do a lot of RF prototyping.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

2502. Re: High Efficiency MOSFET HF Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3rtjbs$5hm@tierra.santafe.edu>
Source record: 112322

I have used power MOSFETS (4 IRF840 in parallel) to drive the cathode of a 3CPX1500A7 to achieve 40 kW pulsed rf at 2 MHz up to 1% duty factor and up to 100 usec pulse width. You might want to contact your International Rectifier rep to get info on their new low charge series, with about half the capacitance/gate charge of comparable devices. I have experience with some sample IRFPC60LC (600V 0.4 ohm on resistance) devices. I'm not sure when these are going to be in production, but sample quantities are available. You might also contact George Krausse at Directed Energy in Fort Collins CO. His company puts power MOSFET dies in VHF (i.e. very low inductance) packages and uses them as high voltage rf switches with phenomenally short risetimes. They also have advertised rf applications at high frequencies. I seem to remember 1 kW, 30 MHz, but can't swear to it.

--
==========

James M. Potter, President Internet: jpawi@roadrunner.com
JP Accelerator Works, Inc. AOL: jpawi@aol.com
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

2503. Re: Soldering Copper to Aluminum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun17.211945.5310@ke4zv.atl.ga.us>
Source record: 112323

In article <3rujbh$1dcg@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>In article <1995Jun16.142842.27540@ke4zv.atl.ga.us>,
>Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>>Here's a trick I've used for years to solder copper to aluminum.
>>The trick is to tin the aluminum first *under oil*.
>
>>You'll need a *lot* of heat, I use a 300 watt
>>American Beauty Iron,
>
>Hi Gary,
>
>Fine on you description, but how well does your method work with
>the braid of coax cables, particularly with the low-loss types
>with foam dielectric?

It doesn't work well at all. The heat needed to tin the aluminum
will melt the foam. This will be true of any soldering method
of aluminum jacketed foam dielectric cables. Aluminum is just
too good a thermal conductor. This is even a problem with copper
jacketed foam dielectric cables, but copper wicks solder so well
that you can usually make it work without melting too much of
the dielectric.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2504. Re: FM demodutator - any good chips?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: stevekit@eznet.net
Message-ID: <3rtf56$sa3@roch3.eznet.net>
Source record: 112324

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:
>
>I'm looking to build an FM demodulator. Anyone aware of a decent chip to do the job?
>I am *not* looking for the complete receiver (some chips have mixers, IF amps etc).
>One book (8 yrs old) suggests the CA 3089, but I cant easily find this, and expect
>there is something better available now. I want it for a communications receiver.
>Any outputs (S-meter, tuning meter, AGC etc) other than the audio would be nice.
>
>I was contemplating building from scratch, since I guess most are made for the
>Hi-Fi market, where low distorsion, rather than sensitivity is necessary.
>
>IF is 10.7MHz.
>
>
>davek G8WRB.
>

The CA 3089 is still the easiest and cheapest FM chip I know. It always works,
and is easy to use.
You should be able to find this chip at any place like Digi-Key and other
parts supplier.

```
**********************************************************************
* __^_^ Steve Kittelsen ------ *
* / /\ \ Rochester, N.Y. \ / *
* | | | | ^ stevekit@eznet.net ^ \ / *
* \_\/_/ "Open Your mind" \/ *
**********************************************************************
```

2505. Re: FM demodutator - any good chips?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: stevekit@eznet.net
Message-ID: <3rtf92$sa3@roch3.eznet.net>
Source record: 112325

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:
>
>I'm looking to build an FM demodulator. Anyone aware of a decent chip to do the job?
>I am *not* looking for the complete receiver (some chips have mixers, IF amps etc).
>One book (8 yrs old) suggests the CA 3089, but I cant easily find this, and expect

It might also be called MC or LM 3089. Look for the 3089 number when looking for
the chip.

****
* __^_^ Steve Kittelsen ------ *
* / /\ \ Rochester, N.Y. \ / *
* | | | | ^ stevekit@eznet.net ^ \ / *
* _\/_/ "Open Your mind" \/ *
****

2506. Looking for GaAsFETs to buy

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: Stephen Schiller <schiller@adobe.com>
Message-ID: <1995Jun17.024051.3084@adobe.com>
Source record: 112326

Hi,

If anyone knows of, or is, a source for GaAsFETs
in small quntites (like 3 or 4) please let me know.
Preferably HP-made, but I will settle for anything at this point.
(These will be used to build some VCOs, one with a center
frequency around 2.5GHz and another with a center frequncy
around 3.5GHz. If you have some other parts for doing this,
I might be interested those.)

Thanks,
Steve

(schiller@adobe.com)

2507. ** News on Latest Real-Time DTMF Decoder **

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: shima@eel.ufl.edu
Message-ID: <3rtmbp$br3@huron.eel.ufl.edu>
Source record: 112327

Also included is my latest real-time DTMF decoder demo DTMF_RT2.ZIP. It uses a PC and a sound card to decode incoming DTMF tones in real time.

Any SB compatible sound card will work. Previously, DTMF_386.EXE was incorrectly compiled, and some users couldn't run it. Hopefully more persons will try it and find it suitable..

I also have custom versions of DTMF_486 for persons with custom needs, such as home-made answering machines, serial port transmission of detected tones, etc.. Please email me for any information.

Thanks.

J.M. Shima
shima@eel.ufl.edu

2508. Re: 440 HT limitations and homebrewing [was: * CLOSED REPEATER QUESTION]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: kd4awq@iglou.com
Message-ID: <DABrzB.3Kr@iglou.com>
Source record: 112328
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.homebrew

In article <TVR.95Jun15164837@cnmat.CNMAT.Berkeley.EDU>, tvr@cnmat.CNMAT.Berkeley.EDU (Tovar) says:
>Well, that's what the rep. at Icom said was why he couldn't provide a mod
>to transmit in the rest of the 440 band. Was i not given good information?
>He did tell me where others could provide a generalized out-of-band mod,
>but that's not what i wanted.

This rep probably didn't have good information. Icom does make land mobile gear which *does* have to be type-accepted as to its transmitter, so he may just assume this across the line.

2509. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: rapp@lmr.mv.com
Message-ID: <DABq8o.4MK@mv.mv.com>
Source record: 112408
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>In article <DA5y6I.64A@mv.mv.com> rapp@lmr.mv.com (L. M. Rappaport) writes:

>>Where my scheme breaks down at the moment is that the tower has two
>>individual ground rods and there is one on each of three guy wires.
>>I'd guess that could cause a loop, eh?

>Connect them in a star at the tower base, and then connect that
>point back to the star at the house. A star of stars is an acceptable
>topology.

The guys are steel and not insulated from the tower. In addition,
the tower base is also grounded. I can connect all those grounds as a
star which then connects to the star at the house, but doesn't the
tower + grounds constitute 3 loops in the tower star?

IE, if the tower is grounded, a guy wire is grounded, and connecting
each of those to another, common, star create a loop?

Thanks, Gary,

Larry

--
Larry Rappaport W1HJF
w1hjf@w1hjf.ampr.org
W1HJF@K1UAQ.NH

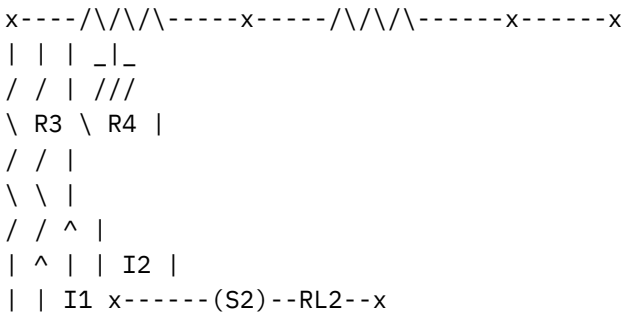
2510. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun17.205637.5088@ke4zv.atl.ga.us>
Source record: 112409
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

In article <DABq8o.4MK@mv.mv.com> rapp@lmr.mv.com (L. M. Rappaport) writes:
>gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>>In article <DA5y6I.64A@mv.mv.com> rapp@lmr.mv.com (L. M. Rappaport) writes:
>
>>>Where my scheme breaks down at the moment is that the tower has two
>>>individual ground rods and there is one on each of three guy wires.
>>>I'd guess that could cause a loop, eh?
>
>>Connect them in a star at the tower base, and then connect that
>>point back to the star at the house. A star of stars is an acceptable
>>topology.
>
>The guys are steel and not insulated from the tower. In addition,
>the tower base is also grounded. I can connect all those grounds as a
>star which then connects to the star at the house, but doesn't the
>tower + grounds constitute 3 loops in the tower star?
>
>IE, if the tower is grounded, a guy wire is grounded, and connecting
>each of those to another, common, star create a loop?

It's a circle, but it's not a ground loop. A bussbar represents a
ground loop, but it's not a circle. Confusing isn't it? The terminology
could stand improvement, as with the case of Earth and ground, they
aren't the same thing at all.

A ground loop occurs when two current meshes share a common
element. The current of one mesh modulates the potential
seen as "ground" by the other mesh, and hence indirectly
the current flowing in the second mesh. So the "loops" being
spoken of are current loops, not physical loops. And it
takes at least two current loops interacting in a certain
way across a shared impedance to create a ground loop. A
bussbar "ground" is a classic example of a ground loop.



```
| |
x-----(S1)----------RL1-----------x
```

Ok, R1 and R2 are the distributed impedance of the bussbar. R3 and S1 represent one piece of equipment, and R4 and S2 represent another piece of equipment. RL1 and RL2 are the working loads for S1 and S2 respectively. There are two current meshes. Current I2 flows through S2, R4, R2, and RL2. Current I1 flows through S1, R3, R1, R2 and RL1. R2 is the common impedance. Any change in I2 will be reflected as a different potential at the R1 side of R2, and will be seen as an elevation of "ground" potential by S1 which will alter the value of I1 flowing in that mesh. Any change in I1 will similarly show an elevated "ground" potential at S2. This is a ground loop. The potential of ground is seen as different values depending on the current flow in the *other* mesh. If lightning were to strike RL2, the value seen as ground at S1 would change dramatically, and likely cause damaging currents to flow through S1 and RL1, or between S1 and S2 if they share any interconnecting cabling.

If we eliminate the shared impedance by collapsing the buss to a star, the ground loop goes away.

The guy wires don't represent a ground loop because there aren't two current meshes.

```
x-------------(SL1)
/ | \ |
/ | \ |
/ | \ |
/ | \ |
/ | \ |
x-/\/-x-/\/--x--------x
|Rg1 | Rg2 |
|_____*______|
star
```

Where Rg1 and Rg2 are the impedances of the individual strips of Earth connecting the guy anchors with the tower base. These are shorted by the star connection and can be ignored. The current source is SL1 which represents a lightning bolt flowing current to Earth. The current will divide at the tower top, with some flowing down the tower, some flowing down one guy, and some flowing down another. The guys are in *parallel* with the tower between Earth and sky. There's only one current mesh, and no ground loop. The tower looks like the common element of our ground loop example above, but it isn't because all the currents are flowing in one mesh.

Now if the star were missing, and some piece of equipment's current mesh bridged a guy anchor and the tower base across Rg1 or Rg2, *then* you'd have a ground loop. Currents flowing

across Rg1 would induce a potential that would be seen in
the equipment current mesh, and alter the current flowing
through that mesh. By starring the grounds, we short circuit
that possibility.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2511. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun17.043214.479@ke4zv.atl.ga.us>
Source record: 112410
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

In article <DAAEFC.CA8@icon.rose.hp.com> greg@core.rose.hp.com (Greg Dolkas) writes:
>Imagine my surprise a few years ago when my wife mentioned, off hand,
>that one of our wall switches was warm... Turned out that the electrician
>didn't like to use wire nuts, and instead had used these little crimp rings
>to bond wires together. Over time, any circuit with significant current
>would corrode due to the relatively small contact area, which generated heat,
>corroding it more, etc. By that time the black tape used to insulate the
>joint was toast. Shortly after fixing that box, we got a reminder to check
>the rest of the house *now*; a similar junction behind the smoke alarm down
>the hall got toasty enough to set off the alarm. I found two others that were
>well on their way, and decided to replace *all* connections with wire nuts.

When using crimp ferrules, the wires are supposed to be twisted then
crimped. The crimp is only to assure the wires don't untwist. It's not
intended to be the only electrical connection. This is a secure wiring
method when done correctly. Normally, this method is only required on
safety ground wiring, but it is acceptable practice for other wiring if
extra insulation is applied.

Wire nuts often suffer from insecure connections too, and can be a real
hazard if not properly used. Electricians use wire nuts because they
are quick, not because they are good. Ferrule crimps are required on
safety grounds because they are good, even though they are a pain to
apply properly.

You suffered from an incompetent electrician, not from a faulty wiring
practice.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2512. Re: Sources for Cheap Double Sided PC board?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <3ru5f9$pj6@proffa.cc.tut.fi>
Source record: 112411

Dan Tayloe (tayloe_d@sat.mot.com) wrote:

> I use the "ugly" method of construction where components
> to ground are used to support all other junctions in mid
> air. The unmodified PC board copper surface then serves
> as a solid sheet of ground plane. This method is very easy
> to work with, no etching required. ICs are mounted upside
> down, pins up.

While on the subject of double sided PC boards, does anybody know
if double sided stripboards are available in small quantities,
ie 'Veroboards' with the component side covered with a solid
(well, punctured) ground plane. These would be ideal for mounting
DIL packages in RF circuits and possibly usable for mounting
MAR-n MMICs, since the impedance of the strip (or maybe two
strips soldered together) would not be very far from an ideal
50 ohm microstrip transmission line.

In an article in QST within a last few years, there was a construction
article with mentioned that a double sided stripboard was used to
build the prototype. Unfortunately, I have not been able to find that
article again.

Paul OH3LWR

--
Phone : +358-31-213 3657 Mail: Hameenpuisto 42 A 26
Internet: Paul.Keinanen@cc.tut.fi FIN-33200 TAMPERE
Telex : 58-100 1825 (ATTN: Keinanen Paul) FINLAND
X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

2513. Re: Sources for Cheap Double Sided PC board?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <803379937snz@lfheller.demon.co.uk>
Source record: 112412

In article <1995Jun16.201319.6362@schbbs.mot.com>
tayloe_d@sat.mot.com "Dan Tayloe " writes:

> Anyone know of cheap sources of double sided or single
> sided PC board? I use this as both my chassis and to
> build my circuits on.

I pick this sort of thing up at radio rallies (I think you call them
"ham fests"). 8-)

73, Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

2514. Re: Linear amps and purity of sine wave?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3ruec7$30s@newsbf02.news.aol.com>
Source record: 112413

Hi John,

There was a thread about bias on amplifiers here a while ago, it would answer some of your questions I'm sure.

>Now most of my low-level (Class A) stages give a close resemblance to a
>sine wave up to their rated power, and clip cleanly at their limits. But
>the above mentioned PA, with the original bias circuit, gives only about
4
>watts with reasonable cleanness; above that, it looks god-awful, but a
>peak still shoots up to about 9 watts (probably limited by my 1 watt
>driver). Of course, this looks fine after filtering, but would this have
>a snowball's chance in hell of measuring decently in a 2-tone test?
(Which
>I am not yet equipped to do, otherwise I would have done it :-)).

Probably it won't look too good on a two tone.

>Adding an adjustable bias circuit (string of diodes to provide about 1.8
>volts, feeding a pot which feeds a pass transistor) makes it possible to
>get a clean sine wave up to about 6 watts, but of course at the price of
>Class A operation! (About 2 amps idling current gives me no noticeable
>change in waveform till 5 watts) Beyond this limit, the clipping is much
>more smooth as peaks continue up to the 9 watt limit -- a sharply angled
>flat topping making for a fairly "pointy" waveform, but muuuuuuch better.

You should do ok in class AB or very close to B *if* the bias source is stiff enough. I've rarely been sucessful with a simple diode and pot circuit for more than one or two watts. The stiffer the bias source and the closer it tracks the device temperature changes, the less you need to waste power in standing current.

Be sure the devices you are using are linear devices also.

>My hunch says to use this amp in Class A for a nice driver for my CCI
>140-watt amplifier (based on Motorola AN762), but it made me wonder if
>class AB amps really look that bad on a sine wave before filtering! The
>only other amp I had to compare was my Ten Tec Argosy -- with no filter,
>the 5 watt driver (class AB) was real clean, and the 50 watt PA showed a
>flattening with about a 45 degree tilt throughout the power range from 0
>to 50.

>: John

73 Tom

2515. Re: RF design layout

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3ruefl$315@newsbf02.news.aol.com>
Source record: 112414

Hi Pato,
Que pasa los perro nagas?
Tom

2516. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3ruigh$23kk@info4.rus.uni-stuttgart.de>
Source record: 112415

> It does, doesn't it. Believe me, the people who originated it take
>it very seriously indeed and spent a lot of time and money on patenting
>it. Whether it works effectively is a separate question.

True. Remember you can patent *almost everything* if you reckon
someone is going to bye it. Exceptions are plain perpetuum mobiles.

> The idea of simultaneously generating E and H fields is perfectly
>valid.

No antenna will radiate unless it generates (alternating) E and H
fields simultaneously.

>An antenna
>that really did create both would simply have no "near field" region
>with unbalanced E and H components.

This is where they are wrong. *Any* very small antenna, loop or whip
will suffer from it's low radiation resistance. The same applies to
the coiled mobile 5/8 antennas for CB.

>There is nothing that makes this *implicitly*
>inefficient, or troublesome.

Yes there is for all very small antennas: The need to transform
the feed point impedance to 50 Ohms is a potential source of losses,
and with the low radiation resistance of a few Ohms it would need
a perfect conducting ground plane to work efficiently.

> While this openness means that readers have to be selective, it
>provides a channel for occasional odd ideas and unusual approaches that
>can stimulate new ideas

Spreding new ideas is a good thing, but providing free advertisement
for those who try to get other's money by selling them junk, is mildly
said *naive*.

73, Moritz DL5UH (ex GM4ZNQ)

2517. Re: FM demodutator - any good chips?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3ruiue$san@info4.rus.uni-stuttgart.de>
Source record: 112416

There have been the designs with the CA3089 in NBFM applications,
some of which worked, some not so well. Their main problem
is the low output and hence the poor signal to noise.
You can improve it somehow by playing with (increasing) the
feed choke to the discriminator, but do not expect miracles.

There are good reasons why newer designs use a 2nd IF at 455KHz.

73, Moritz DL5UH

2518. Re: Soldering Copper to Aluminum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3rujbh$1dcg@info4.rus.uni-stuttgart.de>
Source record: 112417

In article <1995Jun16.142842.27540@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>Here's a trick I've used for years to solder copper to aluminum.
>The trick is to tin the aluminum first *under oil*.

>You'll need a *lot* of heat, I use a 300 watt
>American Beauty Iron,

Hi Gary,

Fine on you description, but how well does your method work with
the braid of coax cables, particularly with the low-loss types
with foam dielectric?

73, Moritz DL5UH

2519. Building a CW receiver question...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: ss6349@ux1.cso.uiuc.edu
Message-ID: <3rulr2$5g9@vixen.cso.uiuc.edu>
Source record: 112418

Please excuse me if this is a stupid question but I'm new to this and I haven't been able to locate a FAQ for this group. I don't have a license, I'd like to learn code, and I've heard that the ARRL transmits code practice (I don't know the frequency). Does anyone know of any references to schematic diagrams that I can use to build a receiver to pick this up? Yes, I'm sure I could go out and buy a receiver but I really would like to build one (I enjoy building things, maybe some of you can understand that :). I do have some electronics experience so it only has to be a schematic but I'd like something quick & easy. Thanks.
- Steve.

--
Steven H. Schimmrich schimmri@hercules.geology.uiuc.edu

Department of Geology, University of Illinois at Urbana-Champaign
245 Natural History Building, Urbana, IL 61801 (217) 244-1246

http://hercules.geology.uiuc.edu/~schimmri/

2520. RE:building a CW receiver question...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: ferraro@ix.netcom.com
Message-ID: <3runp2$nat@ixnews4.ix.netcom.com>
Source record: 112419

Steve: I would suggest you purchase the 1995 Radio Amateurs Handbook or any previous edition of same. Besides haveing some simple receiver projects, the Handbook contains much technical and amateur radio information.

Also, take a trip down to your local library and see if they receive "QST" magazine which is put out by the Amateur Radio Relay League and contains many receiver projects.

73's,

Mike K6ZSR

2521. Re: Synthesizer Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-17 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <3ruqpo$ces@stealth.mindspring.com>
Source record: 112420

In article <3rkuj2$l6g@newsbf02.news.aol.com>, jschmoe21@aol.com says...
>
>What motorola data book did you find this stuff in? I have the motorola
RF
>device databook, and I can't find any of those frequency synthesizer
>chips, one chip receivers, etc... Am I looking in the wrong book?

They are in the Motorola Communications Device Databook. If anyone needs
the program to talk to the MC145170 I have a program that I wrote in
qbasic that uses pin1,2,3 of the parallel port. The program can be easily
modified to talk to the MC145190 and MC145191.

73's
Pieter Ibelings
AC4OP
wave@mindspring.com

2522. 4$ale Tek 1.8 GHz SpectrAnalyz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: bmork@comtch.iea.com
Message-ID: <3rvqcf$q7j@krel.iea.com>
Source record: 112329
Cross-posted to: sci.electronics.repair,rec.radio.amateur.homebrew,rec.radio.swap

A rare golden bird - super condition!

Tektronix spectrum analyzer, composed of the following components:

- 7613 frame, selectable *storage scope* or normal trace
- 7A17 fixed gain amplifier plug-in
- 7L12 1.8 GHz spectrum analyzer dual-wide plug-in

- a spare 7603 frame, but display tube is non-functional

It's all solid state, in a standard Tek mainframe from circa 1980's.
The left of three slide-ins is taken by a no-frills, fixed gain vertical
amp. This is available as the left channel on the mainframe. The center
and right slot are the spectrum analyzer, and show as the right channel
on the display.

On screen dynamic range: top of the screen grid is marked REF and
the bottom division is marked -80 dB.

Sensitivity: picks up all the local TV and radio stations using a
paperclip on the input connector. The sensitivity dial spins around
to a minimum reference level of -100 dBm.

Tracking generator? No. It does, however, have 1st and 2nd LO outputs.
You'd need to externally mix it to generate a local version of the input
frequency.

Tucker sells just the 7L12 plug-in for $3995, but street prices seem to
check out at 1/2 to 1/3 of Tucker's --about $1300 for the 7L12 alone in
recent issues of Nuts & Volts. I offer the entire package for $1790,
including the second mainframe for spare repair parts.

Call me at 509-244-3764 (West Coast time) or email:
ARO ka9snf@ka7fvv.#ewa.wa.us.na, or Internet bmork@iea.com /Brian

--
Brian J. Mork, InCrea (TM) - Pacific Northwest, Voice 509-244-3764
bmork@comtch.iea.com / ARO ka9snf@ka7fvv.#ewa.wa.usa
USMail 6006-B Eaker, Fairchild, WA 99011

2523. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: rapp@lmr.mv.com
Message-ID: <DADIID.3AF@mv.mv.com>
Source record: 112330
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

...edited

>It's a circle, but it's not a ground loop.

>A ground loop occurs when two current meshes share a common
>element.

>If we eliminate the shared impedance by collapsing the buss to
>a star, the ground loop goes away.

>The guy wires don't represent a ground loop because there aren't
>two current meshes.

```
> x-------------(SL1)
> / | \ |
> / | \ |
> / | \ |
> / | \ |
> / | \ |
> x-/\/-x-/\/--x--------x
> |Rg1 | Rg2 |
> |_____*______|
> star
```

>Where Rg1 and Rg2 are the impedances of the individual strips
>of Earth connecting the guy anchors with the tower base. These
>are shorted by the star connection and can be ignored. The
>current source is SL1 which represents a lightning bolt flowing
>current to Earth. The current will divide at the tower top, with
>some flowing down the tower, some flowing down one guy, and some
>flowing down another. The guys are in *parallel* with the tower
>between Earth and sky. There's only one current mesh, and no
>ground loop. The tower looks like the common element of our
>ground loop example above, but it isn't because all the currents
>are flowing in one mesh.

>Now if the star were missing, and some piece of equipment's
>current mesh bridged a guy anchor and the tower base across
>Rg1 or Rg2, *then* you'd have a ground loop. Currents flowing
>across Rg1 would induce a potential that would be seen in
>the equipment current mesh, and alter the current flowing
>through that mesh. By starring the grounds, we short circuit
>that possibility.

Ok, now I understand. It's the common point obtained by tying the bottom of the guys and tower together in a star which changes the configuration from a loop to a "mesh". In turn by tying the mesh into a the star at the house entrance panel eliminates the loop which might be formed between the two stars were they not connected.

Thanks for the help, Gary.

73, Larry
--
Larry Rappaport W1HJF
w1hjf@w1hjf.ampr.org
W1HJF@K1UAQ.NH

2524. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun18.174038.10547@ke4zv.atl.ga.us>
Source record: 112331
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

In article <DADIID.3AF@mv.mv.com> rapp@lmr.mv.com (L. M. Rappaport) writes:
>gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>
>...edited
>
>>It's a circle, but it's not a ground loop.
>
>>A ground loop occurs when two current meshes share a common
>>element.
>
>>If we eliminate the shared impedance by collapsing the buss to
>>a star, the ground loop goes away.
>
>>The guy wires don't represent a ground loop because there aren't
>>two current meshes.
>
>> x-------------(SL1)
>> / | \ |
>> / | \ |
>> / | \ |
>> / | \ |
>> / | \ |
>> x-/\/-x-/\/--x--------x
>> |Rg1 | Rg2 |
>> |_____*______|
>> star
>
>>Where Rg1 and Rg2 are the impedances of the individual strips
>>of Earth connecting the guy anchors with the tower base. These
>>are shorted by the star connection and can be ignored. The
>>current source is SL1 which represents a lightning bolt flowing
>>current to Earth. The current will divide at the tower top, with
>>some flowing down the tower, some flowing down one guy, and some
>>flowing down another. The guys are in *parallel* with the tower
>>between Earth and sky. There's only one current mesh, and no
>>ground loop. The tower looks like the common element of our
>>ground loop example above, but it isn't because all the currents
>>are flowing in one mesh.
>
>>Now if the star were missing, and some piece of equipment's
>>current mesh bridged a guy anchor and the tower base across
>>Rg1 or Rg2, *then* you'd have a ground loop. Currents flowing
>>across Rg1 would induce a potential that would be seen in

>>the equipment current mesh, and alter the current flowing
>>through that mesh. By starring the grounds, we short circuit
>>that possibility.
>
>Ok, now I understand. It's the common point obtained by tying the
>bottom of the guys and tower together in a star which changes the
>configuration from a loop to a "mesh".

No. It's not a ground loop because there's only *one* current mesh.
To have a ground loop requires two (or more) current meshes that share
a common impedance. We'd have a ground loop if there were a *second*
mesh, that included some equipment we are trying to protect, that
shared a common impedance with the first current mesh. The common
impedance of the two meshes in this case would be either Rg1 or Rg2
depending on the topology. By connecting the guy grounds in star back
at the tower base, we drastically lower the value of the common impedance
and reduce any ground loop effects. If the star connections are low
enough in impedance, we can say we have effectively short circuited
the ground loop. The ground loop would still be *there*, it just
wouldn't have much of an effect because the common impedance would
be so small.

"Mesh" is just a way of saying "circuit" in analytic terms for
certain current paths. There's nothing more to it than that.
When we analyze a complex circuit, we break it into simpler
closed current paths and call each of those a mesh. We can
then analyze each mesh, noting any common elements with other
meshes, and then combine them all back together, using those
common elements as the interaction points, to get a complete
picture of overall circuit behavior.

A mesh with no shared common impedances with another mesh is
a closed circle, but it's not a ground loop. Earth is a giant
sheet resistance, however, and when we make a connection to
Earth anywhere, there will be a common impedance with every
other connection to Earth anywhere else. Mostly those common
impedances will be fairly high, and we can short them out by
doing a low impedance star connection between the points.

>In turn by tying the mesh into
>a the star at the house entrance panel eliminates the loop which might
>be formed between the two stars were they not connected.

Yeah. A star connection shorts out the common impedance needed to
have a ground loop. Note that we don't much care about absolute
potentials in any of this. We simply *define* one of our star
points as reference ground. All we really care about is potential
values *relative* to that reference point. If we arrange our
wiring topology right, we can keep those relative potentials to
a minimum.

In point of fact, *all* potentials are relative. We just aren't very used to thinking of them that way. We tend to take "ground" as zero volts, but of course it is only if we define it to be. And if it has any impedance at all, we can only define it to be zero at *one* point. That's our single point in our grounding system.

Let me take a moment to explain where the term "ground" came from. When we say "ground", we really mean *ground potential*. All potentials are referenced to this ground potential. This idea is modeled on the idea of a weight suspended above "the ground". The higher the weight is above ground, the more gravitational potential energy it has. The closer it is to ground, the less gravitational potential energy it has. When it is sitting on the ground, we say it has zero gravitational potential energy. We could have the weight suspended above a table, and the table would become "ground". Ground is the potential reference, the defined zero state. This concept was well known when electrical physics started, and the term "ground" just carried over. We shouldn't confuse it with Earth. Earth is a non-homogeneous sheet resistance. No two points on Earth have the same potential when currents are flowing between them. Earth is not ground, though we can pick a single point on Earth and *define* it as ground for some particular circuit. But we can also pick some point not on Earth and define it as ground instead, and we usually do because we can arrange for that point to be tied to other points via simple low impedance paths that can be easily analyzed and controlled.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2525. eprom programmer info reqst.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: jgenerau@fileshop.com
Message-ID: <1995Jun18.161008.95603@kuhub.cc.ukans.edu>
Source record: 112332

Need info on Logical Devices, Inc.
Shooter EE/EPROM programmer. Prompro series.
Particularly software, pinout for serial connector, and dip switch
settings. Copy of Manual would be ideal. All assistance appreciated.
Jack

2526. Re: Synthesiser Controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <803462451snz@lfheller.demon.co.uk>
Source record: 112333

In article <7887-198054901@humnet.westonia.com>
hduff@humnet.westonia.com writes:

> > Has anybody out there got a microcontroler for the Mototola
> > frequency systhesiser chips that use a serial interface???
> > I am experimenting with the Basic Stamp and would like to use
> > a PIC chip......Let's exchange ideas...I would like to use
> > these systhesiers in some QRP tranceiver designs I have...
> >
> > I am good with RF and not so hot with digital design...

For playing about with the Motorola chips I have used three lines from my
PC parallel port, with a simple program written in C.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

2527. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3s128i$k9m@newsbf02.news.aol.com>
Source record: 112334

Mortz wrote:

>True. Remember you can patent *almost everything* if you reckon
>someone is going to bye it. Exceptions are plain perpetuum mobiles.

>No antenna will radiate unless it generates (alternating) E and H
>fields simultaneously.

>>An antenna
>>that really did create both would simply have no "near field" region
>>with unbalanced E and H components.

>This is where they are wrong. *Any* very small antenna, loop or whip
>will suffer from it's low radiation resistance. The same applies to
>the coiled mobile 5/8 antennas for CB.

And let me add that modifying the radiator so the E and H fields are equal will not eliminate near field effects. Near field is the area where the antenna does not look like a point of radiation, instead it looks like the field comes from many points in space. If the cross field antenna *works* on the principle that equal E/H fields alone eliminate near fields effects they are full of ....stuff.

>>There is nothing that makes this *implicitly*
>>inefficient, or troublesome.

>Yes there is for all very small antennas: The need to transform
>the feed point impedance to 50 Ohms is a potential source of losses,
>and with the low radiation resistance of a few Ohms it would need
>a perfect conducting ground plane to work efficiently.

>Spreding new ideas is a good thing, but providing free advertisement
>for those who try to get other's money by selling them junk, is mildly
>said *naive*.

>73, Moritz DL5UH (ex GM4ZNQ)

Mortz certainly appears correct in all his opinions and facts.

But someone please answer my question. What is this alleged "cross field antenna" and what is the theory? It sounds suspiciously like these "E field displacement radiators" or "Magnetic radiators" that allegidly eliminate losses.

73 Tom

2528. Re: Building a CW receiver question...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: dnewkirk@nai.net
Message-ID: <3s12rg$bme@a3bsrv.nai.net>
Source record: 112335

ss6349@ux1.cso.uiuc.edu (Steven H. Schimmrich) wrote:

[deletion]

>I don't have a license,
>I'd like to learn code, and I've heard that the ARRL transmits code practice
>(I don't know the frequency). Does anyone know of any references to schematic
>diagrams that I can use to build a receiver to pick this up?

W1AW's transmits code practice at 1.818, 3.5815, 7.0475, 14.0475,
18.0975, 21.0675, 28.0675 and 147.555 MHz.

Yes; ARRL published the circuit of a little (two-IC) receiver intended
precisely for that purpose. See Lee Richey, WA3FIY, "W1AW at the Flick
of a Switch," *QST*, Feb 1993, p 56 and 57. Call the ARRL Technical
Department Secretary (203-666-1541) for info on how to get a
photocopy; I think it'll cost you $3.

Regards,

David Newkirk (WJ1Z)
email: dnewkirk@nai.net

2529. WANTED: FM STEREO TRANSMITTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: Scott Kramer <ringo@primenet.com>
Message-ID: <3s1p2h$1oe@nnrp1.primenet.com>
Source record: 112336

I would like to purchase a stable (non-fading) FM Stereo transmitter.
I can be reached at my e-mail address: ringo@primenet.com.

Thanks, Scott

2530. Re: Soldering Copper to Aluminum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun18.164056.10163@ke4zv.atl.ga.us>
Source record: 112337

In article <3s0h53$p82@news1.mnsinc.com> allent@mnsinc.com (David Allen) writes:
>gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>>Here's a trick I've used for years to solder copper to aluminum.
>>The trick is to tin the aluminum first *under oil*. Transformer
>>oil or a high flashpoint mineral oil can be used. Coat the aluminum
>>part with oil, sand or scrape the oxide layer away, and tin the
>>surface with ordinary solder using a large iron *right through the
>>oil*. The oil keeps oxygen away from the aluminum so that oxides don't
>>reform and ruin the connection. Once you've tinned the aluminum, you
>>can clean off the oil and solder normally to copper. This works great
>>for bonding a copper wire to an aluminum chassis, or for joining aluminum
>>and copper wires. You'll need a *lot* of heat, I use a 300 watt
>>American Beauty Iron, and the oil will likely smoke like crazy,
>>so this is best done outdoors.
>
>>There are special aluminum "solders" available, but I find the
>>above technique produces a better electrical joint. You've got
>>to get that aluminum oxide layer completely off to make a good
>>electrical connection. I find you can't do that with a torch.
>>The aluminum re-oxidizes too quickly while you're heating it
>>because it's not shielded from oxygen. A TIG rig might work Ok.
>>You might be able to flood the area with argon while scraping
>>away the oxide, and the arc torch would then supply tinning
>>heat. Working under oil with an iron is probably more practical
>>for most home projects.

>I've soldered these two metals many times. The trick in keeping the
>al from oxidizing. Rather than the messy oil bath to keep oxygen out,
>I use a torch and a still, preferably stainless steel fine-bristle
>brush. After bringing the area up to temp, CONTINUOUSLY brush
>vigorously while maintaining heat and slowly adding solder. The
>constant brushing action removes/precludes oxygen. Once tinned, the
>reast is simple.

Every worker develops his own tricks, of course. There is a problem
with yours for electrical joints. You have embedded aluminum oxide
in the joint. The brushing breaks it free of the surface, but doesn't
remove it from the joint area, and it becomes trapped in the solder.
This usually isn't serious for a mechanical joint, but it does raise
the resistance of an electrical joint. The oil in my method suspends
the aluminum oxide particles and keeps them from becoming part of
the joint.

If your torch is set for a reducing flame, it will tend to shield
the area from oxygen, but if you move the torch back and forth to

avoid hotspot burnthrough, the surface will become exposed to the atmosphere again, and can reoxidize before a layer of solder can shield it. It only takes a fraction of a second for the oxide to reform. A steady really soft reducing flame can minimize this because you don't have to move it around, but such flames are harder to control in tight quarters, and the slower heating allows high volumes of heat to conduct to distant parts of the piece. This can be a problem if heat sensitive components are nearby.

My method does have a disadvantage for HVAC work though. You *really* have to get all the oil off before joining the piece to copper or you'll have pinhole leaks at points where remaining oil droplets vaporize. A good strong solvent will handle that, but in these "environment friendly" days, a good strong solvent is getting harder to find.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2531. Re: Soldering Copper to Aluminum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: allent@mnsinc.com
Message-ID: <3s0h53$p82@news1.mnsinc.com>
Source record: 112338

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>In article <3rp9jg$qls@news.primenet.com> n7tcf@primenet.com writes:
>>In <augxt01-240295174443@47.226.128.144>, augxt01@nt.com (Garry Taylor) writes:
>>>In article <01HNE0K8564200AERY@uthscsa.edu>, MUENZLERK@uthscsa.EDU
>>>(Muenzler, Kevin) wrote:
>>>> wmfawns@netcom.com (William Fawns) WRITES:0
>>>> >Can anyone tell me how to solder aluminum to copper? If you prefer, you
>>>> >can e-mail your response to wmfawns@netcom.com.
>>>> You can't solder copper to aluminum.
>>> I have soldered copper to aluminum, so you can't say you can't do it.
>>> A special type of flux is required to do the job.
>>
>> I am in the air conditioning trade where this comes up more often and it a real pain
>> to deal with. There are low temp solders, the flux is acid-based, electrical connections
>>shouldn't be made with acid-based flux, but thats not all...
>> Aluminum needs to be extremely clean. Sandpaper is needed. The oxide layer is
>>very tough. This oxide rapidly reforms and will ruin any soldering job. I have never
>>tried a soldering iron as a heat source (for aluminum). A torch may be necessary to
>>apply heat fast and evenly before the oxide reforms.
>> All in all, I'd try mechanical connections with a antioxidizing compound between
>>the two metals.

>Here's a trick I've used for years to solder copper to aluminum.
>The trick is to tin the aluminum first *under oil*. Transformer
>oil or a high flashpoint mineral oil can be used. Coat the aluminum
>part with oil, sand or scrape the oxide layer away, and tin the
>surface with ordinary solder using a large iron *right through the
>oil*. The oil keeps oxygen away from the aluminum so that oxides don't
>reform and ruin the connection. Once you've tinned the aluminum, you
>can clean off the oil and solder normally to copper. This works great
>for bonding a copper wire to an aluminum chassis, or for joining aluminum
>and copper wires. You'll need a *lot* of heat, I use a 300 watt
>American Beauty Iron, and the oil will likely smoke like crazy,
>so this is best done outdoors.

>There are special aluminum "solders" available, but I find the
>above technique produces a better electrical joint. You've got
>to get that aluminum oxide layer completely off to make a good
>electrical connection. I find you can't do that with a torch.
>The aluminum re-oxidizes too quickly while you're heating it
>because it's not shielded from oxygen. A TIG rig might work Ok.
>You might be able to flood the area with argon while scraping
>away the oxide, and the arc torch would then supply tinning
>heat. Working under oil with an iron is probably more practical

>for most home projects.

>You can use a mechanical bond, but even with NoAloX, the joint
>will become higher in resistance than a properly soldered
>joint as the aluminum oxidizes.

>Gary
>--
>Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary

I've soldered these two metals many times. The trick in keeping the
al from oxidizing. Rather than the messy oil bath to keep oxygen out,
I use a torch and a still, preferably stainless steel fine-bristle
brush. After bringing the area up to temp, CONTINUOUSLY brush
vigorously while maintaining heat and slowly adding solder. The
constant brushing action removes/precludes oxygen. Once tinned, the
reast is simple.

2532. Re: High Efficiency MOSFET HF Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: ebarbour@netcom.com
Message-ID: <ebarbourDACyvz.79x@netcom.com>
Source record: 112339

I have messed around with 6C33s. Your proposal is
gonna exceed the plate dissipation of 100w per tube.
I would say, don't try to put more than 10 watts into the grid.
If you want a kW, try using 8 of them, each running 250mA
at 300v. Don't push them, they have grid-current problems
when you approach max dissipation, causing bias instability.

Eric Barbour
GLASS AUDIO

2533. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun18.164630.10246@ke4zv.atl.ga.us>
Source record: 112340

In article <3s128i$k9m@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>But someone please answer my question. What is this alleged "cross field
>antenna" and what is the theory? It sounds suspiciously like these "E
>field displacement radiators" or "Magnetic radiators" that allegidly
>eliminate losses.

That's because it is a pair of those things, crossed to form an E
and a H field at right angles to each other. Since those things don't
really work, it's not surprising that combining them doesn't work
either. (Well, they work, just not very efficiently.)

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2534. Advice wanted: Calculating SWR from fwd vs. reflected pwr readings

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: oops@msg.ti.com
Message-ID: <3s1sg0$21a@superb.csc.ti.com>
Source record: 112341
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Someone please give this poor boy (me) some advice.

I'm currently working on a homebrew J-pole antenna for 2m and 70cm use. Unfortunately, I do not own a SWR meter for the 70cm bands (none of my local amateur friends do either). However, one of my friends has a forward/reflected power meter with a 2m & 70cm slug in it.

I realize that I have to position the coax feedpoints to the J-pole radials in order to tune the SWR's to an acceptable level. I have access to a MFJ-249 antenna analyzer but it will only work from 1.8 to 170 MHz. I plan on using this instrument to tune the 2m portion of the J-pole.

I'm presuming that SWR's can be calculated from forward vs. reflected power measurements. The problem is that I can't locate any references to this subject in any of the local libraries. If it is possible to derive SWR's from this type of measurement, would someone be kind enough to provide me with a suitable formula?

Thanks in advance and 73,
Mitchell
KC5MKW

oops@msg.ti.com

Std. disclaimer: I speak only for myself.

2535. @@Radio Shack@@

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: ad161@detroit.freenet.org
Message-ID: <3s1tss$bit@detroit.freenet.org>
Source record: 112342

DOes radio shack sell good fm transmitters like 5-watt ones or do they
even sell low-power tranmitters or kits? Anyreplys would be VERY accepted..

Please reply to ad161@detroit.freenet.org

--
VDDRDD? DDRDD VDDRDD? "Ask not what I can do for you, but
: : : : : what you can do for me!"
: : : : :
: DDRDD : : :

2536. NEEDED: Class C 1-10w AMP schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: ao974@FreeNet.Carleton.CA
Message-ID: <DADztG.F07@freenet.carleton.ca>
Source record: 112343

I am looking for a good 1-10 watt Class C transistor amp circuit for my
college Telecommunications course. The teacher is not a ham, nor is he
very experienced at building amplifiers (He admitted to me that he has
never built one.) Rather than get stalled de-bugging a troublesome circuit,
I am hoping that one of you clever people out there can give me some
advice on a proven design and help me avoid a potential disaster.
Thanks for reading my posting, and have a good day, eh?
73 de va3ae
--
He's got a coast to coast fever and a highway on his mind.
(Borrowed from David Wiffen)

73 de va3ae

2537. Minisport Hacker #27

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: bmork@comtch.iea.com
Message-ID: <3s2dlo$9tc@krel.iea.com>
Source record: 112344
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

MiniSport Laptop Hacker (TM) - Vol #27. June 1995
To discourage pecuniary interests, Copyright (c) 1995 Brian Mork

>>> ADMIN
A compendium of all issues are available from ftp.cs.buffalo.edu as \pub\ham-radio\mlhackXX.zip, or on SimTel archives (eg. oak.oakland.edu) as \SimTel\msdos\packet\mlhackXX.zip. The XX in the filename indicates the last issue number, and replaces the previous convention of using mlhacker.zip for all compendiums.

Notice my email address has changed and the direct dial data line has been terminated. The administrative overhead of maintaining personalized "electronic superhighway" access has been too much. I'm hunkering down, and consolidating all my activity into one commercial account just like everybody else. I still only have regional access. If you have a recommendation about which national or international provider provides the most complete, powerful, and lucid text based access to Internet, I would love to hear it.

January through May have been quiet months - no MLH volumes were issued. Sorry about the delay to those of you who asked. No I haven't fallen off the face of the earth! February was vacation time for the family, driving across this great country one more time to visit friends and family. March and April were spent in Alabama at a military "middle management" school. May sort of dissolved into a lot of catch-up activity, and <poof!> I find it's already June. Time flies! August through December I expect to be busy at a military Space Tactics School. I'm not sure what network access I've have there. I'm sure I'll bring a small packet radio station, but I may not have Internet access.

>>> AUTOMATED PULLUP FROM THE BOOTSTRAPS
I don't buy lithium batteries anymore. When the NiCd batteries die, the entire RAM disk dies. I've developed some batch files that will rebuild the entire environment in under 3 minutes. I've used them for over a year, but now they incorporate the Stacker setup discussed in the previous issue. First, you need to make a removable disk with the following files:

```
CONFIG SYS 38 12-30-94 2:48a
AUTOEXEC BAT 128 12-30-94 2:20a
STACKER COM 47266 6-27-91 1:12a
SCREATE COM 2762 6-27-91 1:12a
SCREXEC EXE 38565 6-27-91 1:12a
SCREXEC2 EXE 27974 6-27-91 1:12a
SETUP1 BAT 257 12-30-94 3:18a
```

```
SETUP2 BAT 15 12-30-94 3:05a
SETUP3 BAT 102 12-30-94 3:16a
SCHECK EXE 30646 6-27-91 1:12a
PKUNZIP EXE 23528 3-15-90 16:52p
UTIL ZIP 84904 12-30-94 12:34a
```

Just power up the brain dead minisport (only disk C:), stick in the removable disk with these files and enter the command "A:SETUP1". But what's in the customized files? Below I list the name, followed by the contents of each file that isn't a .COM or .EXE file:

```
CONFIG SYS 38 12-30-94 2:48a
device=d:\stacker.com d:\stacvol.000
```

```
AUTOEXEC BAT 128 12-30-94 2:20a
@echo off
echo BjM (InCrea) P autoexec.bat
path c:\;d:\;e:\util
prompt $p$g
verify on
e:
set lfbrowse=l
set lfedit=ed
```

```
SETUP1 BAT 257 12-30-94 3:18a
c:format d:
c:label d:
a:screate d:stacvol.000 /s=1.2 /m
copy a:config.sys d:\
copy a:stacker.com d:\
copy a:setup2.bat d:\autoexec.bat
copy a:fastwire.cfg d:\
copy a:scheck.exe d:\
echo Auto warm boot to recognize disk E: and continue setting up.
```

```
SETUP2 BAT 15 12-30-94 3:05a
a:\setup3.bat
```

```
SETUP3 BAT 102 12-30-94 3:16a
e:
mkdir util
cd e:\util
a:pkunzip a:util
cd \
c:label e:
copy a:autoexec.bat d:\
d:\autoexec
```

```
UTIL ZIP 84904 12-30-94 12:34a
This file has zipped up version of your favorite utilities you'd like
copied into a subdirectory on disk E:, with automatic reference via the
MS-DOS PATH command.
```

>>> BREAKING INTO BATTERY PACKS
A standard ZA-1-2 battery pack is 13.2cm wide, 2.7cm tall, and 5.5cm deep. Orient it in front of you so the black round charger connection is to the left. The metal contacts are on the bottom, also toward the left side of the pack. The manufacturer's label is on the top. If you pull loose the manufacturer's label, you can reach into the battery pack and touch the thermal cutout switch wired between two of the five series cells.

If you want to do anything else (like replace a cell), you'll have to be more aggressive! The top section of the case has an approximately 1mm lip that slides down inside the lower case, all around the edge. Use a thick blade knife that won't bend. Slip it into the seam around the periphery of the pack, push inward and lift the handle of the blade upward to crack the glue seal in several places. The goal is to pull the lower case away from the inner lip of the upper case. My case had only spots of glue - three across the front, three across the back, one on the right and one on the left.

All the cells are lined up on the right side of the pack, next to each other, with no space between. The left 1.5cm of the pack contains a circuit board containing the three contacts showing on the bottom, the board mount charging jack, and a tiny surface mount 0.1uf capacitor. I didn't look on the bottom of the board because I'd have to desolder all three slide tabs to do so.

The cells are the same size as a standard C-cell NiCd battery. They all have solder tabs. I've had good luck purchasing new batteries from E.F. Yost & Co, 2211D Parview Rd, Middleton, WI 53562, 608-831-3443. If you replace one battery, replace all five of them using the same brand and model of battery. I'm a battery consumer just like you are, and don't like buying what I don't need. I even keep all my 1sees and 2sees out in the garage. Nevertheless, every time I replace a single cell, I'm back into the pack a few months later repeating surgery. My opinion.

Please provide feedback! * Internet bmork@comtch.iea.com
* ARO Net KA9SNF@ka7fvv.#ewa.wa.usa
73, Brian * 6006-B Eaker, Fairchild, WA 99011 USA

--
Brian J. Mork, InCrea (TM) - Pacific Northwest, Voice 509-244-3764
bmork@comtch.iea.com / ARO ka9snf@ka7fvv.#ewa.wa.usa
USMail 6006-B Eaker, Fairchild, WA 99011

2538. Re: Design Advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: sefranek@iii1.iii.net
Message-ID: <3s2n9b$j35@iii1.iii.net>
Source record: 112345

Typical displays mix (add) the lowest IF (455Khz) with the selected L.O
(Band osc.) and mix (add) the LMO (5.5Mhz). This works for receive also.

In some cases you must subtract the LMO, but it's a matter of selecting
which product from the mixer. (Sum or Dif.)

73
Tom

--
Thomas C. J. Sefranek WA1RHP

2539. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3s2s1g$3ps@newsbf02.news.aol.com>
Source record: 112346

>That's because it is a pair of those things, crossed to form an E
and a H field at right angles to each other. Since those things don't
really work, it's not surprising that combining them doesn't work
either. (Well, they work, just not very efficiently.)

Gary<

Gary,

I get it now (I think). Someone that doesn't understand EM theory took two
folklore antennas, a low loss *magnetic* radiator and a low loss *E field*
radiator and combined the two inefficient designs to produce a even less
efficient device?

Sounds like a innovative design. Nothing for something. ;-)

73 Tom

2540. Re: Advice wanted: Calculating SWR from fwd vs. reflected pwr readings

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3s2evk$5ku@parsifal.nando.net>
Source record: 112347
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

oops@msg.ti.com (Mitchell Carson) wrote:
>
> Someone please give this poor boy (me) some advice.
> I'm presuming that SWR's can be calculated from forward vs. reflected power
> measurements. The problem is that I can't locate any references to this
> subject in any of the local libraries. If it is possible to derive SWR's from
> this type of measurement, would someone be kind enough to provide me with
> a suitable formula?
>
Certainly SWR can be calculated from forward power and reflected
power. Check the Transmission Line section of an ARRL Handbook
for the formulas, Or in case you don't have access to a handbook,

SWR = (1 + rho)/(1 - rho)
my *rho* is usually written as the lower case greek letter rho.
and
rho = the square root of (Pr/Pf)
where Pf = power in the forward wave
Pr = power in the reflected wave

Now that all that is done, there is usually an easier way to tune
antennas, Just tune for minimum reflected power. If you get to
zero reflected, the SWR is 1.
I have been doing this for years with good success since it is usually
not impoortant to me just what the SWR is, but I want it at a minimum.

73,
Don W3FPR

2541. Microwave parts suppliers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: MFarver@trcaccess.com
Message-ID: <3s2s3g$3md@homer.alpha.net>
Source record: 112348

Looking for some parts for the 2mbit / 10ghz datalink featured in last years handbook. Unfortunatly the primary part needed is a NEC
ND751AAM Gunn transciever and is apparntly no longer being offered. Any suggestions on alternitives or places to go looking for it
would be appreciated. Also suggestions on where to go to find radio parts like a 1N5139 Varactor Diode. None of the places I normally
deal with seem to offer anything but the digital stuff.

Thanks
Mark
KB9JMZ

2542. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: rapp@lmr.mv.com
Message-ID: <DAF7AC.1wM@mv.mv.com>
Source record: 112349
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.digital.misc

In any case, by effectively shorting (bridgeing to a common point) the tower base and the three guy wires, eliminates the possiblity for ground loops, correct? Bascially, all grounds go to a common point (by the utility meter) and are starred out from there.

I'm going to have to do a little rework this summer. I've been lucky so far!

Larry
--
Larry Rappaport W1HJF
w1hjf@w1hjf.ampr.org
W1HJF@K1UAQ.NH

2543. @@Radio Shack@@

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: Charles.Mccurdy@f1492.n106.z1.fidonet.org
Message-ID: <797_9506201151@woodybbs.com>
Source record: 112350

Hi radio shack down hear dont sale kits but that do sale a new 2mtr moble rig.

--
|Fidonet: Charles Mccurdy 1:106/1492
|Internet: Charles.Mccurdy@f1492.n106.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

2544. Q-dope source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DAFIH4.53G@sunsrvr6.cci.com>
Source record: 112351

While sealing our concrete garage floor with UGL brand concrete sealer
I looked at the list of ingredients. It shows 15% polystyrene resin,
85% solvent. Isn't Q-dope just polystyrene dissolved in a solvent too?
At $17 a gallon it's certainly cheaper.

73...Jim N2VNO

2545. Microwave parts supp 1/7

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.2948.546@acenet.com>
Source record: 112352

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

MF>would be appreciated. Also suggestions on where to go to find radio parts
MF>like a 1N5139 Varactor Diode. None of the places I normally
MF>deal with seem to offer anything but the digital stuff.

Try these Mark:

+-={ MEGALIST }=-+ by AF4K
Names and addresses of companies that supply kits, parts and equipment
for amateur radio: (Updated 21 May, 1995)

"624 Kits" (803) 579-6262 day / 583-1304 eve.
171 Springlake Drive
Spartanburg, SC 29302 (QRP kits & accessories)

8 Radio Products (216) 946-6889
6198 Marlo Drive
Painesville, OH 44077 Roof top towers, masts, accessories

A & A Engineering (714) 952-2114
2521 W. La Palma #K Stas Andrzejewski, W6UCM (Keyer,
Anaheim, CA 92801 Battery charger, SELCALL, freq synth kits etc.)

A.B.C Electronics 800-562-6503 206-364-8300
1750 15th N.E. Only New Icom Ham Radio on special order. No stock
Seattle Wa 98155 Towers, Antenna's, Coax and Coax fittings.In stock

Ace Systems (814) 965-5937
Rd. 1 Box 83
Wilcox, PA 15870 Opto Keyer

Active Electronics (800) 677-8899 FAX: (514) 697-8112
11 Cummings Park (INT.) (514) 630-7410
Woburn, MA 01801 New electronic parts

ADI Co. (800) 233-6261
180 Michael Drive
Syosset, NY 11791 Power supplies, batteries etc.

Charles P. Adkins N8QXP 1821 La Blanc. Lincoln Park,MI 48146
(313) 382-0272 Tubes

Advanced Computer Products Inc. (800) FONE-ACP FAX: (714) 558-8849
1310 E. Edinger (714) 558-8813 Voice Sales
Santa Ana, CA 92705 Chips, semiconductors

Alcomp Electronics (804) 847-7456 (old number)
56, 9th Street FAX = (804) 845-1205
Lynchburg, VA 24504 Electronic surplus parts

Alexander Aeroplane Co. (800) 831-2949
P.O. Box 909 FAX = (404) 229-2329 Aluminum tubing etc.
Griffin, GA 30224 Free catalog, $10 min. order

Alfa Electronics (800) 526-ALFA FAX: (609) 275-9536
P.O. Box 8089 (609) 275-0220
Princeton, NJ 08543 Multimeters etc. Free catalog

All Electronic Components Need phone number
118-122 Lonsdale Street
Melbourne, VIC 3000
Australia SWL, Amateur, Test Equipment

All Electronics (800) 826-5432 (orders) FAX: (818) 781-2653
P.O. Box 567 Voice: (818) 904-0524 INFO
Van Nuys, CA 91408 Misc. surplus parts, batteries etc. catalog

Allied Electronics: 1-800-433-5700 Located in 37 states, 79 branches.
7410 Pebble Drive Call for nearest branch. Call for Catalog.
Fort Worth, Tx. 76118: Electronic components and tubes.

Alltronics: Main. (408) 943-9773: FAX (408)943-9776: BBS(408)943-0622
2300 Zanker Road Excellent Tube selection at reasonable prices
San Jose, CA 95131 Main Store. Components, grab bags etc. Min $15

Alltronics: Branch Store. (702) 897-7237
6283 S. Industrial Ave. Components, grab bags etc.
Las Vegas Nv.89118

Alltronics: Branch Store. (801) 485-5117
2888 S. Main St. Components, grab bags etc.
Salt Lake City, Ut. 84115

Almac Electronics 800-426-1410
Need address pse
Seattle, WA Solid-state componets

Altronics Need phone number
P.O. Box 8350
Perth Mail Exchange
WA 6000
Australia Test Equipment, Power Supplies

American Science and Surplus (formerly JerryCo)
P.O. Box 48838 (708) 475-8440 FAX: (708) 864-1589
Niles IL 60714-0838 ### New address.
Surplus. *The* surplus place. Lots and lots of surplus. Batteries
You name it, they have it. Catalogs are really good.
$12.50 minimum order (which includes the $4 shipping charge).

Ameritron Phone
Address
HF amplifier parts, HV capacitors etc.

Amidon Associates (213) 763-5770
12033 Otsego Street (818) 760-4429
North Hollywood, CA 91607 (toroid cores, ferrite beads etc.)

Amidon, Inc. 714-850-4660
3122 Alpine Ave FAX: 714-850-1163
Santa Ana CA 92704 Which address is current?

Antennas West (800) 926-7373
Box 50062S
Provo, UT 84605 Wide variety of antenna kits, loops etc.
>>> Continued to next message

2546. Microwave parts supp 2/7

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.2949.546@acenet.com>
Source record: 112353

>>> Continued from previous message
Antique Audio (512) 467-0304
5555 N. Lamar, Bldg. H-105
Austin, TX 78751 Tubes, parts, books, kits

Antique Electronic Supply Co. (602) 820-5411
6221 S. Maple Avenue FAX: (800) 706-6789
Tempe, AZ 85283 (Tubes, variable capacitors, components)

Antique Radio Classified (508) 371-0512 Write for free sample.
P.O. Box 802 (or is it Box 2?) Magazine. You'll find almost ANYTHING here
Carlisle, MA 01741 for older radios, obscure parts, tubes etc.

Appleseed Electronics Inc. (219) 489-9802
P.O. Box 8228
Fort Wayne, IN 46898 Parts

ARE Communications Ltd. 44-081-997-4476
6 Royal Parade
Hanger Lane, Ealing HF kit for ICOM R-7100 to 200 kHz !
London W5A 1ET & SSB kits for Icom R-100 and R1.

Arlen Supply Company (610) 352-9311 / -9388 = FAX
7409 W. Chester Pike
Upper Darby, PA 19082 Tubes. 1 million stocked. Minimum $150.00!

Arlington Electronic Wholesaler
Lee Highway
Arlington, VA Electronic parts

Arrow Electronics Inc. (800) 93-ARROW
1860 Smithtown Avenue Catalogs c/o 25 Hub Drive
Ronkonkoma, NY 11779 Melville, NY 11747
Minimum $25.00 Components distributor.

ARRL
225 Main Stret
Newington, CT 06111 (QRP Books, QST Magazine etc.)

A.R.S. Need address Arizona
(602) 820-5411 Tubes

David Ask No phone number given
RR 2
Houston, MN 55943 Tubes 4, 5 and 6 pin tubes. Send $1 for list

Auskits
Amblecote Crescent

Mulgrave, VIC 3170
Australia Amateur, QRP kits etc.

Avec Electronics (804) 244-1851
711 Granby Street
Norfolk, VA Zip needed Electronic parts & accessories

Barker & Williamson (215) 788-5581
10 Canal Street
Bristol, PA 19007 Parts, antenna items etc.

Jeff Bauman WB5KZW (313)-435-9922 (313)-661-0202
6647 Stonebridge East,
West Bloomfield, MI 48322 Jeff had 1500 tubes for sale as of
December,1993

Baycom (800) 8BAYPAC (800/822-9722)
400 Daily Ln
P.O. Box 5210
Grants, OR 97527 Baycom BayPac packet/modem model# BP-1 can be obtain

BCD Electro (214) 343-1770
P.O. Box 830119
Richardson, TX 75083 Catalog, parts, etc.

Behind The Times 615-899-1058
PO Box 8683
Chattanooga, TN Tubes

Bigelow Electronics No number listed
P.O. Box 125
Bluffton, OH 45817 Parts, Catalog $2. Flyer 1 stamp

Bomar Crystals (201) 356-7787
201 Blackford Avenue (800) 526-3935
Middlesex, NJ 08846 Crystals, TCXOs etc.
Might be out of business (was OK in 1985)

Ron Borland, W4YBF No phone number given
1165 Ashley Loop
Reidsville, NC 27320 Fuses, grab bag of 50 for $2.00

Brian E. Brachel, KA8HLI
P.O. Box 71684 Cordless Phone Patch kit $30.00
Madison Heights, MI 48071-0684 See QST March 1988

Brigar Electronics (607) 723-3111 FAX: (607) 723-5202
7-9 Alice Street
Binghampton, NY 13904 Parts, gadgets $30 min.

Mel Brooks, K5DJB No phone number given
932 Macklyn Lane
Bartlesville, OK 74006 Tubes, parts, schematics (incl. antique)

Byers Chassis Kits (717) 292-4901
Charles Byers, K3IWK
5120 Harmony Grove Rd.
Dover, PA 17315 (Chassis & cabinet kits. s.a.s.e. please)

C & A Electronic (52) 42-867 or (52) 42-537
SV1AYI, Simeon Krizias
PO Box 25070
Athens, 10026 Greece 53 page catalog. Radio & audio kits etc.

C & H Sales Co. (800)325-9465, (213)681-4925,
2176 E Colorado Blvd (818)796-2628
Pasadena CA 91107 Fax (818)796-4875
Mail address; P.O. Box 5356 Pasadena, CA 91117-9988
Surplus, mainly heavier stuff, power supplies, transformers,
motors, solenoids, etc. Free catalog available, fast service.
>>> Continued to next message

• SLMR 2.1a • He who dies with the most toys has his reward in full.

2547. Microwave parts supp 3/7

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.2950.546@acenet.com>
Source record: 112354

>>> Continued from previous message
C & N Electronics (800) 421-9397 / (612) 429-9397
6104 Egg Lake Road FAX # (612) 429-0292
Hugo, MN 55038 Buy & sell tubes

C & S Electronics (203) 866-3208
P.O. Box 2142
Norwalk, CT 06852-2142 Specialty RF chips etc.

C & S sales inc (800) 292-7711
1245 Rosewood ave
Deerfield Il 60015 Test gear, kits, $35 rcvr for 2m/6m etc.

Cain Electronics Co. (804) 826-5535
408 Aberdeen Road
or 1530 Ingleside Road (804) 855-3394
Hampton, VA Zip needed Electronic parts, test equipment etc.

Calrad Corp. (213) 465-2131
819, N. Highland Avenue
Los Angeles, CA 90038 Audio parts, transformers etc.

John Cable Address needed (619) 258-7931
Tubes from 1941 to 1960, new.

Canadian PW & SSC 514-283-6297 / 800-283-6297
Crown Assets division
Address needed Canadian government surplus equip.
Montreal. Mailing lists for various categories

Capitol Radio (301) 840-5700
45 West Watkins Mill Rd Catalog available
Gaithersburg, MD 20877 New electronic parts, tools, test equip.

C.B. City International Phone number needed
P.O. Box 31500
Phoenix, Arizona 85046 Kits, mod-kits etc.

CeCo Communications (212) 646-6300
2115 Avenue X
Brooklyn, NY 11235 (Vacuum tubes)

Central Electronics & Salvage Phone number needed
Address needed (Ask KA2RDO@aol.com)
Utica, NY Old G.E. & IBM items etc.

ChipSwitch (707-539-0512).
Address needed QRO, 12 metres etc.

USA Mod kits for HR2510, HR2600 rigs etc.

Circuit Board Specialists June 1993 Mailed returned, no forwarding address
P.O. Box 969
Pueblo, CO 81002 (Various kits & projects, P.C. boards)

Circuit Specialists Inc. (800) 528-1417
Box 3047
Scottsdale, AZ 85271 Electronic components incl. RF parts

Circuitwerkes Co. (904) 331-5999
No address FAX: (904) 331-6999
DTMF decoders etc.

Coilcraft (708) 639-2361 / (708) 639-6400
1102 Silver Lake Road
Cary, Illinois 60013 Coils? Filters? Send for Catalog

Communication Concepts Inc. (513) 426-8600 or (513) 220-9677
508 Millstone Drive (513) 429-3811 = FAX
Xenia, OH 45385 (HF linear amp kits etc.)

CQ RADIO KITS (416) 775-9119
Box 1546
Bradford, ONTARIO
Canada L3Z 2B8 QRP xcvrs, rcvrs, keys etc.

Crystal set society (314) 725-1172
P.O. Box 3026
St. Louis, MO 63130 Handbook, projects, formulas

Crystek Crystals (800) 237-3061
2351/2371 Crystal Drive
Ft. Myers, FL 33907 Quartz Crystals

Curtis Electro Devices, Inc. (916) 632-0600
4345 Pacific St., FAX: (916) 632-0636
Rocklin, CA 95677 Keyer chips etc.

CW Crystals Inexpensive, but SLOW to respond.
570 N. Buffalo Street
Marshfield, MO 65706 (Crystals, $1.00 catalog)

CW Forever Key Co. send stamp for list.
P.O. Box 659
Manchester, MO 63011 Buy & sell keys etc.

Cy-ance Kit, (501) 839-8293
14786 Slate Gap Road
West Fork, AR 72774 80 different kits

Peter Dahl Co. (915) 751-2300 Collins 516F-2
5869 Waycross Avenue (915) 751-0768 conversion kit
El Paso, TX 79924 Transformers, chokes, capacitors etc.

Daily Electronics (206) 896-8856 / (800) 346-6667
10914 N.E. 39th Street Fax # (206) 896-5476
Vancouver, WA 98682 Tubes, all types.

Dallas Solar Power (800) 345-4913
P.O. Box 611927
San Jose, CA 95161 Photovoltaics, Solar cells, chargers

Dan's Small Parts And Kits (Formerly KA7QJY Components)
1935 S. 3rd W. #1
Missoula MT 59801
1-406-543-2872 SASE for a current list of parts. RF parts,
(801) 563-5173 (Danny Stevig)

Data Mountain Industries 412-344-0956
47 Hazel Dr.
Mt Lebanon, PA 15228 Tubes

>>> Continued to next message

2548. Microwave parts supp 4/7

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.2951.546@acenet.com>
Source record: 112355

>>> Continued from previous message
Davilyn Corp. (800) 235-6222 / (818) 787-3334
13406 Saticoy St. FAX: (818) 787-4732
North Hollywood, CA 91605-3475 Surplus electronic gear, incl. Collins.

Davis RF Co. (800) 484-4002
P.O. Box 230 (508) 369-1738 = FAX
Carlisle, MA 01741 JPS Audio Filter dealer $1 catalog

DC Electronics (800) 423-0070 / (602) 945-7736
P.O. Box 3203 FAX: (602) 994-1707
Scottsdale, AZ 85271 Components. Many ICs.

Debco Electronics (800) 423-4499
4025 Edwards Road
Cincinatti, OH 45209 Components, especially chips etc.

Defense Reutilization BBS: (901) 775-6621
Marketing Organization (DRMO)
Address Needed
Memphis, TN? Government Surplus

DH Distributors (316) 684-0050
P.O. Box 48623
Wichita, KS 67201 Tubes, radio, TV, industrial

Don Diers Phone number needed
4276 North 50th Street #MC5 Send $2.00 for catalog
Milwaukee,WI 53216-1313 Tubes, transformers, other parts etc.

Digi-key (800) 344-4539
701 Brooks Avenue S. or 1-800-DIGI-KEY
P.O. Box 677
Thief River Falls, MN 56701 Parts

Digitrex Electronics Need phone number
1005 Bloomer Road
Rochester, MI 48063 VHF, QRP, Amateur kits

John Dilks, K2TQN Phone number needed
125 Warf Road, EHT,
Mays Landing, NJ 08330 NOS R.F. Chokes, by National etc.
john.dilks@academia.com

Ditek Industries (800) 762-9328
*** NEED ADDRESS ***
(CW paddles, keyers etc.)

DOVER RESEARCH CORP (aka WB0VNE Bedroom biz)
Misc kits including... DDS Based DigiVFO, Pasokon SSTV,
PRC47 LSB Kit, CheapSkate interface RTTY, CW, AMTOR, software etc.
Call for details. Voice 612-492-3913

Down East Microwave (207) 948-3741
RR 1 Box 2310 (207) 948-5157 = FAX
Troy, ME 04987-9721 Transverters, pre-amps, antennas etc.

DWM Enterprises (No number listed)
1709 N. West Avenue #103
Jackson, MI 49202 (Mobile SW converter & simple QRP plans)

DX Radio Supply (610) 273-7823
Box 360 Call or write for catalog
Wagontown, PA 19376 Kit retailer. Ramsey, etc.

Easy Tech Inc. (800) 582-4044
2917 Bayview Drive (510) 770-2345 FAX = (510) 770-2346
Fremont, CA 94538 Parts, etc. free catalog

Edlie Electronics Inc. (516) 735-3330
2700 Hempstead Tpk.
Levittown, NY 11756 Parts, kits, surplus

EF Electronics Phone number needed
Box 326 (Free catalog on request.)
Aurora,IL 60506 Tubes

Eidson Crystal Company (No number listed)
Address needed Mr. Merill Eidson
Temple, TX Crystals for older rigs.

ELECTRIC RADIO
AM International publishes a column in ELECTRIC RADIO magazine, which is
probably the best source for articles on vintage amateur radio and AM.
A subscription is $28/year from ER, P.O. Box 57, Hesperus, CO 81326.

Electrogadgets Inc.
P.O. Box 2065
Morris Township, NJ 07962 Digital voice recorder kits $20.00

Electron Tube Enterprises (802) 879-0611
Box 311
Essex, VT 05451 Tubes

Electronics Exchange (314) 426-3056
No address given
St. Louis, MO Electronics suurplus. Call for catalog.

Electronic Goldmine (602) 451-7454
P.O. Box 5408
Scottsdale, AZ 85261 Kits, parts etc.

Electronic Materials & Computers (602) 247-6167
(plus Maryvale Engineering Co.) FAX = (602) 247-4451
P.O. Box 23786 New and surplus computer hardware
Phoenix, AZ 85063 New and surplus electronic components
John Schuch Kits, Grab-bags, Tools, Power supplies
E-mail to: meco@indirect.com

Electronic Rainbow (317) 291-7262 / -7269 = FAX
6254 LaPas Trail
Indianapolis, IN 46268 Various electronics kits

Electronic Switch Co. (404) 518-4634
4343 Shallowford Road, Suite E-6
Marietta, GA 30062 Co-axial switches etc.
>>> Continued to next message

&#65533; SLMR 2.1a **&#65533;** He who dies with the most toys has his reward in full.

2549. Microwave parts supp 5/7

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.2952.546@acenet.com>
Source record: 112356

>>> Continued from previous message
Electronics Plus (800) 591-9009 William Allen Jr.
10302 Southard Drive (301) 937-9009
Beltsville, MD 20705 FAX: (301) 937-5092 Abundant surplus. All kinds
of parts for the hobbyist. New Old Stock (NOS) parts, 20,000 tubes
transistors, ham radio homegrew parts etc. No catalog. Call them.
Exit I-95 East on Hwyw 212 to (R) on Hwy 1. Just ahead on left.

Electronics Plus Phone number needed
Address needed
Huntsville, AL

Electronics Unlimited (804) 399-2446
1010 Airline Blvd.,
Portsmouth, VA Zip needed Electronic parts etc.

Electronic Warehouse (804) 244-2541 / 461-8095
5652 E. Virginia Beach Blvd.
Norfolk, VA Zip needed Electronic equipment & supplies

Electro Sonic Inc. (need phone number)
1700 Gordon Baker Road
Willowdale, ONT M2H 3B3
Canada Parts, boards, supplies etc.

ELFA Phone (46) 8-735-35-35
S-171 17 Solna FAX = (46) 8-730-30-88
Sweden Variable capacitors, trimmer caps, parts etc.
They are sure to speak English.

Elktronics Northeast Co. (603) 525-4001
Rt. 1 Box 789
Hancock, NH 03449 VFO kit, RF amp, filters etc.)

Elna Ferrite Laboratories (914) 679-2497
234 Tinker Street
P.O. Box 395
Woodstock, NY 12498 Ferrite cores, toroids etc.

William Erickson, W4UIL No phone number given
3905 Cherrywood Lane
Annandale, VA 22003-1901 Tubes, older radios etc.

E.S.R.C. (407) 735-3397
P.O. Box 1192
Delray Beach, FL 33447-1192 Buy, sell, swap tubes of all kinds

Fair Radio Sales (419) 227-6573
1016 E. Eureka (419) 223-2196 FAX: (419) 227-1313
Box 1105 Parts, transformers, power supplies,
Lima, OH 45802 Surplus and gov't surplus radios etc.

Fairway Electronics (301) 564-1440
4210 Howard Avenue Replacement parts for consumer electronics
Kensington, MD 20895 SONY,RCA,GE,Technics,Panasonic,Zenith etc.

Fala Electronics (No number listed) send s.a.s.e.
P.O. Box 1376-1
Milwaukee, WI 53201 Vacuum tubes

Falkner Enterprises of America Inc.
312 River Street (319) 687-2479
Sabula, IA 52070 Batteries, electronic parts, catalog

FAR Circuits (N9ATW) (No number listed)
18 N 640 Field Court
Dundee, IL 60118 (P.C. boards etc.)

Fordham Radio SUpply (800) 695-4848
260 Motor Parkway
Hauppauge, NY 11788 Tools and test equipment

Robert Fowle (517) 789-6721
1215 Winifred Street Buy/sell vintage gear, NOS parts, manuals
Jackson, MI 49202-1946 Hammarlund parts, numerous others too

Frequency Sources Semiconductor Division Catalog
Need address (617) 256-8101 PIN diodes

Mark Fresa Phone number needed (fresaint@bb.iu.net)
5801 North Banana River Blvd #926
Cape Canaveral, FL 32920 Numerous tubes

Frontier Electronics 701-378-2341
P.O. Box 218 or 403 S. No minimum order
McIntosh, Lehr, ND 58460 Good stock of high voltage capacitors

R.M. Fuller Co. (800) 626-6662
902 Industry Drive
Seattle, WA 98188 DTMF decoder chips & info.

G&G Electronics (301) 258-7373
Jeff Goldman
8524 Dakota Drive
Gaithersburg, MD 20877 Parts, manuals, amateur accesories

GSA property sales (703) 557-7785
U.S. Government U.S. Gov't surplus equip.
Address Needed Call for info on regional sources
Northern Virginia Offer sent via mailing lists

GTE Electronics 800-874-1765
Address needed please
New York, NY Tubes

Gateway Electronics (800) 669-5810 Orders
8123 Page Blvd. (314) 427-6116
St. Louis, MO 63130 Parts, gadgets, surplus etc. $10 min.

G4ZPY Paddle Keys (011) 44-704-894299
c/o Charles Tryor, N4LMY
7809, 10th Avenue S.
Birmingham, AL 35206 Various keys, catalog

Glass Audio Magazine (603) 924-9464 / -9467 = FAX
P.O. Box 176 Bi-monthly $20/year
Peterborough, NH 03458-0176 Designs for tube equipment

Richard Gray, WA6LRR (619) 977-6033 / 390-8937 = FAX
11869 Hi Ridge Road
Lakeside, CA 92123 Buy & sell old radio gear,parts (pre 1940)

>>> Continued to next message

2550. Microwave parts supp 6/7

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.2953.546@acenet.com>
Source record: 112357

>>> Continued from previous message
H & R Company (800) 848-8001 / (215) 788-5583
(Herbach and Rademan) FAX: (215) 788-9577
18 Canal Street, P.O.Box 122
Bristol PA 19007-0122 Tools, parts etc. Min. $25 Free catalog

Halted Specialties Co. (408) 732-1573
3500 Ryder St. (408) 732-6428 (FAX)
Santa Clara, CA 95051 Oak Hills Research kits in stock

The Ham Key Co. (800) 527-0807
Division of Ham Radio Center Inc.
8342 Olive Boulevard
St. Louis, MO 63132 (Paddles, keyers, SWR meters etc.)

Hambrew Magazine (303) 989-5642
c/o George De Grazio, WF0K
P.O. Box 260083 Quarterly Magazine for builders $10/year
Lakewood, CO 80226 HF, QRP, VHF, XMTRS, RCVRS, QRO, ANTENNAS

Hammond Manufacturing Co. Inc.(Need phone number)
1690 Walden Avenue
Buffalo, NY 14225 Transformers, cases etc.

Hamtronics, Inc. (716) 392-9430 / - 9420 = FAX
65 Moul Road 10m, 6m, 4m, 2m, 220
Hilton, NY 14468-9535 Receiver kits, receivers, converters

HANDS ELECTRONICS Phone number needed
TEGRYN
LLANFYRNACH
DYFED, WALES SA35 0BL
United Kingdom Very good amateur radio kits

Harlech Electronics Need phone number
Noddfa, Lower Road
Harlech, Gwynedd LL46 2UB
England NOTE: QRP, SWL

Heathkit Co. (800) 253-0570
Address needed
Benton Harbor, MI Some parts & manuals still available

Heil Company, LTD. (618) 295-3000
2 Heil Drive (618) 295-3030 = FAX
Marissa, IL 62257 Microphones & other ham gadgets

Melvin Heineken, K5MNJ No phone number given
2204 Spruce Needle Rd. N.E.
Rio Rancho, NM 87124-6308 Tubes. New unboxed. Other parts.

Hometown Electronics (804) 934-2329
3616 Pruden Blvd.
Suffolk, VA ZIP Needed Electronic parts and/or supplies

Hosfelt Electronics (800) 524-6464
2700 Sunset Blvd. FAX: (614) 264-5414
Steubenville OH 43952 No minimum. Surplus electronics.

C.M. Howes Communications (44) 327-60178
Eydon, Daventry,
Northants NN11 6PT
England QRP transmitters, receivers, misc. Also
sold by Townsend Electronics in the U.S.

HSC Electronic Supply (Halted Specialties Co.) (800) 442-5833 orders
3500 Ryder Street (408) 732-1573
Santa Clara, CA 95051 Surplus (new) electronics new and used test
equipment. Min order $10 ($2 handling charge under $20), plus UPS

Heathkit 800-253-0570
Benton Harbor, MI
Old Heathkit replacement parts until depleted plus schematics and
manual copies for some of the old Heathkits. Call with model # and or
part number. They may still have it.

Henry Radio Co. (310) 820-1234
2050 S. Bundy Drive
Los Angeles, CA 90025 New tubes, amplifiers etc.

Idiom Press (No phone given)
Box 1025
Geyserville, CA 95441 Computer controlled keyer kit

Index Laboratories (206) 851-5725
9318 Randall Drive N.W.
Gig Harbor, WA 98332 The QRP Plus SSB/CW transceiver 160-10m

Industrial Communication Engineers LTD. (317) 545-5412 / 545-9645 = FAX
Box 18495 (800) 423-2666
Indianapolis, IN 46218 Grounding, filtering,matching devices

Insensitronics in Wisconsin (800) 382-4155
Address needed
Select A tenna for $49.95, postpaid

International Components Corp.(800) 325-0101
1803 NW Lincoln Way FAX: (503) 336-4400
Toledo, OR 97391 Cabinets, components

International Components Corp.(800) 645-9154
105 Maxess Rd. (516) 293-1500 FAX: (516) 293-4983

Melville, NY 11747 Tubes TELEX: 221576

International Crystal Mfg Co. (405) 236-3741 / (800) 725-1426
10 North Lee Street FAX: (800) 322-9426 / (405) 235-1904
Oklahoma City, OK 73102 Crystals.

701 W. Sheridan |
PO Box 26330 | - - Which address is correct?
Oklahoma City OK 73126-0330 |

International Radio & Computer Inc.
3804 South U.S. 1 (407) 489-5609 / (305) 879-6868
Ft. Pierce, FL 34982 FAX: (407) 464-6386
Crystal filters. Icom & Kenwood newsletters. Catalog $1.00

J & S Radio Sales (203) 456-2667
Address Needed!
Anytown, CT G.E. & Motorola surplus radios

>>> Continued to next message

2551. Microwave parts supp 7/7

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.2954.546@acenet.com>
Source record: 112358

>>> Continued from previous message
JAB Electronic Components, Telephone 021-366-6928
The Industrial Estate,
1180 Aldridge Road,
Great Barr, Birmingham, Parts and kits for amateur radio
England B44 8PB. Including Epiphyte QRP rig etc.

Jade Products Inc. (603) 329-6995 / (800) JADE-PRO
P.O. Box 368 (800) 523-3776
East Hampstead, NH 03826 Keyers, J-pole ant. kits 6m, 2m, 220

Jameco Electronics (800) 831-4242 / (415) 592-8097
1355 Shoreway Road FAX: (800) 237-6948
Belmont, CA 94002 Electronic components $30 min. order

JAN Crystals (813) 936-2397
2341 Crystal Drive, (800) JAN-XTAL / (800) 529-9825
P.O. Box 06017 (or 60017?) FAX: (813) 936-3750
Ft. Myers, FL 33906-6017 Crystals

J Comm (716) 924-0422
793 Canning Parkway FAX (716) 924-4555
Victor, NY 14564 (QRP HT rigs for 80 - 6m, $350.00)
Computer interfaces etc.

Javanco (615) 244-4444 FAX: (615) 244-4446
501, 12th Avenue S. Orders (800) 528-2626 BBS: 244-4445
Nashville, TN 37203 (Surplus parts etc.)

JDG Co. No phone number given
P.O. Box 20809
Raleigh, NC 27619 Capacitors etc. catalog offered

JDR Micro Devices (800) 538-5000 / 5001
2233 Branham Lane
San Jose, CA 95124 Computers and components
Fax Order: 800-538-5005
BBS: 408-494-1430

Johns Radio +44 274 684007
Whitehall Works FAX = +44 274 651160
84 Whitehall Road East
Birkenshaw Ask for Pat
Bradford BD11 2ER Surplus radios, parts, repairs
England Racal RA-17s, converters etc.

Johnson Shop Products (408) 257-8614 FAX: (408) 253-6288
P.O. Box 160113 Catalog $1 or two stamps
Cupertino, CA 95016 New & some used electronic parts

Jolida Tube Factory (800) 783-2555
10820 Guilford Road
Annapolis Junction, MD 20701 Vacuum tubes

K-com (216) 325-2110
Box 82 (216) 325-2525 = FAX
Randolph, OH 44265 Telephone interference filters

Harry Kaklikian (703) 978-4402
Address needed
USA "One of the best sources for Collins equipment and parts.

Kanga US (419) 423-5643
3521 Spring Lake Drive Biggest & best catalog of QRP kits!
Findlay, OH 45840 QRP kits, projects etc.

KB5QOH (No name given) No phone number given
667 Nine Mile Hill Road
Fairbanks, AK 99712 Tubes, parts, used amateur gear

KD4YBC No phone number given
197 Chickasaw Lane
Myrtle Beach, SC 29577 HF linear amplifier kits, 14V DC

Kilo-Tec (805) 646-9645
P.O. Box 10 (or 1001?)
Oakview, CA 93022 (H.V. Variable capacitors)

Kirby No number listed
298 W. Carmel Drive
Carmel, IN 46032 Tubes, new up to 90% off

Cliff Kurtz, N6ZU No phone number given
6727 N. Pershing Avenue
Stockton, CA 95207-2522 Tubes. Minimum order $10.00

S. LaRose Co. (910) 621-1936
3223 Yanceyville St. Telechron clock movements ($8.00)
Greensboro, NC 27420 for old Hammarlund receivers etc.

Less Buster's Electronics (702) 642-0325
2039 Civic Center Dr. #176N
N. Las Vegas, NV 89030 Inverters, gadgets, parts, free catalog

Marlin P. Jones & Assoc. (407) 848-8236
P.O. Box 12685 FAX: (407) 844-8764
Lake Park FL 33403-0685 Surplus No min ($1 fee for under $10)

Kelvin Electronics (800) 645-9212 / (516) 349-7620
7 Fairchild Avenue FAX: (516) 349-7830
Plainview, NY 11803 Parts, tools, robotics $20 min.

2552. Re: Microwave parts suppliers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Jun19.094058.300@nad.com>
Source record: 112359

In article <3s2s3g$3md@homer.alpha.net>, MFarver@trcaccess.com writes:
[posting filled to fit on my 80 col screen]
> Looking for some parts for the 2mbit / 10ghz datalink featured in last
> years handbook. Unfortunatly the primary part needed is a NEC
> ND751AAM Gunn transciever and is apparntly no longer being offered.
> Any suggestions on alternitives or places to go looking for it
> would be appreciated. Also suggestions on where to go to find radio
> parts like a 1N5139 Varactor Diode. None of the places I normally
> deal with seem to offer anything but the digital stuff.
>
> Thanks
> Mark
> KB9JMZ
>

For the Gunn transciever, check the hamfests. I've bought equivalent parts for about $10 each. They're surplus motion detector heads from commercial door openers and security systems. Brands are Alpha, Solfan and others.

Newark Electronics sells 1n5139's. They go for about $5, I think. Newark has a $25 minimum order and will do credit cards. Newark's number is (800) 281-4320. Ask for a catalog - they carry a lot of RF parts.

Have fun!
Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com

2553. Re: Cross Field Antenna Designs - Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DAFFGx.L9t@hpqmoea.sqf.hp.com>
Source record: 112360

moritz@ipers1.e-technik.uni-stuttgart.de wrote:

: No antenna will radiate unless it generates (alternating) E and H
: fields simultaneously.

Re-reading what I wrote, I think my phrasing was poor. I was trying
to say that a "mature" electromagnetic wave propagating in free space
many wavelengths from its source and any other body consists of an
orthoganal pair of alternating E and H fields, in phase, and with
amplitudes in the ratio 377 volts/ metre of E field for each ampere per
metre of H field. Close to an antenna, the fields are not necessarily
in their final amplitude relationship. It's rather interesting to use
small field probes to explore the close fields of, say, an operating
dipole.

: >An antenna
: >that really did create both would simply have no "near field" region
: >with unbalanced E and H components.

: This is where they are wrong. *Any* very small antenna, loop or whip
: will suffer from it's low radiation resistance. The same applies to
: the coiled mobile 5/8 antennas for CB.

Yes, this is what I doubted about the implementation of their
transducers, they look very difficult to drive efficiently.

: >There is nothing that makes this *implicitly*
: >inefficient, or troublesome.

: Yes there is for all very small antennas: The need to transform
: the feed point impedance to 50 Ohms is a potential source of losses,
: and with the low radiation resistance of a few Ohms it would need
: a perfect conducting ground plane to work efficiently.

It's really the combination of the performance of available materials
and the demands placed by small structures. I wonder if higher
temperature superonductors are possible?

: > While this openness means that readers have to be selective, it
: >provides a channel for occasional odd ideas and unusual approaches that
: >can stimulate new ideas

: Spreding new ideas is a good thing, but providing free advertisement
: for those who try to get other's money by selling them junk, is mildly
: said *naive*.

I'm not sure how much of that Sprat article was someone having fun,
but a bit of wire and some tin cans is not easily interpreted as making

money by selling junk, and I rather suspect that no-one was impelled to buy one of the much more expensive commercial versions.

: 73, Moritz DL5UH (ex GM4ZNQ)

^^^^^^

The propensity for a certain callsign to get confused begins to feel like an albatross round my neck :-) George printed G4ZNQ in the power meter article, and so 'ZNQ spread around the world.

Cheers,
David GM4ZNX

2554. Loafer Radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: corrigad@tempest.adsnet.net
Message-ID: <3s4d81$8uk@ratty.wolfe.net>
Source record: 112361

Hi, just wondering if anyone has any info on low frequency radios-
the type that you don't need a license for and aroun 300Khz or so.
I am trying to find out if there is any activity in WA. state and
also where to find the eguipment, etc..
email replies to: corrigad@tempest.adsnet.net
Thanks!
-Dave

2555. Re: High Efficiency MOSFET HF Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: cloutier@eisner.decus.org
Message-ID: <1995Jun19.130352.10305@eisner>
Source record: 112362

In article <3ro0vn$421@iii1.iii.net>, sefranek@iii1.iii.net (Thomas C Sefranek) writes:
> Hey Steve!
> I was just talking to a guy near you, in Pepperell... on A.M.
> Sound a lot like you... Maybe you could consult...
> :) :) :)
>
> I have made a few MOSFET transmitters and amplifiers, keep me posted,
> better still Ham nite is Mondays at my place!
>
Sounds like fun! I wonder who the guy in Pepperell was... I'm in
Townsend (the next town for those who ton't know). Usually, all of the
regular AM operators know each other.

> Tom
>
> --
> Thomas C. J. Sefranek WA1RHP

2556. 6C33C Tube Transmitter (Was: High Efficiency MOSFET HF Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: cloutier@eisner.decus.org
Message-ID: <1995Jun19.133533.10307@eisner>
Source record: 112363

In article <ebarbourDACyvz.79x@netcom.com>, ebarbour@netcom.com (Eric Barbour) writes:
> I have messed around with 6C33s. Your proposal is
> gonna exceed the plate dissipation of 100w per tube.
> I would say, don't try to put more than 10 watts into the grid.
> If you want a kW, try using 8 of them, each running 250mA
> at 300v. Don't push them, they have grid-current problems
> when you approach max dissipation, causing bias instability.
>
> Eric Barbour
> GLASS AUDIO

Thanks for answering... If you're involved with some of the designs in Glass AUdio, you probably have lots more experience with these puppies than I do :-)

I don't understand why I would be exceeding the dissipation of the tube, but maybe I'm missing something (probably)!

The rating sheet I got (a poor one at that) shows the tube good for 60 watts (both units together) and a max plate current of 600MA. Nothing for plate input or grid dissipation or current. Other tubes are conservatively rated at more than 3 times their plate dissipation for input, so I used that figure for now.

My proposal was to run 300 volts at 500 or 600 MA for an input power of 150 to 180 watts. Class D (switching mode - square wave drive). The plate efficiency should be better than 90% (I'v run tubes like this before and get over 90% efficiency), so the plate dissipation should be less than 20 watts per tube.

For a KW, I'd use 6 or 7 (maybe 8) tubes.

Hopefully, I'll get away without neutralization (with the low impedance non-resonant driver and the fact that this is switching mode).... but that remains to be seen.

What is the best source for these tubes? They seem rather expensive. I'd like to pay less than $20 each.

Regards,
Steve cloutier KA1SI

>

2557. Re: High Efficiency MOSFET HF Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: cloutier@eisner.decus.org
Message-ID: <1995Jun19.133911.10309@eisner>
Source record: 112364

In article <3rtjbs$5hm@tierra.santafe.edu>, Jim Potter <jpawi@roadrunner.com> writes:
> I have used power MOSFETS (4 IRF840 in parallel) to drive the cathode of
> a 3CPX1500A7 to achieve 40 kW pulsed rf at 2 MHz up to 1% duty factor and
> up to 100 usec pulse width. You might want to contact your International
> Rectifier rep to get info on their new low charge series, with about half
> the capacitance/gate charge of comparable devices. I have experience

Thanks for the info! I'll check it out.

Regards,
Steve, KA1SI

2558. interesting stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-19 00:00:00 UTC
From: mridley@omnifest.uwm.edu
Message-ID: <3s585i$klg@omnifest.uwm.edu>
Source record: 112365

all ive heard so far (with a few exceptions) is "i need this" or "i need that"
if you want something, think giving something of your own:)
just a reminder that you need to give in order to recieve

2559. Re: interesting stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-20 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2006951810060001@nb-dyna76.interaccess.com>
Source record: 112271

In article <3s585i$klg@omnifest.uwm.edu>, mridley@omnifest.uwm.edu (Mikkel Ridley) wrote:

> all ive heard so far (with a few exceptions) is "i need this" or "i need that"
> if you want something, think giving something of your own:)
> just a reminder that you need to give in order to recieve

Thanks for the reminder, Steve. Many of us do give lots of stuff like information, manuals, etc. Just think of the askers as giving the givers the opportunity to be givers ;-).

Dave Moorman, K9SW
Downers Grove,
Illinois

2560. Re: NEEDED: Class C 1-10w AMP schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-20 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <3s5cok$icv@erinews.ericsson.se>
Source record: 112272

ao974@FreeNet.Carleton.CA (Dave Scobie) wrote:

>I am looking for a good 1-10 watt Class C transistor amp circuit for my
>college Telecommunications course. The teacher is not a ham, nor is he
>very experienced at building amplifiers (He admitted to me that he has
>never built one.) Rather than get stalled de-bugging a troublesome circuit,
>I am hoping that one of you clever people out there can give me some
>advice on a proven design and help me avoid a potential disaster.
>Thanks for reading my posting, and have a good day, eh?
>73 de va3ae
>--
>He's got a coast to coast fever and a highway on his mind.
> (Borrowed from David Wiffen)

> 73 de va3ae

Not sure what frequency you are looking for, but Motorola application
notes have LOTS of examples of Class C amplifiers complete with parts
lists and circuit board diagrams. You can request liturature or
technical assistance at thier web site:

http://motserv.indirect.com/

73 and Good luck!
Mike Groves KD6PKJ

2561. I.C.'s FOR SALE. CHEAP.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-20 00:00:00 UTC
From: westlyon@worf.netins.net
Message-ID: <3s722f$3d4@insosf1.netins.net>
Source record: 112366

I am going into the Navy in a month and would like to get rid of some of the I.C.'s and various other components my father has gotten for me at work. I'll Say this up front, I don't want very much for this stuff, just maybe enough to take my lady out for dinner. (COD only - you pay shipping.)

E-Mail me at:

westlyon@WORF.NETINS.NET

I have almost anything you could want. The list goes something like this:

1101A 256x1 OLD SRAM(50+)
1802 MPU(4)
146805E2 MPU(4)
2016 2Kx8 SRAM (15)
2102 1Kx1 OLD SRAM(70+)
239 VOltage Comparator
2716 2Kx8 EPROM (100+)
2907 Freqfuency to Voltage Converter(50+)
324 Basic Op-AMP (100+)
4011 Quad 2 input NAND (100+)
4012 Dual 4 Input NAND (100+)
40161 Binary Counter(100+) Just like 74161.
4093 Quad 2 input NAND SCHMITT TRIGGER(150+)
4538 Dual One Shot (75+)
4541 Programable Timmer (150+)
7403 Quad 2input NAND (100+)
7404 HEX Inverter Gates (75+)
7407 HEX Buffer - Open Collector (High Voltage) (75+)
7408 Quad 2 Input AND (75+)
7409 Quad 2 input AND Open Collector (75+)
7411 Tripple 3 Input AND (75+)
74123 Dual One-Shot (75+)
7414 Hex Schmitt Tigger Inverter (75+)
74180 9-bit Parity Generator/Checker (75+)
74192 4 - bit BCD Counter (100+)
74193 4-bit Binary Counter (100+)
7427 Tripple 3 input NOR (75+)
7440 Dual 4 INPUT NAND (75+)
7446 BCD to 7 Segment Display Driver/Interface
7451 Dual 2 Wide 2 Input AND-OR-INVERTER Gate (75+)
7476 Dual JK FLIP FLOP (75+)

H11AA2 Optical Isolator (75+)
74C926 4 DIGIT 7 Segment Display Driver with an on chip counter and latch

7 Segment LED Displays (Common Cathode) (500+) <- Yes, 500+.

I also have many misc EPROMs pulled from non working mother boards. Plus I have many ADC DAC's from various sources (Alot from MAXIM).

There are also some specialty one of a kind items I have. For example an SRAM that is shadowed by EEPROM. This allows you to save the SRAM's contents as you wish (AT 5 VOLTS.) This is a SIMTEK nvSRAM.

I also have a few of the famous FRAMs from Ramtron. These are truely NON Volital RAM devices (but you are limited to something like 1 Million read or write cycles.)

I would also like to get rid of my Data Book Library. I have full sets from Intel (1989) and National Semiconductor. (You haven't seen a data book till you see National Semiconductor's simple databooks - beats the heck out of Motorola's books.) Yes, I have a lot of Motorola books too. I have books from TI, SIMTEK, RAMTRON, LATTICE, DALLAS, AMD, NEC...

Also, I have 2 breadboards (Each contains 4 6" Individual Bread boards mounted on aluminum). I have Jumpers (LOTS) to go with them in a new plasic box.

Included in this one time deal I also have my componet boxes. The 5 boxes contain resistors, capasitors, voltage regulators, variable resistors, LED's, Switches, Connectors...

If you want everything ... it totals about 10+ boxes (12x12x18) in our shed.

2562. TEST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-20 00:00:00 UTC
From: fran@cris.com
Message-ID: <3s78r3$4nv@news.internetmci.com>
Source record: 112367

```
this is a test
```

2563. TEST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-20 00:00:00 UTC
From: fran@cris.com
Message-ID: <3s78ri$4ol@news.internetmci.com>
Source record: 112368

```
this is a test
```

2564. Re: Loafer Radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-20 00:00:00 UTC
From: Pierre Thomson <mmommsen@mhv.net>
Message-ID: <3s7e64$cao@over.mhv.net>
Source record: 112369

corrigad@tempest.adsnet.net wrote:
>
> Hi, just wondering if anyone has any info on low frequency radios-
> the type that you don't need a license for and aroun 300Khz or so.
> I am trying to find out if there is any activity in WA. state and
> also where to find the eguipment, etc..

There was an excellent article on a starter rig in April (?) 1994
QST. I almost built it, then opted for my own design.

The band is from 160 to 190 KHz, needs fancy antenna to work at
all well. Not much activity around here (SE NY) either. Good luck,

Pierre Thomson KA2QPG

2565. Re: Sources for Cheap Double Sided PC board?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-20 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2006951807140001@nb-dyna76.interaccess.com>
Source record: 112370

In article <199506161612360SYSMAS@MVS.OAC.UCLA.EDU>,
osysmas@mvs.oac.ucla.edu wrote:

> >I use the "ugly" method of construction where components
> >to ground are used to support all other junctions in mid
> >air. The unmodified PC board copper surface then serves
> >as a solid sheet of ground plane. This method is very easy
> >to work with, no etching required. ICs are mounted upside
> >down, pins up.
>
> I like to be able to read the chip so I bend the pins out and
> mount the chip right side up (except for ground pins)..
>
> Sometimes I cut off the tail of the pins leaving just tabs
> sticking out of the IC.

I have used ugly construction extensively and it a great way to build
things. It's so fast and easy compared to laying out and etching a board
that there is no contest.

For IC's, I drill the pattern for the IC (and countersink around the holes
to avoid inintended grounds), then insert a wire-wrap socket. The
components are soldered on the pins wich stick out the "other" side of the
board. the wire wrap pins are a little sturdier than the IC pins, and can
be (gently) bent into useful positions. Also, if you smoke the chip, it's
easy to pop it out and out in a new one.

I built the ARRL "High Performance Communications Receiver" the ugly way,
and it works great.

Dave Moorman, K9SW
Downers Grove,
Illinois

2566. CW MORSE Shareware for Contesting Previews

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: s009jap@discover.wright.edu
Message-ID: <3s7s71$vrh@alpha.wright.edu>
Source record: 112273

A small group here plan to enter a TI DSP Solutions Student Cosntest that has
a $100K worldwide prize... (see http://www.ti.com under challege keyword)
If TI accepts our entry we plan to have sharewaer hopefully by 9-30-95...

Part of my interest in this is to do a CQ WPX CW Contest Stattion that would operate
in the M/S class category & do multiple contacts concurrently.. in the past I have posted
about it... know we paln to do a small section of it. There will be 5 RX with one TX
share in a TDM fashion in a lan fiberoptic campus enviroment. One we can do CW reception
with allmost
human proficiency we would like to offer this as shareware... the targets DSP all have to
be TI per
their contest rules & depending on $$ we may try first the tms 320 c50, then the c30, and
c40...
since the wsu perhaps might let us use them.. but there is another team here that will be
entering the same contest.
we are basically independent & have formed a student org. (wsue-it) to pull this design off
before 12-25-95.
If anyone in their company works could lend teh c30 or c40 type boards & other development
utilities it would
be good to know who you are since we may not be able to use the equipment from the EE or
CE/CS dept. here.
It would be on a loaner basis...

market research question: what would be a suitable shareware registration cost? $15,$25,
$35 range?

tnx

KP4UY

2567. MicroCap Evaluation Version?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: blombard@bb.iu.net
Message-ID: <3s7v16$eo@cc.iu.net>
Source record: 112274

I'm looking for info from someone who has, or knows about, the Microcap evaluation version. They say that it can handle 25 nodes for $250. Do they mean that the total of the main circuit and any subcircuit that it calls has to be 25 or less? Or do they mean you can model a larger circuit if you break it up into 25 node subs?

If they mean the first case, how can you do anything with 25 nodes? I have a filter I'd like to model, but the opamp macromodels have more than 25 nodes each! And I need two opamps to model it.

Suggestions for another simulator that can handle more nodes (maybe 100?) would be very much appreciated.

Tnx es 73,
Bob

--
Bob Lombardi WB4EHS from Melbourne, FL (>-))))))||| blombard@iu.net
.............................Trying hard to live in an OJ-free zone

2568. 2N2156 source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: "Colin Schmutter"
Message-ID: <3s80k3$1iu@chopin.bcit.bc.ca>
Source record: 112275

I am looking for a source for 2N2156 or equivalent transistors.

These were originally made by Motorola but have been discontinued.

Any help would be appreciated.

Please reply to cschmutter@bcit.bc.ca

Colin

2569. CCI 70cm Linear Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: n7tcf@primenet.com
Message-ID: <3s948d$332@nnrp1.primenet.com>
Source record: 112276

I have purchased the 100w CCI 70cm Linear kit and about to start assembling it. Advice on the care
and feeding would be gratefully recieved.
I will be driving the amp with a Yaseu 726.

Jim n7tcf@primenet.com

2570. Re: pcb-cad software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: "Charles H. Reichert" <reichert>
Message-ID: <3s97pd$m8e@newdelph.cig.mot.com>
Source record: 112277

mikael.landing@teknikum.uu.se wrote:
>Hi!
>
>Looking for some PCB-cad freeware which leaves as much copper left for ground
>as possible. That is, when you start the design it should be copper
>everywhere. When you then start adding tracks and padds the software should
>automatically take away the copper so one has some space between the tracks
>padds and the rest of the copper (ground). This would be very useful when
>designing for RF-circuits.
>
>Micke

Ditto here!

Chuck
--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

2571. WTD plans for 800 MHz ant

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: Timothy Stephenson <timstep@cello.gina.calstate.edu>
Message-ID: <3s9a9l$dr3@cello.gina.calstate.edu>
Source record: 112278

I am hoping for plans on building (cheap) 800 Mhz antennas for disaster preparedness for my school district. Any suggestions? Thanks. -Tim
timstep@cello.gina.calstate.edu

2572. Re: Looking for Spice-based Simulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.803748859.17413.jwicklun@mycroftxxx.halcyon.com>
Source record: 112279

In article <tetrault-1406951625530001@d225-brockway.sierra.net>,
<tetrault@sierra.net> writes:
> Path:
news.halcyon.com!nwfocus1.wa.com!uunet!mr.net!news.mr.net!skypoint.com!news.cyb
erstore.ca!math.ohio-state.edu!howland.reston.ans.net!news.sprintlink.net!news.
oz.net!news.lei.net!coconut!rahul.net!a2i!sierra.net!d225-brockway.sierra.net!u
ser
> From: tetrault@sierra.net (Robert Tetrault)
> Newsgroups: rec.radio.amateur.homebrew
> Subject: Re: Looking for Spice-based Simulator
> Date: Wed, 14 Jun 1995 16:25:53 -0700
> Organization: Engineered Solutions
> Lines: 7
> Message-ID: <tetrault-1406951625530001@d225-brockway.sierra.net>
> References: <D9xn31.5y3@zeno.fit.edu>
<NEWTNews.802966380.30322.jwicklun@mycroftxxx.halcyon.com>
> NNTP-Posting-Host: 204.94.234.225
>
> In article <NEWTNews.802966380.30322.jwicklun@mycroftxxx.halcyon.com>, Jay
> Wicklund <jwicklun@mail.halcyon.com> wrote:
>
> I myself strongly recommend the version of SPICE produced by Spectrum
> Software in Silicon Valley, 408 738 4387, fax 408 438 4702. It is
> available for all versions of PC and Power PC, and the eval version is
> only 250 USDollars, runs 25 nodes, full function, and FAST!
>
It always amazes me just how confused things get. I never "strongly
recommended" any spice program. I did mention, with disclaimers of not having
tried, two moderatly priced packages. HOWEVER, SPECTRUM SOFTWARE WASN'T ONE
OF THEM. Methinks that someone is trying to phony up some product
recommendations to increase sales. Let's have a little more care (or perhaps
a little more honesty).....73 Jay

2573. Building a Home! (Now that's home Brew...:) (Suggestions?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: ahall@ux4.cso.uiuc.edu
Message-ID: <3s9k14$cq6@vixen.cso.uiuc.edu>
Source record: 112280

Hello everyone,

I saw a thread a long long time ago about putting stuff in a home that was going up to make a Ham's life easier. I'd like to dredge that thread back up again since my parents are currently building a house. (Don't worry, my father is really interested in getting his license, and agrees we should do stuff now before it's too late).

I remember some talk about conduit, and also about grounds etc... If anyone can tell me about anything that they have done to make their life easier (when they built their home etc.), I'd really appreciate it!

Looking forward to your messages!

Allen Hall n9rzc@uiuc.edu

73

2574. Re: WTD plans for 800 MHz ant

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: Timothy Stephenson <timstep@cello.gina.calstate.edu>
Message-ID: <3s9k0m$bko@cello.gina.calstate.edu>
Source record: 112281

Continuing... I have my own 15 watt Motorola Maxar 80 radio (800 MHz) that I will be using on District frequencies (I am a disaster planner for the District). I will also be making emergency antennas for 25 watt mobile radios (that we may wish to pull out of their installation for use outside, for example). I hope for plans for 1) an omnidirectional antenna (e.g., the length and diameter of a wire I should use off the end of a coax connector, and the size of the ground plane), and a directional antenna (quad? yagi?) for use on the bus that goes to an outlying community, for use from my home to the District, and for use by a couple of outlying schools. Any suggestions would be appreciated. Also, is 50 ohm line standard with 800 MHz? Respectfully, -Tim KC6WGD timstep@cello.gina.calstate.edu

2575. Re: FM demodutator - any good chips?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: nick button <nick@plains.demon.co.uk>
Message-ID: <255415124wnr@plains.demon.co.uk>
Source record: 112282

HI,

I think the CA3089 or 3189 is available from maplin ut you will get low s/n as it's primary purpose is for broadcast WBFM.

Suggest you look at something like the MC3357 or MC3359. They have a built-in mixer to convert down to 455kHz, so all you need to add is a 10.245 Mhz crystal, a murata ceramic filter plus a few R's & C's...

Have fun !

G4IRX

Nick Button	
Nottingham, G.B.	nick@plains.demon.co.uk
	(standard disclaimer applies...)

2576. Re: Building a Home! (Now that's home Brew...:) (Suggestions?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <3s9ore$cne@cc.iu.net>
Source record: 112283

In <3s9k14$cq6@vixen.cso.uiuc.edu>, ahall@ux4.cso.uiuc.edu (Allen John Hall) writes:
>I saw a thread a long long time ago about putting stuff in a home that
>was going up to make a Ham's life easier. I'd like to dredge that thread

probably such things as making sure there's enough electrical service in the ham shack. running 220 V there as well as 110. maybe even a separate breaker panel in the room itself along with a kill switch for room power.

maybe a raised floor and a drop ceiling so cables and stuff can be run around and still make the place look tidy.

deep shelves...

that's a start, i guess.

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio

2577. Re: MicroCap Evaluation Version?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <3s9u81$33d@nntp.Stanford.EDU>
Source record: 112284

In article <3s7v16$eo@cc.iu.net> blombard@bb.iu.net (Bob Lombardi) writes:
>
>I'm looking for info from someone who has, or knows about, the Microcap
>evaluation version. They say that it can handle 25 nodes for $250. Do
>they mean that the total of the main circuit and any subcircuit that it
>calls has to be 25 or less? Or do they mean you can model a larger circuit
>if you break it up into 25 node subs?
>
>If they mean the first case, how can you do anything with 25 nodes? I
>have a filter I'd like to model, but the opamp macromodels have more than
>25 nodes each! And I need two opamps to model it.
>
>Suggestions for another simulator that can handle more nodes (maybe 100?)
>would be very much appreciated.
>
>
>Tnx es 73,
>Bob
>
>
>--
>Bob Lombardi WB4EHS from Melbourne, FL (>-)))))))||| blombard@iu.net
>.............................Trying hard to live in an OJ-free zone

I think I paid less than $50 for the student version of MicroCap.
That was about a year ago. It sounds very much like what you are
calling the evaluation version.

I have modeled several active filters using the student version
which have included up to 3 OpAmps. I don't think the macromodel
nodes are included. At least not the ones in the standard library.

You might check the book store at your local university for
MicroCap and I have also seen some inexpensive spice simulators
and texts.

Steve Muther, WF6R stevem@w6yx.stanford.edu
stevem@NAD.3Com.com

2578. Re: Building a Home! (Now that's home Brew...:) (Suggestions?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: perryrt@clark.net
Message-ID: <3sa6cj$17g@clarknet.clark.net>
Source record: 112285

In article <3s9ore$cne@cc.iu.net>, wnewkirk@iu.net says...
>
>In <3s9k14$cq6@vixen.cso.uiuc.edu>, ahall@ux4.cso.uiuc.edu (Allen John Hall)
wri
>tes:
>>I saw a thread a long long time ago about putting stuff in a home that
>>was going up to make a Ham's life easier. I'd like to dredge that thread
>
>probably such things as making sure there's enough electrical service in the
ham
>shack. running 220 V there as well as 110. maybe even a separate breaker
panel
>in the room itself along with a kill switch for room power.
>
>maybe a raised floor and a drop ceiling so cables and stuff can be run around
>and still make the place look tidy.
>
>deep shelves...
>
>that's a start, i guess.
>

Yup.. How about placing GOOD grounding rods THROUGH the poured foundation. You might have to add a few feet to the rods to make it work, but it should be a real great ground.
Also, make a window-like thing for antenna leads, etc... What I'm thinking of is kinda hard to explain, but it would go through the wall outside the normal windows, have a slide open/shut feature, and be adequately weather-stripped, but still accessable.

Of course, the most important thing is access to the kitchen.....

8^)

Good luck!

R. T. Perry
>Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
>Melbourne, FL duty now for the future of amateur radio
>

--
Regards,
R. T. Perry
KF4BAL
GMOO

- The world is divided into two groups of people: Those that own HP's
and those that yell "HEY! Where's the equals sign?"

2579. WTD: 2 M Walking Stick Beam

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: byron_hellewell@out.trw.com
Message-ID: <1995Jun21.132146.1153@batman>
Source record: 112286

I am looking for plans to build a 2 meter and 70 cm walking stick beam. This is the one where the beam elements are removed from holes drilled in the PVC boom and then stored in the hollow PVC boom with some end caps when not in use.
If you have some plans or know where they can be found please post a reply or e-mail directly.

Thanks for the help. I have been looking for the plans for quite a while.

Byron

2580. Re: Building a Home! (Now that's home Brew...:) (Suggestions?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: harrisok@vax.sonoma.edu
Message-ID: <1995Jun21.221240.1@vax.sonoma.edu>
Source record: 112287

In article <3sa6cj$17g@clarknet.clark.net>, perryrt@clark.net (Richard Todd Perry) writes:
> Also, make a window-like thing for antenna leads, etc... What I'm
> thinking of is kinda hard to explain, but it would go through the wall outside
> the normal windows, have a slide open/shut feature, and be adequately
> weather-stripped, but still accessable.

My "shack" is in one of the bedrooms that is used for my shack/office (well,
shack/homework headquarters. ;-)

I run my antenna cables through the vents up underneath the eaves, through some
attic space and down through a small hole that I've cut in the wallboard of the
ceiling in what used to be the closet. I took the doors of the closet off and
have a desk and shelves set up in there for my radio stuff. It is like the ham
stuff is recessed into the wall. Just route the cables through and underneath
the insulation. No pain, no strain... and the wife doesn't see any holes in
the "wall". Ha!

> Of course, the most important thing is access to the kitchen.....

Or better still... one of those mini-refrigerators, and a Mr. Coffee... ;-)
right in the shack!

73,
Ken

Ken Harrison --- harrisok@vax.sonoma.edu --- Amateur Radio: N6MHG
~~~~~~
~~~~~~

2581. Re: MicroCap Evaluation Version?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-21 00:00:00 UTC
From: mzenier@eskimo.com
Message-ID: <DAL3GE.9o6@eskimo.com>
Source record: 112288

in <3s7v16$eo@cc.iu.net>, Bob Lombardi wrote:

: I'm looking for info from someone who has, or knows about, the Microcap
: evaluation version. They say that it can handle 25 nodes for $250. Do
: they mean that the total of the main circuit and any subcircuit that it
: calls has to be 25 or less? Or do they mean you can model a larger circuit
: if you break it up into 25 node subs?

: If they mean the first case, how can you do anything with 25 nodes? I
: have a filter I'd like to model, but the opamp macromodels have more than
: 25 nodes each! And I need two opamps to model it.

The Microcap Student Edition is published by Addison-Wesley. A paperback
book with a diskette in a pouch. The book is sparse, as it's expected
to be used in a class with some sort of teachers manual. There's a fairly
restrictive shrinkwrap license, for what that's worth.

I've got the Microcap III version that cost somewhere around $40 a
couple of years ago. I've see Microcap IV on the shelf at the
local schools bookstore.

It has op amps models built in, so each op amp connects to 3 nodes.
The node limit in this version is 30.

I have a lot of fun blowing it up with math exceptions. It's sensitive
to the node order.

You can get older spice version (2G6 ?) for both MS-DOS 386 machines
on a Simtel archive ftp://oak.oakland.edu. Or for Linux on the
sunsite archive. The sunsite package has the users manual in a file.
(I've not got around to using it.)

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2582. Sam, N4UAU: Please e-mail me

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-22 00:00:00 UTC
From: phb@syseng1.melpar.esys.com
Message-ID: <phb.803833890@melpar>
Source record: 112289
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

Sam,

Lost your e-mail address. Drop me an e-mail at your convenience.

TNX ES 73,

Paul, K4MSG pbock@melpar.esys.com

2583. Re: Building a Home! (Now that's home Brew...:) (Suggestions?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-22 00:00:00 UTC
From: Ken Mason <Ken_r_Mason@ccm.fm.intel.com>
Message-ID: <3scjoe$82q@mcd1.fm.intel.com>
Source record: 112290

In article <3s9k14$cq6@vixen.cso.uiuc.edu>,
Allen John Hall <ahall@ux4.cso.uiuc.edu> wrote:
>Hello everyone,
>
>I saw a thread a long long time ago about putting stuff in a home that
>was going up to make a Ham's life easier. I'd like to dredge that thread
>back up again since my parents are currently building a house. (Don't worry,
>my father is really interested in getting his license, and agrees we should
>do stuff now before it's too late).
>
>I remember some talk about conduit, and also about grounds etc... If
>anyone can tell me about anything that they have done to make their life
>easier (when they built their home etc.), I'd really appreciate it!
>
>Looking forward to your messages!
>
>Allen Hall n9rzc@uiuc.edu
>
>73
>

Allen,

I'll be building a house in the next 6 to 12 months. The
future QTH is happily called "HAM Hill". The house will
contain a ham shack room.

The main goal I have is letting my wife watch TV or be on
the telephone without any interference from running legal
limit on bands 160M through 1296. Here is my ides on the
subject.

Exterior construction will use stucco (here in
California). With stucco construction I intend to solder
all that chicken wire together and ground it! Hopefully this
will help with the neighbor interference.

The telephone wiring will use shielded wiring. 75 ohm hard
line for the TV antenna, NO PRE-AMPS! Possibly considering
running conduit to/from the radio room.

The radio room of course will have 220V and 110V. It will
have a near shield room effect. This is accomplished by
using that thin sheet metal (or corrugated metal roofing
material) between the wall studs of the room (of course all
soldered and grounded). The flooring will have a layer of

sheet metal or even better copper. All this because the room will be on the second floor.

The coax will be pre-run inside the radio room walls to where the antennas are going. All the pre-run coax will be 1.25 inch hard line.

Anybody's comment is welcome as I'm still developing ideas. Also someone with experience in improving shielding and interference from just plain overload (not harmonics) from the radios would be great!

73,
Ken
KC6TEU
Ken_R_Mason@ccm.fm.intel.com

2584. Re: Building a Home! (Now that's home Brew...:) (Suggestions?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-22 00:00:00 UTC
From: Timothy Stephenson <timstep@cello.gina.calstate.edu>
Message-ID: <3sahau$i5k@cello.gina.calstate.edu>
Source record: 112291

This is just a wild one... but if you haven't put on the roof yet, you might consider laying in some wire or sheeting just under the shingles (with connectors into the attic), so that you could just run up a spike for an antenna. How much? I have no idea. Just a thought.

Consider a beefy power line into the office/ham shack. My laser printer caused my lights to dim as it cycles. I suspect that "real" ham rigs would do the same (I wouldn't know, as my ham shack is a 2m on my belt).

Best of luck! de Tim timstep@cello.gina.calstate.edu

2585. Re: Loafer Radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3sbs1r$9jb@newsbf02.news.aol.com>
Source record: 112292

corrigad@tempest.adsnet.net wrote:
>
> Hi, just wondering if anyone has any info on low frequency radios-
> the type that you don't need a license for and aroun 300Khz or so.
> I am trying to find out if there is any activity in WA. state and
> also where to find the eguipment, etc..

I built my own converter and transmitter several years ago and was able to work 20 miles or so reliabily.

Here in the Atlanta area (a quiet rural county) I can copy beacons near Macon and Cape Haiteras (sp??) so I can hear stuff a hundred miles to two hundred miles away on my ICOM 751A. I think contacts might be few and far between unless you get a buddy on.

73 Tom

2586. Glass solar panel

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-22 00:00:00 UTC
From: Pat Moore <Pat.Moore@WKU.EDU>
Message-ID: <1995Jun22.112007.13439@netnews.wku.edu>
Source record: 112293

I picked up a glass solar panel at Dayton and they gave me some little brass clips to attach to the sides of the panel as contacts. They keep slipping off. Does anyone know how to attach secure contacts to the panel to get the juice out of it? I'm trying to get it hooked up to recharge a gel-cell this weekend so our club can get those extra points.

Pat Moore, AL7L
Pat.Moore@WKU.EDU
502-793-0470

2587. Re: Building a Home! (Now that's home Brew...:) (Suggestions?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-22 00:00:00 UTC
From: richeych@iastate.edu
Message-ID: <3sap7n$qbp@news.iastate.edu>
Source record: 112294

In article <3s9k14$cq6@vixen.cso.uiuc.edu>,
Allen John Hall <ahall@ux4.cso.uiuc.edu> wrote:
>Hello everyone,
>
>I saw a thread a long long time ago about putting stuff in a home that
>was going up to make a Ham's life easier. I'd like to dredge that thread
>back up again since my parents are currently building a house. (Don't worry,
>my father is really interested in getting his license, and agrees we should
>do stuff now before it's too late).
>
>I remember some talk about conduit, and also about grounds etc... If
>anyone can tell me about anything that they have done to make their life
>easier (when they built their home etc.), I'd really appreciate it!
>
>Looking forward to your messages!
>
>Allen Hall n9rzc@uiuc.edu
>
>73
>

I have a basic suggestion. Pour the concreate for the tower
while the cement trucks and excavation equipment are still around.

Any other thoughts?

73,
Carl Richey
KB0QOQ

--

2588. Re: NEEDED: Class C 1-10w AMP schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-22 00:00:00 UTC
From: cloutier@eisner.decus.org
Message-ID: <1995Jun22.133831.10353@eisner>
Source record: 112295

In article <DADztG.F07@freenet.carleton.ca>, ao974@FreeNet.Carleton.CA (Dave Scobie) writes:
>
> I am looking for a good 1-10 watt Class C transistor amp circuit for my
> college Telecommunications course. The teacher is not a ham, nor is he

what frequency range, band, etc?

Steve, KA1SI

2589. 3/8 wave 2M vert question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-22 00:00:00 UTC
From: tyker@alfalfa.pas.rochester.edu
Message-ID: <1995Jun22.184401.19576@galileo.cc.rochester.edu>
Source record: 112296

I am seeking information on building a 3/8 wave 2m vertical. I am planning
to put this outside of the window of my apartment and I don't have room for
a 5/8 wave. Specifically, I need loading coil demensions and radiator length.

Thanks in advance...

jpt

2590. re: WTD: 2 M Walking Stick Beam

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-22 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <545_9506221730@mba.mba.org>
Source record: 112297

byron_hellewell@out.trw.com (Byron) is looking for plans for
a 2m and 70cm beam that can be taken apart and the elements
put in a the PVC boom for storage.

First of all, plenty of small 2m beams have been described in
the ham mags over the years. I've even seen some meant to be
taken apart for portable use. There was the "Two-Toter for Two"
in QST back in June or July or August 1971. A while later, a
simpler and easier to build version was described, under a
similar sounding title. I think one of them showed up in
at least one of the ARRL books, maybe the FM and Repeater Manual.

I think I've seen some other easy to take apart 2m beams described,
but I can't think of them right now.

70cm beams have also been described over the years, and the smaller
size of the elements makes building them even easier. I don't recall
seeing any article about building a take apart model.

I can't think of any article off the top of my head that detailed
a combined 2m and 70cm beam, let alone one that is meant for portalbe
operation.

The point to all this is that you've described quite well what is needed
to mechanically build a beam that can be taken apart. Instead of
searching for plans, why not create it yourself? Find an artcicle
that tells you how to build the type of beam that you want, and
modify it so it is easily broken down. Certainly you don't need
someone else to tell you how to buy a piece of PVC tubing for the
boom, and how to screw on the end caps, and in many ways that is
what would make the thing portable.

I once was given a piece of electrical cable maybe four feet long.
It was for high current, and had quite a few strands of thick copper
wire inside. It's lasted me twenty years for times when I've needed
some thick wire; I havent' bought a soldering gun tip in all that time.
Anyway, The wire is easy to work with, though it's not sturdy enough
to last outside in the weather. For a temporary beam such as you want,
it might work well and has the advantage that it's lighter than some
metal. I was going to say that you could fix a bolt to one side
and then thread the other side when it came out of the boom (and that
would be your removeable piece), but it would be a drag to thread
that length and also to have to turn the nut off and on. Needs
some other mechanical fastening method.

Or you could use coat hanger wire. Again, it's easy to come by
and relatively light. I find it really hard to bend and cut, though.

Michael VE2BVW
--
| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

2591. Re: 3/8 wave 2M vert question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-22 00:00:00 UTC
From: harrisok@vax.sonoma.edu
Message-ID: <1995Jun22.173251.1@vax.sonoma.edu>
Source record: 112298

In article <1995Jun22.184401.19576@galileo.cc.rochester.edu>,
tyker@alfalfa.pas.rochester.edu (J. Patrick Tyker) writes:
> I am seeking information on building a 3/8 wave 2m vertical. I am planning
> to put this outside of the window of my apartment and I don't have room for
> a 5/8 wave. Specifically, I need loading coil demensions and radiator length.

For the trouble involved, just make a 1/4 wave vertical. No coils,
simple tuning...

Ken

_____
Ken Harrison --- harrisok@vax.sonoma.edu --- Amateur Radio: N6MHG
~~~~~
~~~~~

2592. Re: MicroCap Evaluation Version?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-22 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-2206952209350001@squaw-d125.sierra.net>
Source record: 112299

> in <3s7v16$eo@cc.iu.net>, Bob Lombardi wrote:
>
> : I'm looking for info from someone who has, or knows about, the Microcap
> : evaluation version. They say that it can handle 25 nodes for $250. Do
> : they mean that the total of the main circuit and any subcircuit that it
> : calls has to be 25 or less? Or do they mean you can model a larger circuit
> : if you break it up into 25 node subs?
>
> : If they mean the first case, how can you do anything with 25 nodes? I
> : have a filter I'd like to model, but the opamp macromodels have more than
> : 25 nodes each! And I need two opamps to model it.
>
The evaluation version is a full functioned and libraried package with documentation identical to the full-on package. While the limitation of 25 nodes can be limiting in some circumstances, like a Level 3 model, or even a FET that may have as much as eight nodes, the circuits can usually be simplified with time or voltage dependent switches for FETs or the Level 1 op amp models, unless every single operating characteristic of an op amp is drawn into battle when you consider this filter. I have successfully designed resonant mode and current mode switching regulators, complete with snubbers, coupling coefficients of ferrite cored transformers, slope compensation, loop gain and phase margins. Bench built prototypes worked first pass from the 25 node limit modelled design.

MicroCap, as an organization, does not discriminate between an evaluating user and a fully paid commercial user when giving tech support, and they are generous with their time in any case. My take-home on them is that they are seriously intent on helping everyone who calls. I would recommend them unreservedly, but you really need at least the eval version...Some SPICE reading in general is a major help.

2593. Dutch legislation - Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-23 00:00:00 UTC
From: jurgene@eeb.ele.tue.nl
Message-ID: <3se480$lr1@tuegate.tue.nl>
Source record: 112300
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.homebrew

Hi,

Im planning to build/purchase a wireless RS232 modem to connect 2 PC's over a distance no more than 200m. Does anybody have any experience in this kind of communications? Also, I would like to know the legislation concerning low-power short-distance tranceivers in the Netherlands. (Power/Frequencies...)

Hallo,
Ik ben van plan een draadloze RS232 modem te bouwen/kopen om 2 PC's te koppelen over een afstand van max. 200m. Heeft iemand ervaring met soortgelijke zenders/ontvangers? Ook zoek ik informatie over de wetgeving / regelingen op het gebied van korte afstand tranceivers in Nederland. (vermogen/frequentie-banden/keuringen).
BVD.

Jurgen van Engelen
jurgene@eeb.ele.tue.nl

2594. Is there a FAQ for this group?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-23 00:00:00 UTC
From: fred@rapid.fi.uib.no
Message-ID: <3se6l8$bbu@due.uninett.no>
Source record: 112301

Hi

I'm new to this group, and have been watching it for only a week or so.
I wonder if there is a FAQ available. I'm planning to start learning
morse so that I can get my license. I also want to build my own receiver,
and maybe a transmitter late on. I would be happy if any out there could
help me with schematics, PCB layouts, etc. for radios. Hints and guidelines
for constructing my own equipment are also welcome. I want to start with
frequencies below 100MHz.

Sinserely

Fred-Johan Pettersen

--
Fred-Johan Pettersen Phone: Office: +47-55-212712
Fysisk institutt Home: +47-55-346345
Universitetet i Bergen Fax: +47-55-318334
Allegt. 55 E-mail: fred@kvark.fi.uib.no
N-5007 Bergen Or: Fred-Johan.Pettersen@fi.uib.no
WWW: http://www.uib.no/People/nfyfp/fred.html
==========
Remember: Lindyhoppers do it on the floor...
IRMA 1000 medlem nr. 1952
==========

2595. how to isolate HT from auto power spikes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-23 00:00:00 UTC
From: reinerp@panix.com
Message-ID: <3sf230$re4@panix.com>
Source record: 112302

I'm powering my HT from the cigarette lighter, and although there are no
problems with noise, I'm afraid of volage spikes from the
alternator or starter blowing out the radio.
Would it suffice to put a 35 volt Metal Oxide Varistor in paralell
with the radio, or do I need a sink resistor somewhere also?
There *is* a fuse on the lighter plug.
Thanks for any advice.

2596. Re: Ferrite design equations

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-23 00:00:00 UTC
From: royle@emerald.cse.tek.com
Message-ID: <3sd39c$p8j@tekadm1.cse.tek.com>
Source record: 112303
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

jeffa@pax.ssd.loral.com (Jeff Albom):

>[good design equations]

>Core materials good for high frequency power transformers (various
>manufacturers): Reccommended frequency of operation is core specific
>(see manufacturer's data)

>3C8, 3B7, 24B, 77, 78, 75, F, T, H7C1, N27

A frequently misunderstood point about using ferrites is that there are several uses in which they're operated well above their "recommended" frequency range. Generally, the "recommended" range is the range of frequencies over which the core is relatively low loss (high Q). In broadband transformers, high Q isn't necessary and, in fact, is often undesirable. So "low-frequency" ferrites are often used for this application. At high frequencies, "low-frequency" ferrites (e.g. Fair-Rite 70-series) look more like a resistor than an inductor. But the impedance per turn squared is high. As long as the impedance is high enough, it doesn't matter that it's resistive instead of inductive. The impedance stays relatively constant for several decades of frequency instead of rising to a resonant point then dropping, like a good-quality inductive winding would.

Another HF application of "low-frequency" ferrites is in EMI suppression. The ferrite presents little impedance at low frequencies, but looks like a resistor over a wide range of higher frequencies. This makes it quite free of resonance effects and ringing which would occur if a high-frequency ferrite is used.

One other point. The resistive nature of "low-frequency" ferrites at high frequencies means that they're lossy. If the current through the winding is low in value, as in a properly designed and applied current balun, the loss is small. Poorly sized, designed, or applied baluns can overheat at high power levels due to excessive current. If you look at the manufacturer's data for impedance and calculate the amount of heat for a given current, you can see that when a "low-frequency" core overheats due to the resistive loss at HF, the flux density is way below saturation. Overheating of cores is frequently blamed on saturation, but at HF is almost always due to other causes.

73,
Roy Lewallen, W7EL
roy.lewallen@tek.com

2597. Need LM 380-8 pinout...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-23 00:00:00 UTC
From: jimn0oct@aol.com
Message-ID: <3sdl7n$pl1@newsbf02.news.aol.com>
Source record: 112304

Help! I need the pinout of the LM 380-8 [8-pin version of the venerable LM 380] for a Field Day [what else?] project.

Thanks!!

73, Jim N0OCT

QRP'ers eat their dead.....

2598. Re: Looking for GaAsFETs to buy

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-23 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <51316613wnr@pacsat.demon.co.uk>
Source record: 112305

In article: <1995Jun17.024051.3084@adobe.com> Stephen Schiller <schiller@adobe.com>
writes:

>
> Hi,
>
> If anyone knows of, or is, a source for GaAsFETs
> in small quntites (like 3 or 4) please let me know.
> Preferably HP-made, but I will settle for anything at this point.
> (These will be used to build some VCOs, one with a center
> frequency around 2.5GHz and another with a center frequncy
> around 3.5GHz. If you have some other parts for doing this,
> I might be interested those.)
>
> Thanks,
> Steve
>
> (schiller@adobe.com)
>
>
>

Why Gasfets? They are expensive for the job u want.
Better to use a trannie like BFR91/96 or maybe even a mimic!

Whats the VCO - I maybe able to help further

--
+---+
| 73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland |
| Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk |
| AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP **** |
+---+

2599. WTB: 2C39/7289 Tube for 1.2 Ghz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-23 00:00:00 UTC
From: sem2r@galen.med.Virginia.EDU
Message-ID: <DAMoEr.M0o@murdoch.acc.Virginia.EDU>
Source record: 112306

I'm looking for a source for new or used 2C39/7289 tube for use in a
1.2 Ghz cavity amp as per ARRL Handbook construction.

Any sources appreciated.

Also looking for good source for 1000 volt @ 500 mA tranformer
for the B+.

Please E-mail direct to:

sem2r@galen.med.virginia.edu

Thanks!!

Stacey E. (Chuck) Mills
--
-73's de WB4QKT
Stacey E. (Chuck) Mills
E-mail: sem2r@galen.med.virginia.edu

2600. Re: Need LM 380-8 pinout...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-23 00:00:00 UTC
From: 'AB7HI' Stephen Lee <slee@u.washington.edu>
Message-ID: <Pine.A32.3.91j.950623152610.46384A-100000@homer23.u.washington.edu>
Source record: 112307

Hello Jim,
Pinouts are: pin 1: no connection
pin 2: input +
pin 3: input -
pin 4: ground
pin 5: ground
pin 6: V out
pin 7: V source
pin 8: bypass
This is for the National Semiconductor LM 380N8 as detailed
in the D/A/T/A Digest so there was no additional explanation.

Enjoy!
Stephen Lee
AB7Hi

On 23 Jun 1995, JimN0OCT wrote:

> Help! I need the pinout of the LM 380-8 [8-pin version of the venerable
> LM 380] for a Field Day [what else?] project.
>
> Thanks!!
>
> 73, Jim N0OCT
>
> QRP'ers eat their dead.....
>
>

2601. Re: Building a Home! (Now that's home Brew...:) (Suggestions?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-23 00:00:00 UTC
From: greg@core.rose.hp.com
Message-ID: <DAnG6I.7CD@icon.rose.hp.com>
Source record: 112308

Ken Mason (Ken_r_Mason@ccm.fm.intel.com) wrote:
: The coax will be pre-run inside the radio room walls to
: where the antennas are going. All the pre-run coax will be
: 1.25 inch hard line.

Leave a couple of empty pipes from the shack to the outside for future wires and cables, going easy on any sharp turns. You will never have the right set of cables pre-run.

Greg KO6TH

p.s. 1.25 inch? must be a *long* house!

2602. Re: Is there a FAQ for this group?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-23 00:00:00 UTC
From: ranecurl@engin.umich.edu
Message-ID: <3sfk31$rva@srvr1.engin.umich.edu>
Source record: 112309

In article <3se6l8$bbu@due.uninett.no>,
Fred-Johan Pettersen <fred@rapid.fi.uib.no> wrote:
>Hi
>
>I'm new to this group, and have been watching it for only a week or so.
>I wonder if there is a FAQ available. I'm planning to start learning
>morse so that I can get my license. I also want to build my own receiver,
>and maybe a transmitter late on. I would be happy if any out there could
>help me with schematics, PCB layouts, etc. for radios. Hints and guidelines
>for constructing my own equipment are also welcome. I want to start with
>frequencies below 100MHz.
>

If you were on this side of the big water, I'd suggest getting
the ARRL Handbook, or even joining the ARRL - lot of suggestions
for new hams in their newsletter QST. But even though you are not -
you'd probably still find the Handbook and QST very informative.

Rane L. Curl N8REG

2603. Surplus Cellular Phones - Cheap

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-23 00:00:00 UTC
From: wdunckel1@aol.com
Message-ID: <3sg294$d7t@newsbf02.news.aol.com>
Source record: 112310

Surplus cellular phones. Cheap!
Used phones great for ham projects!Only $19.
Phones are complete. Only battery pack and eprom has been removed to
dissable phone.

Parts include:
8870 DTMF decoder
Phillips SA/NE 5750 and 5751 audio proc. with integral DTMF enc,mute&VOX
Phillips SA/NE 605 high perf. FM IF system
Phillips UMA 1014 low power frequency synth.
Phillips 80C552 micro. 16 mhz 8bit with 10bit a/d conv. I^2C bus serial&
ext. rom
Phillips UMF1000T ???
3.58 mhz xtal and many many more smt components.
To get info on some of the above items Phillips has a very efficient fax
back service at 1-800-282-2000. Some relevant documents are

Doc#
1014 5750
1015 5751
1023 SA/NE 605
8054 Using the 5750 and 5751 for audio proccessing

Please E-Mail me If interested.
Thanks,

Walt

2604. Re: 3/8 wave 2M vert question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: tyker@alfalfa.pas.rochester.edu
Message-ID: <1995Jun24.033659.19800@galileo.cc.rochester.edu>
Source record: 112221

Ken Harrison (harrisok@vax.sonoma.edu) wrote:

: For the trouble involved, just make a 1/4 wave vertical. No coils,
: simple tuning...

I did that and it works, but I would like to get some gain. Most of
the repeaters I want to reach are marginal with the 1/4 wave.

I should mention that the final antenna should be invisible, since
my appartment complex has a 'no outside antenna' policy. The
1/4 wave I have now is made of about 36 guage berylium-copper wire
and 4 lb fishing line. The ground plane is the steel box that the air
conditioner sits in (protrudes out from the building). The fishing
line runs from the top of the 36 ga radiator to the gutter, holding
it vertical.

jpt

2605. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <3sg64v$hda@pipe1.nyc.pipeline.com>
Source record: 112222

In rec.radio.amateur.homebrew rapp@lmr.mv.com (L. M. Rappaport) said:

>Bascially, all grounds go to a common point (by the utility meter) and are

>starred out from there.

The GAS utility meter area is NOT a good place for a ground in case anyone
gets any ideas!
World-War II Warships - WW2W Anthony Catalano - Have a fun & safe FIELD DAY
'95
73 SK

2606. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: thora@telepost.no
Message-ID: <3sgajv$bcs@nms.telepost.no>
Source record: 112223

In <3sg64v$hda@pipe1.nyc.pipeline.com>, acatalan@nyc.pipeline.com (Anthony G. Catalano) writes:
>In rec.radio.amateur.homebrew rapp@lmr.mv.com (L. M. Rappaport) said:
>
>
>>Bascially, all grounds go to a common point (by the utility meter) and are
>
>>starred out from there.
>
>The GAS utility meter area is NOT a good place for a ground in case anyone
>gets any ideas!
>World-War II Warships - WW2W Anthony Catalano - Have a fun & safe FIELD DAY
>'95
>73 SK

Does anyone of the ground experts have a good tip for a shack on the first floor?

Thor.

2607. Re: Need LM 380-8 pinout...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: romank@glas.apc.org
Message-ID: <3sggt9$k32@igc.apc.org>
Source record: 112224

jimn0oct@aol.com (JimN0OCT) wrote:

>Help! I need the pinout of the LM 380-8 [8-pin version of the venerable
>LM 380] for a Field Day [what else?] project.

Try the following pinout :
1: no connection
2: input, through 0.1uF cap.
3,4,5 ground
6: output,22-100uF to the speaker, plus 2.7 ohm and 0.1uF, in series,
from output to ground.
7: +12V power
8: 22uF cap connected to ground.

Roman Kuznetsow
Moscow, Russia

2608. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <3si488$q09@ixnews4.ix.netcom.com>
Source record: 112225

>: Does anyone of the ground experts have a good tip for a shack on the
>:first floor?
>:
>
>A *real* radio ham would fill up the ground floor with soil.
>
And sprinkle it every day to keep it moist...

Mike, KK6GM

2609. Re: 3/8 wave 2M vert question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3si4vh$so4@parsifal.nando.net>
Source record: 112226

tyker@alfalfa.pas.rochester.edu (J. Patrick Tyker) wrote:
>
>
> Ken Harrison (harrisok@vax.sonoma.edu) wrote:
>
> : For the trouble involved, just make a 1/4 wave vertical. No coils,
> : simple tuning...
>
> I did that and it works, but I would like to get some gain. Most of
> the repeaters I want to reach are marginal with the 1/4 wave.
>
SNIP...

Added gain will not be significant going from 1/4 wave to 3/8 wave.
If you are looking for added gain go for 1/2 wave (hard to feed due to
high impedance feedpoint)
or 5/8 wave (easy to feed - a series coil will do the trick)

73,
Don W3FPR

2610. Re: Fiinger Stock

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3si57e$so4@parsifal.nando.net>
Source record: 112227

jkesling@shell.portal.com (John Darrell Kesling) wrote:
>
> Garry Foster (gmfoster@epix.net) wrote:
>
> >Hello
> >I'm trying to getr the components together to build a screwdriver driven
> >mobile aka DK^3. Anyone know of source of finger stock.
>
> > Thanks Garry
> > WB0NNO
Other places where you may find success is surplus houses that
handle computer surplus kind of items. Finger-stock is commonly
used for rf shielding on large computer access doors and removable
panels.

Good luck & best 73,
Don W3FPR

2611. Re: Building a home! (now

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <803970543.AA02569@hamlink.mn.org>
Source record: 112228

Hi Allen,
Don't know how practical some of these are, but here goes: In my dream ham house there would be..... a central 13.8 VDC supply with remote sensing run to a standardized wall plate in each room. Not too much current, just enogh for the endless RF boxes I'm always building to make a few watts, listen to the BBC etc. Also at least one run of RG-58 or 8 to each room. Multipair cable for intercom, control functions etc. LOTS of telco lines as well.
Good luck!
Bob WB0POQ
Technology is out of control.....

2612. Re: How to isolate ht from

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <803995544.AA02576@hamlink.mn.org>
Source record: 112229

RR>From: reinerp@panix.com (Peter Reiner)
RR>Newsgroups: rec.radio.amateur.homebrew
RR>Subject: how to isolate HT from auto power spikes?
RR>Organization: PANIX Public Access Internet and Unix, NYC
RR>Message-ID: <3sf230$re4@panix.com>
RR>Date: 23 Jun 1995 14:44:48 -0400
RR>
RR>
RR>I'm powering my HT from the cigarette lighter, and although there
RR>are no problems with noise, I'm afraid of volage spikes from the
RR>alternator or starter blowing out the radio.
RR>Would it suffice to put a 35 volt Metal Oxide Varistor in paralell
RR>with the radio, or do I need a sink resistor somewhere also?
RR>There *is* a fuse on the lighter plug.
RR>Thanks for any advice.
RR>
RR>---
RR> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
RR>(1:282/100.0)
Hi Peter,
Back in the "olden days" when cellular first arrived on the scene, we had many problems with equipment getting popped by spikes during starting conditions, esp. in cars with maintenace free batts. The only sure fire cure we found was to disconnect the A+ to the equipment when the car was started. Needless to say the customers were not a happy bunch, but I think you might have a bit less trouble with a cig plug. Others here may have a better solution.
Bob WB0POQ

Technology is OUT of control.....

2613. BNC/N adapter please!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: bmork@comtch.iea.com
Message-ID: <3sg95c$mlg@krel.iea.com>
Source record: 112311
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

I need two N female/BNC male adapters. Could anybody offer me a sale at
a good price?

This would be the slotted BNC half (not the side with the
ears), and the N connector with threads exposed rather than inside.

--
Brian J. Mork, InCrea (TM) - Pacific Northwest, Voice 509-244-3764
bmork@comtch.iea.com / ARO ka9snf@ka7fvv.#ewa.wa.usa
USMail 6006-B Eaker, Fairchild, WA 99011

2614. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <540867394wnr@ifwtech.demon.co.uk>
Source record: 112312

In article: <3sgajv$bcs@nms.telepost.no> thora@telepost.no writes:

:
: Does anyone of the ground experts have a good tip for a shack on the first
: floor?
:

A *real* radio ham would fill up the ground floor with soil.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

2615. Fiinger Stock

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <Pine.SUN.3.91.950624122444.7921A-100000@peach.epix.net>
Source record: 112313

Hello
I'm trying to getr the components together to build a screwdriver driven
mobile aka DK^3. Anyone know of source of finger stock.

Thanks Garry
WB0NNO

2616. Re: 3/8 wave 2M vert question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: Garry Foster <gmfoster@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950624125048.14837B-100000@grape.epix.net>
Source record: 112314

On Sat, 24 Jun 1995, J. Patrick Tyker wrote:
k> 1/4 wave I have now is made of about 36 guage berylium-copper wire
> and 4 lb fishing line. The ground plane is the steel box that the air
> conditioner sits in (protrudes out from the building). The fishing
> line runs from the top of the 36 ga radiator to the gutter, holding
> it vertical.
>
> jpt
>
Why don't you make a 1/2 wave JPOLE in a PVC pipe. Paint the pipe to
match your house and if any one aske tll them its an ultra sonic burglar
alarm. Use non metalic paint of course.
Garry
WB0NNO

2617. DK^3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: Garry Foster <gmfoster@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950624125518.14837C-100000@grape.epix.net>
Source record: 112315

I havwe started gathering the parts for the DK4 power screwdriver tunned moblile antenna. Does anyone have any suggestions gaiined from experance in building one of these. Also would aanyone have the A&A boards laying around for the auto resonator. Thier board numbbers were 191 and 192 I believe. Does any one know Don Johnson the designer?

Thanks Garry
WB0NNO

2618. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: thora@telepost.no
Message-ID: <3shnrv$gh3@nms.telepost.no>
Source record: 112316

>: Does anyone of the ground experts have a good tip for a shack on the first
>: floor?
>:
>
>A *real* radio ham would fill up the ground floor with soil.
>

Thanks for advice, I see that you have read my option on codeless HAM operators.)

Just operators for short.

73's Thor.

2619. Re: Ferrite design equations

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3sht49$7ad@hpscit.sc.hp.com>
Source record: 112317
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In article <3sd39c$p8j@tekadm1.cse.tek.com>,
Roy W Lewallen <royle@emerald.cse.tek.com> wrote:

>A frequently misunderstood point about using ferrites is that there are
>several uses in which they're operated well above their "recommended"
>frequency range. Generally, the "recommended" range is the range of
>frequencies over which the core is relatively low loss (high Q). In
>broadband transformers, high Q isn't necessary and, in fact, is often
>undesirable. So "low-frequency" ferrites are often used for this application.
>At high frequencies, "low-frequency" ferrites (e.g. Fair-Rite 70-series)
>look more like a resistor than an inductor. But the impedance per turn
>squared is high. As long as the impedance is high enough, it doesn't
^^^^^^^^^^^
>matter that it's resistive instead of inductive. The impedance stays
^^
>relatively constant for several decades of frequency instead of rising
>to a resonant point then dropping, like a good-quality inductive winding
>would.

Roy does a good job here of clearing up a common misconception. However,
let me add that this advice applies only at low power levels. For high
power transformers, such as output transformers in power amplifiers, it
does matter whether the magnetizing impedance is resistive or inductive,
because resistive loads dissipate power and heat up the ferrite. Inductive
loads cause relatively little heating. In a 6 meter KW amplifier, you
will find that low permeability ferrites will heat up much less than high
permeability ones (that look resistive) even though the high permeability
ones have higher impedance.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2620. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3si037$2j6@misc1.microserve.net>
Source record: 112318

In article <540867394wnr@ifwtech.demon.co.uk>,
Ian G3SEK <G3SEK@ifwtech.demon.co.uk> wrote:

>A *real* radio ham would fill up the ground floor with soil.

That's just a band-aid. **REAL** hams don't build houses above ground.

2621. Re: Fiinger Stock

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: jkesling@shell.portal.com
Message-ID: <3si30i$gao@news1.shell>
Source record: 112319

Garry Foster (gmfoster@epix.net) wrote:

>Hello
>I'm trying to getr the components together to build a screwdriver driven
>mobile aka DK^3. Anyone know of source of finger stock.

> Thanks Garry
> WB0NNO

Gosh, I wish you'd have asked last week. I saw a dealer last week at the Monroe Michigan hamfest that had several types of finger stock. I wasn't looking for finger stock so I didn't pay that much attention. He had several samples mounted on a display board. I believe it was one of the wire dealers that frequents most of the hamfests in the area, SE Michigan, NW Ohio.

You might try calling some of the wire dealers that advertise in the various magazines. You might get lucky. I'd limit the calling to dealers in Ohio, Michigan and Indiana.

Good Luck!
John
--
--

John Kesling - jkesling@eng.utoledo.edu or jkesling@shell.portal.com
---
WA8ZGO - via AX.25 packet radio WA8ZGO@W8HHF.OH.USA

2622. Help: Reattaching plates on variable capacitor shaft

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-24 00:00:00 UTC
From: David Lee <ddlee@neosoft.com>
Message-ID: <3sfubi$qvk@uuneo.neosoft.com>
Source record: 112320

I just bought a Heathkit HW8 with a problem. The main variable capacitor has its Aluminum plates detached from the brass shaft. Does anyone have any advice on how to reattach them? Will heated brass expand enough for me to insert the almuminum plates easily? It's a dual section unit, with only 2 movable plates/section.

-dave

==========
David D. Lee, AB5AX, Houston, Tx
Internet: ddlee@neosoft.com
Compuserve: 71330,2022
"Take 2 aspirin and call me at Turtle Island..."

2623. Re: Building a Home! (Now that's home Brew...:) (Suggestions?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun25.064134.1009@ke4zv.atl.ga.us>
Source record: 112230

In article <3s9k14$cq6@vixen.cso.uiuc.edu> ahall@ux4.cso.uiuc.edu (Allen John Hall) writes:
>I saw a thread a long long time ago about putting stuff in a home that
>was going up to make a Ham's life easier. I'd like to dredge that thread
>back up again since my parents are currently building a house. (Don't worry,
>my father is really interested in getting his license, and agrees we should
>do stuff now before it's too late).
>
>I remember some talk about conduit, and also about grounds etc... If
>anyone can tell me about anything that they have done to make their life
>easier (when they built their home etc.), I'd really appreciate it!

Well, there are a few areas where doing it right while you're building the home can make things a lot easier later. From the bottom up, here are some things to consider.

Do the ground field now. If you are going to have a slab, either at ground level or as a basement floor, make it into a Ufer ground. A Ufer ground is simple to do but a little hard to explain. As you know, Earth is a lossy sheet resistance. The greater the number of contact points you can have, the lower the resistance of the resulting connection (resistors in parallel have a net resistance lower than that of any individual resistor). The Ufer ground works in two ways to achieve this.

First I'd better describe what a Ufer ground is. It's just rebar in concrete. You want all the rebar in the concrete electrically connected together, and a connection to that network brought out of the concrete for your use. One inch diameter rebar is preferred. Twenty feet of it can handle lightning strike currents. More footage is better of course.

Concrete is generally a better conductor than soil, due to the ionic content of concrete. So you have this large somewhat conductive slab in intimate contact with somewhat less conductive Earth, and the slab in turn contains a network of metal bars in intimate contact with the concrete and available for your connections via the terminal point you brought out.

Now the slab conveys charges to Earth in two ways, first by direct sheet conductance, and second by capacitor action. The latter is most important for RF while the former is more important for low frequency and static charges. Since the slab is large, it makes a much better Earth connection than a few driven rods (resistors in parallel again).

If you plan towers, install the bases and radial ground systems now while the backhoes and concrete trucks are available. Also dig the trenches and lay the conduit for any cable runs between the towers and the shack. Don't forget a rotproof pull rope in the conduits.

I'd also recomend a perimeter ground be installed in addition to any other grounding you do. This is just a 2/0 bare copper wire buried all the way around the house, out about 4 feet from the foundation. This will tend to equalize potentials across the house in the event of a nearby lightning strike.

Now remember, *all* Earth connections must be tied together in *star*, no daisy chains. Think about this layout while you are planning it. It will be convienent if your ground window can serve as the star point. But if that isn't practical or desirable for some reason, make it possible to run a straight heavy conductor from the Earth terminal star to the ground window. Outside the ground window, it is acceptable, and often desirable, to make a star of stars when laying out the grounding plan. Don't let this happen *inside* the ground window, however.

Now on to the house itself. The first thing I would do is specify 2x6 wall studs instead of the typical 2x4. This has several benefits while costing very little extra. First it allows more wall insulation which will cut down on your heating and cooling bills. Second, and of interest to hams, it allows fairly large conduits, 4 inch, to be placed in the walls. Third, it makes the house stronger (couldn't hurt, right?). Again, don't forget the pull ropes. Plan the conduit runs to make establishing a ground window simple.

Now for other generic wiring, you should establish a wiring closet in the house. Run all telco, CATV, home automation, network, alarm system, etc cabling to this wiring closet. Don't daisy chain from outlet to outlet, bring everything back to the wiring closet in star. This will make it trivial to reconfigure if you add phone lines later, decide to subnet, want to rezone the alarm system, or just need to troubleshoot wiring problems. Run more wires than you think you'll ever need. They still won't be enough.

Power. There are never enough outlets, there are always too few breakers. Put in more outlets than you think you'll ever need, and use more breakers than you think you'll ever need. Use heavier gauge wire than the Code requires so that you can upgrade outlets and breakers later if you find you need more power to a certain location, IE wire for 30 amps even if you only intend to use 20 amp breakers now. Wire is cheap, putting it in later isn't.

For the ham shack, remember you want a separate power feed here, with its own master disconnect, and arranged so the power feed passes through your ground window for suppression. A complete subpanel is best, with 220 and 110, for both the amplifier and the rest of the station. (Note any *other* wires that enter

the ham shack have to pass through the ground window too. That includes telco, network, alarm system, etc. DON'T MISS EVEN ONE. That's all it takes to ruin your entire protective plan.)

Use GFI outlets in the ham shack and the workshop. They may save your life one day. Of course follow Code and put them in wet areas like the bathrooms and kitchen too. If you're feeling rich, put them everywhere. I think individual GFI outlets are better than GFI breakers, some electricians may disagree. Regardless, insist on GFI outlets on the hamshack side of the ground window, the GFI breakers back in the main panel will be ineffective past the ground window.

Figure you'll want to add a coffeemaker, a microwave, and a small refrigerator to the ham shack one day. Leave space and provisions for power for these vital necessities. A bathroom should also open immediately off the ham shack.

I could go on and on, and often do, but this hits the high spots of what you should be thinking about.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2624. repalcement for LM 170/270/370

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: allent@mnsinc.com
Message-ID: <3sif7g$fsm@news1.mnsinc.com>
Source record: 112231

I believe this audio amp with built-in vox was discontinued some time ago. Does anyone know of a source or substitute?

2625. Re: 6C33C Tube Transmitter (Was: High Efficiency MOSFET HF Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3siatu$f47@tierra.santafe.edu>
Source record: 112232

cloutier@eisner.decus.org (Steve Cloutier - Notes 'R Us) wrote:
>
>
>I don't understand why I would be exceeding the dissipation of the
>tube, but maybe I'm missing something (probably)!
>
>The rating sheet I got (a poor one at that) shows the tube good for
>60 watts (both units together) and a max plate current of 600MA. Nothing

There is a complication in calculating the power when the output is sinusoidal. The anode voltage is varying from saturation to some higher value during the time the grid is pulsed to Vgmax. The wider the pulse with respect to the rf period the more dissipation. Of course the power output goes up also. There is some maximum efficiency, just like normal class C operation. This will occur somewhere between 90 and 180 degress of on-time. (For normal class C maximum efficiency occurs at around 140 deg. conduction angle.) You can calculate the grid and anode dissipation by looking at the constant current curves for the tube. Both the anode and grid current vary along a line of constant grid voltage during the fraction of the cycle that the tube is on. From the tube power input you can calculate the power output and the power dissipation. Essentially all power produced at harmonic frequencies is dissipated in the tube. My conclusion from the 40 kW amplifier (which I recently beefed up to 60 kW) is that the efficiency is somewhat less than with sinusoidal drive, but the simplicity of not having a grid/cathode tuned circuit was worth it.

--
==========

James M. Potter, President Internet: jpawi@roadrunner.com
JP Accelerator Works, Inc. AOL: jpawi@aol.com
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

2626. Re: NEED HELP! Respond : Grounding 'Experts' !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: thora@telepost.no
Message-ID: <3siv1m$h88@nms.telepost.no>
Source record: 112233

In <3si488$q09@ixnews4.ix.netcom.com>, mjsilva@ix.netcom.com (michael silva) writes:
>
>>: Does anyone of the ground experts have a good tip for a shack on the
>>:first floor?
>>:
>>
>>A *real* radio ham would fill up the ground floor with soil.
>>
>And sprinkle it every day to keep it moist...
>
>Mike, KK6GM
>

I'm living in Norway, no need for that, except for a couple of days in the summer.

Thor.

2627. Site for QRP stuff???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: LEMPICKI@deimos.oit.umass.edu
Message-ID: <3sjgi9$bp5@nic.umass.edu>
Source record: 112234

Hi! I am interested in finding plans & discussions on QRP rigs. Does anyone know if a site exists on this subject? --Gerry

2628. Need PC board for 30-50 Amp 12 VDC power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: shustak@parkcomm.iii.net
Message-ID: <3sk1s6$i89@news.iii.net>
Source record: 112235

Hi. N1AUP here.

I would like to build a high current, 13.8 VDC power supply to power my
ham station. I need a circuit board that will handle the regulation and protection
circuitry for such a project. Has anyone seen a company who sells such an
item? I want to build a first class supply using a transformer that I just picked up.

Thanks.
Chris

2629. Modifying CB Amp for multiband HF use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: stickler@iag.net
Message-ID: <stickler-2506951454430001@pm1-orl15.iag.net>
Source record: 112236

How difficult/feasible is it to modify a CB amplifier (e.g. 5W -> 30W)
for use on multiple HF bands? Is it as simple as replacing the final
filter with several bandswitched filters, or would such an amp not be
suitable for the lower HF frequencies?

Thanks,

==
Patrick Stickler * KC4YYY * Orlando, Florida U.S.A. * stickler@iag.net
----
Don't put off until tomorrow what you can do today; for if you enjoy it
today, you can do it again tomorrow...
==

2630. How 'bout a freq. counter using SB sound card?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: shima@eel.ufl.edu
Message-ID: <3skblr$frr@huron.eel.ufl.edu>
Source record: 112237

Anyone interested in a frequency counter program using a PC and a SB sound card? I am thinking of writing one that may handle frequencies up to 6kHz. IT would list all strong frequencies in a given signal over a set noise threshold.

Any takers?

shima@eel.ufl.edu

2631. Site for QRP stuff???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.3037.546@acenet.com>
Source record: 112238

Newsgroups: rec.radio.amateur.homebrew

RLL>Hi! I am interested in finding plans & discussions on QRP rigs. Does anyo
RLL>know if a site exists on this subject? --Gerry

Hi Gerry - do a SUBSCRIBE message to
qrp-l@lehigh.edu

you will love it!

 SLMR 2.1a Sticker seen on the Enterprise computer: Motorola Inside

2632. Re: 3/8 wave 2M vert question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: Timothy Stephenson <timstep@cello.gina.calstate.edu>
Message-ID: <3skm15$crm@cello.gina.calstate.edu>
Source record: 112239

Re: invisible antenna with gain needed:

If you have a patio, you might suddenly develop a hobby of kite-flying, and make a nice, big, box kite, about 19 1/2 inches on a side, with a tube of brightly-colored nylon strung between the refelector and driven element, and another between directors 1 and 2. This sort of a quad is extremely easy to build (I did it), but the dimensions escape me at the moment. (Email for them if you wish... I'll ferret them out). Anyway, you could point it at a favorite repeater site and accept all of the compliments on your new patio decoration. Respectfully, Tim (timstep@cello.gina.calstate.edu)

2633. 219 MHz linear hybrid info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun25.190832.3271@ke4zv.atl.ga.us>
Source record: 112240

My databooks are getting a little long in the tooth and
I need to find a suitable modern hybrid amplifier module
for a project I'm designing. I need to take a +11 dBm
linear signal to somewhere in 10-30 watt range. I've found
a module that will do 30 watts with 3 watts drive, but that
means I need an intermediate amplifer. I'd be happier with
a single module that would go from 10 mW directly to 10 watts
or so. Alternatively, I'd be interested in hearing about a
module that will bridge the 10 mW to 3 W gap. Anyone have
any suggestions?

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2634. Simple UHF receiver circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-25 00:00:00 UTC
From: none-set <71171.1506@CompuServe.COM>
Message-ID: <3sk94v$fi7$1@mhade.production.compuserve.com>
Source record: 112241

I am looking for a simple circuit which would be
able to receive a single UHF frequency. Does
anyone know if a kit for something like this exists?
Or, could it easily be done using a crystal?
Thanks for your help! Greg.

2635. Help with tranciever for 2400 BPS modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: site@flood.xnet.com
Message-ID: <3sl0hr$qdu@flood.xnet.com>
Source record: 112242
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

```
From xnet!site Sun Jun 25 19:46:22 1995
Path: xnet!site
From: site@flood.xnet.com (Douglas Armstrong)
Newsgroups: alt.radio.digital
Subject: Help with tranciever for 2600 BPS modem
Date: 21 Jun 1995 02:59:16 GMT
Organization: XNet - A Full Service Internet Provider - (708) 983-6064
Lines: 19
Message-ID: <3s81u4$lri@flood.xnet.com>
NNTP-Posting-Host: cyclone.xnet.com
X-Newsreader: TIN [version 1.2 PL2]

My previous post must not have made it through. (were having trouble with
the server or some provider somewhere) My question relates to
transievers, I am new to radio and need some direction. I am currently
building two 2600 BPS modems (using the EXAR chipset XR-2400 with
XR-2443 microcontroller) These are standard telco modems, but I am
adding audio in and out jacks. Can I connect these directly to audio
in/out of the transiever? If I used a 9600/14.4/28.8 modem could I
connect it directly? What frequency should I look for? What price
should I expect to pay? I am building 2 to set up a communications link
between two devices through standard serial ports. I have heard
*some*thing about a TNC, is this for packet radio? With my setup will I
be able to access packet radio? Ack, I am confused. Will this require
an FCC license, if so where can I get a book to study for it. I need a
reange of a few miles, but if price is too much I can settle for around
500ft. Are there any FCC regulations against encrypting my signal? Can
I keep it up for extendad periods?

That's enough questions, I would really appreciate it if you could Email
me at site@xnet.com, thanks!
```

2636. need help listings electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: Charles Hulen <cfhulen@USIT.NET>
Message-ID: <3slbbj$qn1@news.usit.net>
Source record: 112243

Don't mean to disturb anyone, but I'm new to using USENET and I can't seem to find any groups
that cater to surplus parts precurment, and elctronic circuit building in general. If anyone
knows of any newsgroups, Websites, etc. could please drop me an "E" at 'cfhulen@usit.net'?
Any help you could give me would be appreciated. I like to build small
circuits such as sound f/x (w/ speakers or feed to stereo input), etc. Small stuff like you
used to find in Elementary Electronics. Do any of the magazines still publish? Do you have any
800 numbers/addresses I could to subscribe? Since I can't walk no more, I can get to store to
buy any, been 6 years now and my mom don't know what to look for!

2637. High Idle on 5.7L GM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: allent@mnsinc.com
Message-ID: <3sln23$jg@news1.mnsinc.com>
Source record: 112244

Date of first post/this post: June 26, 1995/June 26, 1995

DON'T BE ANNOYED if you've seen this before.
I am going to troll with this for a few days.

Also, EXCUSE ME for length of this post.

TO: SOME SMART PERSON
FROM: Dave Allen, Falls Church, VA (allent@mnsinc.com)

Vehicle: 1988 Chev Conversion Van
Engine: 5.7L w/ TBI-220
History: 82K Miles
- - - GM Target Trans at 61K July 1993
- - - A/C currently inoperable (believed to be unrelated)
- - - No maint other than routine

****
Problem: High Idle - 800-1000 RPM in gear; 1500-2000 in P/N

Bottom Line: Do I want to mess with this? Do I have a choice?
****
Background

This HI problem has been driving me nuts. Began gradually (esp in P/N) at 55-60K miles, after clogged fuel filter caused surging and loss of power. Shortly thereafter, transmission began failing, was removed, repaired and eventually replaced.

Prime Suspect: Idle Air Control valve

Recently cleaned & TBI bore. Ran service manual test of turning on key waiting 20 secs for Electronic Control Module (ECM) to command IAC pintle fully closed in TBI bore & disconnecting IAC lead (visual inspec shows bullet head to be sticking well into TBI bypass port). Started engine -- no effect. Idle cut-off set screw has no effect.

Cause of High Idle

HI can only come from too much air in manifold, right? If it's not IAC by-pass air, either a vacuum port attachment, the manifold (unlikely?), the TBI unit or its interface is leaking. Right?

Svc Man suggests very careful inspection for vac leak. TBI is heavily encumbered with accessories & 4-5 manifold ports for EGR, AIR, etc. I could not remove the rigid double 1/8 inch tube fitting at the port on the front of the TBI (for fear of breaking it); it appears secure. I was unable to detect leak, but possibly I was not looking in the right

place(s).

Lesser Suspects

Timing is correct & PCV valve appears OK. I am discounting leaky injectors; however, fuel consumption is up (because of HI?). ECM inputs for P/N switch, A/C relay, and O2 sensor voltage appear normal..

Without SCAN tool and getting no ALDL codes, am assuming ECM is properly commanding the IAC. At any rate, fully closing the IAC has no effect, so I am concluding physical/mechanical vice electronic/electrical problem. It this a correct assumption?

Possible Clue?

Throttle Position Sensor (TPS) voltage responsive and within specs Strangely, when spraying de-gummer agent around outside of TBI, idle dropped into spec when fluid was continuously sprayed around TPS/throttle shaft connection. Was cool spray altering TPS voltage or was fluid sucked into a vacuum leak around throttle shaft or other opening? Seems impossible to inspect this area.

Manual makes mention that *some* TBI's have *hidden* dust shields. Could these have deteriorated? Could TBI be leaking air elsewhere? I lightly snugged 3 manifold attach bolts. No change. Could the TBI/manifold gasket be leaking?

What to Do?

Since I can't get the vehicle to pass EMT with the high P/N idle speed, I suppose I will have to give up & put it in shop, but I hate like hell to admit defeat and assume the Ben Dover position when I SUSPECT it may be a *simple* fix.

3 questions --

1. Has anyone had experience that might provide a key to solving this problem?

2. Where can one go for info on this?

3. Does GM have a *service kit* for TBI's that might include seals and gaskets? If so, would it be a good idea to try this? Do I want to remove the TBI? In many respects it seems more straight-forward and simpler in design than a 4-barrel carburetor with calibrated floats & metering jets, etc.

Any thoughts/advice on this would be helpful. . An e-mail would be most appreciated.

For those interested, I would be happy to share whatever I learn.

Dave Allen
allent@mnsinc.com

2638. re: WTD: 2 M Walking Stick Beam

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <3smepd$fj2@ixnews4.ix.netcom.com>
Source record: 112245

In <545_9506221730@mba.mba.org> Michael.Black@juxta.mba.org (Michael Black) writes:

>
>byron_hellewell@out.trw.com (Byron) is looking for plans for
>a 2m and 70cm beam that can be taken apart and the elements
>put in a the PVC boom for storage.

I built one, not that fit in the boom, but fit in a 2 foot long 2" diameter tube, that worked on 2m, 220, and 440.

Started with a heavy telescoping CB antenna, used the thick end and extended it out and cut off the small end to the length of the 2m beam. I took 3 pair of TV rabbit ears, built clamp-on rings to clamp to the CB antenna, and cut the rabbit ears so extended were the correct length for 2m. The rabbit ears had a flat mounting tang, so I was able to fold them back for storage. The clamp on rings were the only things that had to be fabricated, I cut 3/8" wide strips of 1/8" aluminum and bent them the right diameter for each half of the 3 clamps for the TV rabbit ears, then attached them with screws to hold the rabbit ears, but swival to store.

Anyway you should get the idea, then I found with a tape measure I was able to position the elements and lengths for 220 or 440, not as simple as just pulling out to full length, but it did work.

Just wander around in hardware stores, surplus stores and let you imagination take over.

I also have a 2m dual element quad that stores in a 4' 2" tube, be creative, that's the fun part.

Then there is my portable 80m 6 foot diameter capacity hat that fits in a Large coffe can, complete with loading coil.

KI5GY Glenn Sparks

2639. Re: 219 MHz linear hybrid info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: zlau@mgate.arrl.org
Message-ID: <3sml92$ru@mgate.arrl.org>
Source record: 112246

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:

: My databooks are getting a little long in the tooth and
: I need to find a suitable modern hybrid amplifier module
: for a project I'm designing. I need to take a +11 dBm
: linear signal to somewhere in 10-30 watt range. I've found
: a module that will do 30 watts with 3 watts drive, but that
: means I need an intermediate amplifer. I'd be happier with
: a single module that would go from 10 mW directly to 10 watts
: or so. Alternatively, I'd be interested in hearing about a
: module that will bridge the 10 mW to 3 W gap. Anyone have
: any suggestions?

The Mitsubish M67712 only needs about 100 mW to generate
the rated 25 watts at 222 MHz from reports I've gotten.
According to the data sheet for this part, the gain is
just a little less (33 vs 34 W when driven with 300 mW).

A MRF 581 can be used to drive it cleanly with just a few
mW. The March 1994 QEX has a suitable circuit, though you
could probably do better with an "optimized" version.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2640. R2 doesn't like low voltage

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDAsG44.EA0@netcom.com>
Source record: 112247

A problem with the Rick Campbell R2 receiver design (Jan. 1993 QST)

Trying to run a bit of battery-powered Field Day from home, I was reminded of a problem I've had with my R2 receiver: the audio drops out very suddenly below about 11.9 volts. And I mean abruptly right at that voltage! This obviously creates problems for battery operation.

With my scope, I traced the problem to the LM387 audio preamp stage. The stages before this were still working below 11.9 volts.

Anything one can do to re-bias that stage or something? Or do I have a marginal chip?

[John Seboldt rohrwerk@netcom.com / Aaaaaahhh....
] Amateur radio K0JD... / BAAAAACH!
[Church of the Annunciation, / (Radar O'Reilly)
] Minneapolis /

2641. Re: Modifying CB Amp for multiband HF use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <3smpkn$r8@erinews.ericsson.se>
Source record: 112248

stickler@iag.net (Patrick Stickler) wrote:

>How difficult/feasible is it to modify a CB amplifier (e.g. 5W -> 30W)
>for use on multiple HF bands? Is it as simple as replacing the final
>filter with several bandswitched filters, or would such an amp not be
>suitable for the lower HF frequencies?

>Thanks,

Hi Pat,
These amplifiers can often be 'pulled' (or tuned up) to the 10 Meter
band, but that's about it. The transistor matching networks are
always too high Q (narrow band) to support multiple band operation.
You'ld be doing good to get it to operate over both the sideband and
FM portions of 10M band at the same time.

Hope this helps,
Mike Groves KD6PKJ

2642. 2m? 70cm? How hard?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: KMTG59A@prodigy.com
Message-ID: <3sn0ah$jb8@usenetw1.news.prodigy.com>
Source record: 112249

How hard is it to build VHF/UHF transmitters and recievers? (2m and 70cm)

I realize that 'how hard' is a realitive thing, so how does it compare to building HF QRP stuff or microprocessor/microcontroller projects?

DAVID COVERT, KB5GOG KMTG59A@prodigy.com
-or- Dave_Covert@msn.com
-or- davecove@microsoft.com
Take your pick...

2643. Re: 3/8 wave 2M vert question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: mark@ve6mgs.ampr.org
Message-ID: <1995Jun26.194724.9575@ve6mgs.ampr.org>
Source record: 112250
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Followups directed to rec.radio.amateur.antenna.

Garry Foster <gmfoster@grape.epix.net> writes:
>On Sat, 24 Jun 1995, J. Patrick Tyker wrote:
>> 1/4 wave I have now is made of about 36 guage berylium-copper wire
>> and 4 lb fishing line. The ground plane is the steel box that the air
>> conditioner sits in (protrudes out from the building). The fishing
>> line runs from the top of the 36 ga radiator to the gutter, holding
>> it vertical.
>Why don't you make a 1/2 wave JPOLE in a PVC pipe. Paint the pipe to
>match your house and if any one aske tll them its an ultra sonic burglar
>alarm. Use non metalic paint of course.

Why not make the J Pole out of copper pipe then, using the appropriate
unions. It will look exactly the same once painted, and would have the
additional advantage of a flatter SWR curve due to some broad-banding.

Ciao -- 73 de VE6MGS/Mark -sk-

2644. Looking for schematics/plans for homebrew TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: negaard@draagen.graceland.edu
Message-ID: <NEGAARD.95Jun26163522@draagen.graceland.edu>
Source record: 112251

I'm looking for plans for a simple but reasonably-performing TNC.
I've got the skills to etch a board and build the thing, and I might
even be able to lay my hands on a PROM burner, but I need a plan/place
to start.

I'd _like_ one that incorporates or can incorporate a 'standard' modem
disconnect header, and I'd also like one that might be useful for
working PACSATs someday (with appropriate modifications, if
necessary). It would also be nice if it either had a state machine
DCD or used an XR-2211 (so that I could use the TAPR mod).

Any or all of these extras are negotiable. What's _not_ negotiable is
at least KISS capability (I'd use a Baycom, otherwise). I want to use
this with Linux, and KISS _might_ be all I'd need, but I'd still be
happier with more.

Any pointers/tips? I'm living on a budget that would starve a
field-mouse, so I'm looking to do things on the cheap. Any help would
be appreciated...
--
o David Negaard o negaard@graceland.edu
o Help Desk Technician o http://www.graceland.edu/~negaard
o 700 College Avenue o linux-phile
o Lamoni, IA 50140 o 73 de KB0PXK

2645. Re: Modifying CB Amp for multiband HF use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: bgn00@juts.ccc.amdahl.com
Message-ID: <3sn03j$i3k_001@spg.amdahl.com>
Source record: 112252

In article <3smpkn$r8@erinews.ericsson.se>,
eus.eusmge@memo.ericsson.se (Mike Groves) wrote:
>stickler@iag.net (Patrick Stickler) wrote:
>
>
>>How difficult/feasible is it to modify a CB amplifier (e.g. 5W -> 30W)
>>for use on multiple HF bands? Is it as simple as replacing the final
>>filter with several bandswitched filters, or would such an amp not be
>>suitable for the lower HF frequencies?
>
>>Thanks,
>
>Hi Pat,
>These amplifiers can often be 'pulled' (or tuned up) to the 10 Meter
>band, but that's about it. The transistor matching networks are
>always too high Q (narrow band) to support multiple band operation.
>You'ld be doing good to get it to operate over both the sideband and
>FM portions of 10M band at the same time.
>
>Hope this helps,
>Mike Groves KD6PKJ
>

I have had NO PROBLEMS with the use of CB type amps on 80-10 meters.
The only problem is that the input impedance will become very low at
7 - 3.5 Mhz. This can be fixed by installing about 18 Ohms of series
resistance to the input curcuit. Or by using a cheap 200watt MFJ
antenna tuner. The second problem is that there are no output filters.
The second and third orders will be amplified. If your using a Hi-Q mobile
antenna the amount of power radiated will be very low at the harmonic
frequencies. Don't use a spider antenna without adding output filters.

By the way, most internal antenna tuners like those found in the Yaesu
FT-890/AT or FT-900/AT will not match the input impedance at 7 to 3.5Mhz
without the addition of these series resistors. I have a metron MB-1000B and
it too has series resistors in the input curcuit for this same probelm.

Name: Bill.Nadzam
E-mail: bgn00@juts.ccc.amdahl.com (Bill.Nadzam)

2646. Need Data Sheet of LM 1391

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: limaux <LIMAUX%wema@wema02.elektro.uni-wuppertal.de>
Message-ID: <3smd22$mpm@wmwap1.math.Uni-Wuppertal.DE>
Source record: 112253

I am looking for the data sheet of the LM 1391. I have found this chip in a monitor for Horizontal synchro, i suppose. Please send the answer in this news group or to :

LIMAUX%wema@wema02.elektro.uni-wuppertal.de

2647. Re: R2 doesn't like low voltage

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <3sn8kn$mmj@abyss.West.Sun.COM>
Source record: 112254

In article EA0@netcom.com, rohrwerk@netcom.com (John Seboldt) writes:
>A problem with the Rick Campbell R2 receiver design (Jan. 1993 QST)
>
>Trying to run a bit of battery-powered Field Day from home, I was
>reminded of a problem I've had with my R2 receiver: the audio drops out
>very suddenly below about 11.9 volts. And I mean abruptly right at that
>voltage! This obviously creates problems for battery operation.
>
>With my scope, I traced the problem to the LM387 audio preamp stage. The
>stages before this were still working below 11.9 volts.
>
>Anything one can do to re-bias that stage or something? Or do I have a
>marginal chip?

I had exactly the same problem about a million years ago (well, in 1979
or maybe 1980). The chip simply wouldn't realibly work off the
automotive power supply but was fine at 15V. I don't recall anything
could be done to change it; the issue is with internal bias sources.

You could use a voltage inverter (like the 7660) to pump up a negative
supply, maybe....

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

2648. Re: Building a Home! (Now that's home Brew...:) (Suggestions?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1995Jun26.200650.6526@grian.cps.altadena.ca.us>
Source record: 112255

gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>ahall@ux4.cso.uiuc.edu (Allen John Hall) writes:
>>I saw a thread a long long time ago about putting stuff in a home that
>>was going up to make a Ham's life easier. I'd like to dredge that thread
>>back up again since my parents are currently building a house. (Don't worry,
>>my father is really interested in getting his license, and agrees we should
>>do stuff now before it's too late).
>>
>>I remember some talk about conduit, and also about grounds etc... If
>>anyone can tell me about anything that they have done to make their life
>>easier (when they built their home etc.), I'd really appreciate it!

>Well, there are a few areas where doing it right while you're building
>the home can make things a lot easier later. From the bottom up, here
>are some things to consider.

<snip>

>If you plan towers, install the bases and radial ground systems
>now while the backhoes and concrete trucks are available. Also
>dig the trenches and lay the conduit for any cable runs between
>the towers and the shack. Don't forget a rotproof pull rope in
>the conduits.

If your dad has a motor home, consider laying out the back yard and
garage so he can get the motor home into the back yard. Makes it less
conspicuous to the neighborhood. One acquatintance of mine designed his
garage with a 10' roll-up door on the front _and on the back_ of the
garage, so he could drive the motor home thru the garage. Also made
it easy to do work on other vehicles. He also had a 110v/220v outlet,
RJ-11 phone outlet, sewer cleanout and natural gas line in the patio slab
next to where the motor home would be parked.

>Now on to the house itself. The first thing I would do is specify
>2x6 wall studs instead of the typical 2x4. This has several benefits
>while costing very little extra. First it allows more wall insulation
>which will cut down on your heating and cooling bills. Second, and
>of interest to hams, it allows fairly large conduits, 4 inch, to be
>placed in the walls. Third, it makes the house stronger (couldn't
>hurt, right?). Again, don't forget the pull ropes. Plan the conduit
>runs to make establishing a ground window simple.

I'd specify 2x8s for the exterior perimeter walls. More insulation.
Lower heating & cooling bills. And specify that walls between bedrooms
and the adjcent rooms be 2x6, and fiberglass-filled. Makes it nice and

quiet.

>Now for other generic wiring, you should establish a wiring closet
>in the house. Run all telco, CATV, home automation, network, alarm
>system, etc cabling to this wiring closet. Don't daisy chain from
>outlet to outlet, bring everything back to the wiring closet in star.
>This will make it trivial to reconfigure if you add phone lines later,
>decide to subnet, want to rezone the alarm system, or just need to
>troubleshoot wiring problems. Run more wires than you think you'll
>ever need. They still won't be enough.

Run the utilities underground from the pole to this room - i.e. the
underground conduit from the pole comes to this room. Read a
good book on EMP, and lightning, and incorporate what you learn
into the phone and CATV feed.

>Power. There are never enough outlets, there are always too few
>breakers. Put in more outlets than you think you'll ever need,
>and use more breakers than you think you'll ever need. Use heavier
>gauge wire than the Code requires so that you can upgrade outlets
>and breakers later if you find you need more power to a certain
>location, IE wire for 30 amps even if you only intend to use 20
>amp breakers now. Wire is cheap, putting it in later isn't.

20 amp outlets have one prong that is a "T" shape, the other is an "I"
shape. 15 amp outlets have two "I" shaped prongs. The outlets
themselves come in several grades, the top grade is "hospital" grade.
Specify the middle grade - the prongs are tighter, more metal in them.

Put a telephone jack everywhere you will want one - and pull at least
3-pair, if not 6-pair. The labor is the same, 1,000' of 3-pair
is under $40, 6-pair is under $70. Mount the RJ-plates in plastic
single-gang outlet boxes, and use 1/2" plastic conduit stubs into the
attic, with a pull rope. Use double or triple jack plates, and wire
two pair to each jack. Put an extra outlet box (with a blank plate)
on every wall of every room, with a pull rope. Home run every cable pull,
be it phone, TV Coax, alarm system, doorbell, stereo speakers, etc.
Use a telco "66" block to terminate the cables for the phone jacks
(called "inside wire" or "station wire" in the trade).

If you have questions about phone wiring, there was a long thread
about phone and home LAN wiring in comp.dcom.telecom recently. You
might post over there and ask if anybody saved it.

And put a extra phone jack on the front porch (under a weatherproof
flap), and by the back porch (ditto), and in the garage. Put a mini-
toggle switch in the wire closet to cut off the outside jacks.

A friend of mine in Phoenix AZ taught me the trick about the extra
boxes - they are cheap when done before the drywall goes up, and can
come in very handy. Since he moved in, he has used several: one for AC
power, because the couch blocked one outlet, another for a RG-58 run to
a scanner, and two others for phone jacks he didn't think he'd need

when the plans were laid out.

>For the ham shack, remember you want a separate power feed here,
>with its own master disconnect, and arranged so the power feed
>passes through your ground window for suppression. A complete
>subpanel is best, with 220 and 110, for both the amplifier and
>the rest of the station. (Note any *other* wires that enter
>the ham shack have to pass through the ground window too. That
>includes telco, network, alarm system, etc. DON'T MISS EVEN
>ONE. That's all it takes to ruin your entire protective plan.)

I'd have a panic button by the door that kills all the outlets
except for a clock, and a baby fridge.

>Use GFI outlets in the ham shack and the workshop. They may save
>your life one day. Of course follow Code and put them in wet
>areas like the bathrooms and kitchen too. If you're feeling
>rich, put them everywhere. I think individual GFI outlets are
>better than GFI breakers, some electricians may disagree.
>Regardless, insist on GFI outlets on the hamshack side of
>the ground window, the GFI breakers back in the main panel
>will be ineffective past the ground window.

I like GFI outlets in the bathrooms and kitchen - I saw a note once
that went something like "Nothing is more aggravating to a woman
than to get out of the shower, pick up the hair dryer, and have the
breaker pop, then have to go across the house, down to the basement
(dripping, and in a towel) to reset an <expletive deleted> GFI breaker."

>Figure you'll want to add a coffeemaker, a microwave, and
>a small refrigerator to the ham shack one day. Leave space
>and provisions for power for these vital necessities. A
>bathroom should also open immediately off the ham shack.

All of which make a nice contest station even nicer...
Don't forget the hide-a-bed couch in the ham shack.

>I could go on and on, and often do, but this hits the high
>spots of what you should be thinking about.

>Gary
>--
>Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
>Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
>534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
>Lawrenceville, GA 30244 | |
--
Mike Morris WA6ILQ | All opinions must be my own since nobody
PO Box 1130 | pays me enough to be their mouthpiece...
Arcadia, CA. 91077 |
ICBM: 34.07.930N, 118.03.799W | Reply to: morris@grian.cps.altadena.ca.us

2649. Re: need help listings electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1995Jun26.201100.6973@grian.cps.altadena.ca.us>
Source record: 112256

Charles Hulen <cfhulen@USIT.NET> writes:

>Don't mean to disturb anyone, but I'm new to using USENET and I can't seem to find any groups
>that cater to surplus parts precurment, and elctronic circuit building in general. If anyone
>knows of any newsgroups, Websites, etc. could please drop me an "E" at 'cfhulen@usit.net'?
>Any help you could give me would be appreciated. I like to build small
>circuits such as sound f/x (w/ speakers or feed to stereo input), etc. Small stuff like you
>used to find in Elementary Electronics. Do any of the magazines still publish? Do you have any
> 800 numbers/addresses I could to subscribe? Since I can't walk no more, I can get to store to
>buy any, been 6 years now and my mom don't know what to look for!

First, post using lines less than 78 columns - it makes it a lot easier
to read.
Second, go to sci.electronics - it's just what you are looking for.

--
Mike Morris WA6ILQ | All opinions must be my own since nobody
PO Box 1130 | pays me enough to be their mouthpiece...
Arcadia, CA. 91077 |
ICBM: 34.07.930N, 118.03.799W | Reply to: morris@grian.cps.altadena.ca.us

2650. Source for printed circuit boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: jeff.sumberg@sailboard.com
Message-ID: <8AC024C.012E000707.uuout@sailboard.com>
Source record: 112257

Anyone know of companies that will produce printed circuit boards of low quantity at LOW prices?

I've got a project that I would need about 2 to 5 boards for, but I don't want to spend "prototype" prices for.

Etching myself is out, the board is double sided and is a bit too complex.

--
73 de N2VYU
Jeff

* 1st 2.00d #32s * .

2651. Re: Site for QRP stuff???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: LEMPICKI@phobos.oit.umass.edu
Message-ID: <3snec1$nuv@nic.umass.edu>
Source record: 112258

Hi! Thanks to all of you that responded! I will be joining the list...
--Gerry KA1STZ

2652. Re: How 'bout a freq. counter using SB sound card?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: stratton@mit.edu
Message-ID: <stratton.45.015C562B@mit.edu>
Source record: 112259

In article <3skblr$frr@huron.eel.ufl.edu> shima@eel.ufl.edu (Shima) writes:
>Path: senator-bedfellow.mit.edu!bloom-beacon.mit.edu!gatech!usenet.eel.ufl.edu!newsmaster
>From: shima@eel.ufl.edu (Shima)
>Newsgroups: rec.radio.amateur.homebrew
>Subject: How 'bout a freq. counter using SB sound card?
>Date: 25 Jun 1995 18:59:07 GMT
>Organization: Your Organization
>Lines: 11
>Message-ID: <3skblr$frr@huron.eel.ufl.edu>
>References: <3skbfh$frr@huron.eel.ufl.edu>
>NNTP-Posting-Host: pppslip5.eel.ufl.edu
>X-Newsreader: WinVN 0.93.14

>Anyone interested in a frequency counter program using a PC and a SB
>sound card? I am thinking of writing one that may handle frequencies up
>to 6kHz. IT would list all strong frequencies in a given signal over a
>set noise threshold.

>Any takers?

>shima@eel.ufl.edu

I think what you mean is you want to do an audio frequency
spectrum analyzer. A project like this was published in
QST a while back, but using a custom audio input, before
the Sound Blaser type boards became common.

Basically, what you need to do is calculate a Discrete Fourrier
(not sure about spelling) Transform or DFT at a number of
different frequencies. You do this by in software generating
sine and cosine waves at each of the desired frequencies. Then
you multiply each sample from the soundblaster by the sine and
cosine and store the results in seperate x and y accumulator
arrays (one element for each freq. of interest). Let it accumulate
for a little while, then calculate each magnitude by sqr(x^2+y^2).
Rezero the accumulator arrays, and do it again - over and over.

You'd probably need to write in assembly language, although C
might work as well. Getting it to run under windows would be
a real pain. The faster your computer, the more discrete frequencies
you can divide your band into. The tricky part of the coding is
remembering to subtract the DC offset of the input, and figuring
out a way to multiply the 2's compliment numbers. Fortunately,
you only have to take the square root one per frequency at the end,
in order to get the answer.

I'd write the program (I once tried, but didn't know enough
then to get it to work) but I don't have a soundblaster.

Chris, N1IIR
stratton@mit.edu

2653. Temp Comp of osc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-26 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <804211756.AA02630@hamlink.mn.org>
Source record: 112260

Hi all,
I have a Colpitts type J-FET oscillator running at 14 MHz that I want
to apply some temperature compensation to. I am familiar with the
standard techniques, but I'm hoping that someone out there may have some
shortcuts to this tedious procedure.
By the way the un-comped osc currently has a negative temp coefficient.
Thanks for any input!
Bob L. WB0POQ

Technology is OUT of control.....

2654. Re: Modifying CB Amp for multiband HF use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: wb9omc@constellation.ecn.purdue.edu
Message-ID: <3spet8$4nc@mozo.cc.purdue.edu>
Source record: 112171

w8jitom@aol.com (W8JI Tom) writes:

<snip>

>My opinion is that these CB amps should be left on CB, unless the guy
>doing the mod thoroughly understands what he is doing.

Well, I won't disagree with you on the "dirtiness" of many
"CB" amps (especially the more "garage-company" units).

BUT - I can tell you that many's the time I wish I had a
solid state amp for 10 meters, about 100 watts.....and can't FIND one.
Build one? Maybe, but from what I've seen you can wrap up a fair amount
of cash in that for possibly only smoke in return. I haven't that much cash
to risk.

Thanks to the crud from CB, it is of course a problem for anyone
to manufacture and sell 10 meters amps.....

Duane
wb9omc

2655. Re: @@Radio Shack@@

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: redneck13@aol.com
Message-ID: <3sph0h$min@newsbf02.news.aol.com>
Source record: 112172

Radio shack now sells a FM 2meter mobile rig, that is around 40-45 watts.
They also sell a 2m HT that puts out 1 to 6 watts.

Jarred Lawler, Native American Redneck
redneck13@aol.com

2656. RCA Test Set Schem. (ML1000 vintage)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: Oz@SwRI.EDU
Message-ID: <3spnum$c4o@sun2.ccf.swri.edu>
Source record: 112173

I'm looking for a scematic of the RCA test set that was used with ML1000, VEE TAC and TAC TEC radios. I need to build a test set to work with these radios.

TIA

Oz@SwRI.edu (Rich Osman) SwRI didn't say it, I did.
(210) 522-5050 (w) (210) 699-1302 (h;v/msg/fax)

2657. Re: Modifying CB Amp for multiband HF use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <3snn3c$6ik@erinews.ericsson.se>
Source record: 112174

bgn00@juts.ccc.amdahl.com (Bill.Nadzam) wrote:

>I have had NO PROBLEMS with the use of CB type amps on 80-10 meters.
>The only problem is that the input impedance will become very low at
>7 - 3.5 Mhz. This can be fixed by installing about 18 Ohms of series
>resistance to the input curcuit. Or by using a cheap 200watt MFJ
>antenna tuner. The second problem is that there are no output filters.
>The second and third orders will be amplified. If your using a Hi-Q mobile
>antenna the amount of power radiated will be very low at the harmonic
>frequencies. Don't use a spider antenna without adding output filters.

I still cannot recommend what you are doing to others. You are asking
for problems. What happens to the gain of a bipolar transistor when
you move down in frequency? Uh, it goes up. Way up. Will your
amplifier stay stable with those very high gain conditions? It all
depends on who designed it. (Sorry, I just don't put much faith in
11M amp designers.) Do you even have a spectrum analyzer in line to
find out? Your bird watt meter wont tell you if you have spurs, but
the FCC will after they recieve a call. Harmonics are only part of
your concerns. Severe oscillations can happen quickly and are are
often distructive, then you get to witness a very expensive
flash-bulb.

Mike Groves KD6PKJ

2658. Re: re: WTD: 2 M Walking Stick Beam

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3snop5$7rs@parsifal.nando.net>
Source record: 112175

gsparks@ix.netcom.com (Glenn Sparks) wrote:
>
SNIP...
> Anyway you should get the idea, then I found with a tape measure I was
> able to position the elements and lengths for 220 or 440, not as simple
> as just pulling out to full length, but it did work.
>
SNIP...

Just a hint - calibrate the storage tube with marks for the settings
for the element lengths - it is much quicker than using a tape measure
and not as likely to get lost.

73,
Don W3FPR

2659. Re: Looking for GaAsFETs to buy

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: schiller@adobe.com
Message-ID: <1995Jun27.020936.12575@adobe.com>
Source record: 112176

In article <51316613wnr@pacsat.demon.co.uk> Simon Lewis
<slewis@pacsat.demon.co.uk> writes:
> In article: <1995Jun17.024051.3084@adobe.com> Stephen Schiller
<schiller@adobe.com> writes:
>
> >
> > Hi,
> >
> > If anyone knows of, or is, a source for GaAsFETs
> > in small quantities (like 3 or 4) please let me know.
> > Preferably HP-made, but I will settle for anything at this point.
> > (These will be used to build some VCOs, one with a center
> > frequency around 2.5GHz and another with a center frequency
> > around 3.5GHz. If you have some other parts for doing this,
> > I might be interested those.)
> >
> > Thanks,
> > Steve
> >
> > (schiller@adobe.com)
> >
> >
> >
>
> Why Gasfets? They are expensive for the job u want.
> Better to use a trannie like BFR91/96 or maybe even a mimic!
>
> Whats the VCO - I maybe able to help further
>

Well you are right, there are silicon transistors that could do the
job. But I haven't been able to locate a mail order, or surplus, source
for any of those either.

The fastest transistor I have found is an MRF901, which has an Ft of
around 4 or 5 GHz, and that is close enough to the upper range of one
of my proposed VCOs (4GHz) to make it hard to design a VCO with a *wide*
tuning range. But if you have some hints on how to do this I would be
happy to listen. (The purpose of these VCOs is to make a swept signal
generator from 0 to ~2GHz by mixing signals from 3GHz-2GHz VCO with a
3GHz-4GHz VCO. This, in turn, would then be used in a spectrum analyzer.)

Actually, I think the BFR91 is about as fast as the MRF901. Don't
know about the BFR96. I was looking for something with an Ft around
8GHz.

But I have to admit that another reason I was thinking of GaAsFETs is that I haven't used any before I wanted to get some experience with them. Someday I plan to build some equipment that operates at ~10GHz (radar stuff) where GsAsFETs would be more necessary.

- S

2660. DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: stratton@mit.edu
Message-ID: <stratton.46.01729045@mit.edu>
Source record: 112177

Direct Digital Synthesis is too noisy, and Phase Locked Loop
synthesizers don't have a small enough step size for HF use.
So it seems like a popular way to do things is touse DDS to
generate the frequency, but then use a PLL to reproduce a
spectrally clean version of it.

May QST had an article about a "DigiVFO", a DDS using 64
phase accumulator, but only 8 bit output fed to the DAC.
This was okay, because it drove a Drake rig that used
a PLL to clean up the VFO input. The Harris DDS code producer
chip acutally had 12 output bits, but only 8 were used to keep
the cost down.

By why even bother with 8 bits? The PLL compares the phase of
the local oscillator and the DDS (the reference). Why does it's
phase comparator care if the reference is a nice sine wave? In fact,
wouldn't it be happier with just a square wave? So why not use
a 1-bit DAC - ie, just feed the phase accumulator MSB into the PLL.

Re-arranging things conceptually, it seems that this is the
same as making a tradition PLL synthesizer capable of
non-integral division factors. That is, sometimes it divides
by int(f) and sometimes by int(f)+1 with the fractional part
being determined by the occurence ratio of the two divisors.

This seems to be about what a DDS does: the frequency desired
determines how much to increment the phase accumulator. At 360
degrees it rolls over to zero - but it won't actually hit zero
unless the numbers work out just right. Instead, the phase
samples actually used progress slowly each cycle. What
we're acutally doing is dividing the DDS clock by a non-integer -
by selecting an integral multiple of a tiny fraction of that clock.

I'm not sure if this argument makes any sense, much less if it
is correct. I would guess I'm missing something somewhere which
says that in the DDS/PLL hybrid, the DDS ouput has to at least look
like a reasonable sine wave, not a bunch of pulses that only average
out to being on frequency.

Anyone have any thoughts? I'm tryin to get my hands on the Harris
DDS code generator, and will see what happens with the MSB driving
a PLL - but if someone can tell me directly why this won't work,
it would save a lot of trouble.

Chris, N1IIR
stratton@mit.edu

2661. Mast-mounted pre-amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <DAuJMy.7uy@freenet.carleton.ca>
Source record: 112178

How do most pre-amp manufacturers for the Amateur market (ARR or SSB Electronics, as an example) accomplish switching for mast-mounted RF sensing pre-amps?

PIN diodes or relays?

If relays, how do they get them to switch fast enough without burning out the active device?

If PIN diodes, what would be likely candidates for 2 metres or 70cm? I'm looking at in the order of 100 watts RF for satellite applications only, not EME where I understand sequencers and quality RF relays are the norm.

Are there any existing circuits available? (QST, RSGB etc)

tnx in advance
Russ va3rr/aa8lu

2662. Re: How 'bout a freq. counter using SB sound card?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: rwa@cs.athabascau.ca
Message-ID: <3spo3g$mll@aurora.cs.athabascau.ca>
Source record: 112179

stratton@mit.edu (Chris Stratton) writes:

>The tricky part of the coding is remembering to subtract the DC
>offset of the input, and figuring out a way to multiply the 2's
>compliment numbers.

I'm a little curious as to why multipyling 2s complement numbers
is tricky? I seem to remember that the '386 and up have an imull
instruction that does this nicely. Perhaps you mean "multipling
complex numbers"? That's a little more work, but not tricky.

I always thought the tricky part was getting the butterfly right.

regards,
Ross
--
Ross Alexander, ve6pdq -- (403) 675 6311 -- rwa@cs.athabascau.ca

2663. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9505278042.AA804270969@mails.imed.com>
Source record: 112180

Chris:
Here is the short answer to your question: In order for the DDS part to work correctly you MUST convert the DAC output to a sine wave!

You have missed a subtle part of how the DDS part of the combo works. The PLL uses the zero crossings of the phase reference to do the phase comparison. When the DDS is working much above about 1/100th of the clock frequency (and especially when operating at less (more?) than 1/10th the clock frequency) the zero crossings in the fundamental can occur without changing the most significant bit of the phase accumulator. Remember that the output of the DAC is NOT just the fundamental, but several harmonics and alias frequencies. These spurious frequencies need to be filtered out. This can be a good low pass filter if you want DC to about 1/8 the clock frequency for the DDS output. You can get REALLY close to 1/2 the clock frequency over a narrow range of frequencies if you use a narrow bandwidth band pass filter. The filter filters out the phase jitter that would be inherent in the DAC output. If you do an analysis of the codes that come out for low fractions of the clock frequency (say 1/3) you will see that the DAC output changes from positive to negative by some pretty weird values and these zero crossings do not necessarily correspond to the zero crossings of the desired phase signal.

Ray Mack
WD5IFS
mack@mails.imed.com

2664. Mast-mount pre-amp switching

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <DAuJFE.7H1@freenet.carleton.ca>
Source record: 112181

How do most pre-amp manufacturers for the Amateur market (ARR
or SSB Electronics, as an example) accomplish switching for
mast-mounted RF sensing pre-amps?

PIN diodes or relays? If relays, how do they get them to switch fast
enough without burning out the active device?

If PIN diodes, what would be likely candidates for 2 metres or 70cm?
I'm thing of in the order of 100 watts RF.

I'm thinking of satellite applications only, not EME where I understand
sequencers and quality RF relays are the norm.

Are there any existing circuits available? (QST, RSGB etc)

tnx in advance
Russ
va3rr/aa8lu

2665. Re: Mast-mounted pre-amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <3sq2rv$3krj@lamar.ColoState.EDU>
Source record: 112182

In article <DAuJMy.7uy@freenet.carleton.ca> ae517@FreeNet.Carleton.CA (Russ Renaud) writes:
>How do most pre-amp manufacturers for the Amateur market (ARR or SSB
>Electronics, as an example) accomplish switching for mast-mounted RF
>sensing pre-amps?
>PIN diodes or relays?

My Mirage uses an Aromat relay, and I wait 1/2 second before I say anything
so the switching has happened.
>
>Are there any existing circuits available? (QST, RSGB etc)

Try the ARRL 'UHF Projects Manual'. For PIN diodes, you need to put
a 1/4 wavelength between the antenna and transmit terminals (I think !?!?!?).
You don't need to use an actual 1/4 wave of feedline, you can use
lumped elements.

galen, KF0YJ

2666. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: stratton@mit.edu
Message-ID: <stratton.47.000E02A5@mit.edu>
Source record: 112183

In article <9505278042.AA804270969@mails.imed.com> mack@mails.imed.COM writes:

>Chris:
> Here is the short answer to your question: In order for the DDS part to
>work correctly you MUST convert the DAC output to a sine wave!

> You have missed a subtle part of how the DDS part of the combo works.
>The PLL uses the zero crossings of the phase reference to do the phase
>comparison.

The DAC output cannot cross its midpoint (zero of the AC output) without the MSB of the 8 bit word fed to the DAC changing. Thus looking at the MSB of the sine output (which IS the same as the MSB of the phase register (but 180 degrees delayed)) will give a square wave with the same frequency and zero crossings as the sign wave - but it will be loaded with harmonics

>If you do an
>analysis of the codes that come out for low fractions of the clock frequency
>(say 1/3) you will see that the DAC output changes from positive to negative by >some pretty weird values and these zero crossings do not necessarily correspond >to the zero crossings of the desired phase signal.

True - the zero crossings aren't right - but they average out over time to being right. Some sort of LPF is used on the DDS sinewave to smooth it out, and this has the effect of moving the zero crossings closer to the right place. But they won't always be right - so what effect does this have on the ultimate PLL output spectrum? And what would be the effect of greater average deviation in zero-crossing timing, ie, a 1 bit DDS output?

Chris, N1IIR
stratton@mit.edu

2667. Re: How 'bout a freq. counter using SB sound card?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: markman@unix1.utm.edu
Message-ID: <markman.30.00120137@unix1.utm.edu>
Source record: 112184

>I remember seeing an ad for a program like that. There were
>two versions of the product, about $160/$200 retail, but this
>was two years ago.

>It could function as spectrum analyzer both in real-time and
>from a file. Runs under Windows. Real slick graphics.
>Don't remember the title or the manufacturer, though.

>Anybody remember who made this and what it was called??

>Satoshi Manabe/WH6CTO
>Kihei, Maui, Hawaii

>satoshi@maui.net

MCM carry's such a program. Actually they carry two programs. One for around
$40. that only processes in realtime and only 8bits. The other program is
around $180 and does realtime and postprocessing and uses either 8 or
16 bit sound cards. If you need MCM's number, let me know.

markman@UTM.Edu

2668. Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <3sq00g$av0@cismsun.univ-lyon1.fr>
Source record: 112185

Hello.
I'm looking (in the scope to build up a good rx)
for a design of a very low phase noise VCO.
Typically, I seek something very near what the ARRL book
qualifies as 'excellent'

I'll eat everything, every piece of bread :-)

Thanks !
Vince

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

2669. Wide freq. range current meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: bon@paradox.win.net
Message-ID: <321@paradox.win.net>
Source record: 112186

I am trying to determine the current supplied to a network composed
by a resistor in series with a general impedance. The signal applied
has a wide frequency range (from 1MHz to 160MHz) and its magnitude is
around 2V. The magnitude of the current to be determined could be
from less than 2mA to 20mA. I have tried to get it, using a small
toroidal transformer with the primary created with a single wire
passing trough the center of the toroid core. The primary can not
have a strong impedance character. The results were not indicative
of a close end.
I would appreciate sincerely to receive any kind of information able
to provide me with a satisfactory way out of the problem.

--
bon@paradox.win.net (Joaquin Bonilla, Forest, MS, USA)

2670. HIGH POWER RF SWITCH ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: fhartery@kean.ucs.mun.ca
Message-ID: <1995Jun27.202122.1@leif>
Source record: 112187

Hi,
This posting may seem a bit odd for this group, but I am looking
for a source for a high power solid state switch capable of 5 KW PEP
while operating in the RF band. If I seem a bit crazy here, it comes
with the territory ! Many thanks in advance.

Fabian Hartery
C-CORE
St.John's, Newfoundland, Canada

2671. Looking for schematics/plans for homebrew TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: hduff@humnet.westonia.com
Message-ID: <7899278026403@humnet.westonia.com>
Source record: 112188

>
> I'm looking for plans for a simple but reasonably-performing TNC.
> I've got the skills to etch a board and build the thing, and I might
> even be able to lay my hands on a PROM burner, but I need a plan/place
> to start.
>
> I'd _like_ one that incorporates or can incorporate a 'standard' modem
> disconnect header, and I'd also like one that might be useful for
> working PACSATs someday (with appropriate modifications, if
> necessary). It would also be nice if it either had a state machine
> DCD or used an XR-2211 (so that I could use the TAPR mod).
>
> Any or all of these extras are negotiable. What's _not_ negotiable is
> at least KISS capability (I'd use a Baycom, otherwise). I want to use
> this with Linux, and KISS _might_ be all I'd need, but I'd still be
> happier with more.
>
> Any pointers/tips? I'm living on a budget that would starve a
> field-mouse, so I'm looking to do things on the cheap. Any help would
> be appreciated...
> --
> o David Negaard o negaard@graceland.edu
> o Help Desk Technician o http://www.graceland.edu/~negaard
> o 700 College Avenue o linux-phile
> o Lamoni, IA 50140 o 73 de KB0PXK
>
>

The only plans that I've seen for "a simple but reasonably-performing
TNC" are for the TAPR TNC-2A. I purchased a bare board at Dayton 2
years ago. Came with the documentation and firmware on diskette.
You might want to contact TAPR and ask if they are still available.
Mind you, it's not really a "simple" TNC...it's a full blown upgradable
board.

Regards...Hugh VA3TO Toronto

NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/

2672. Responding to Spams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: leej@diver.asd.sgi.com
Message-ID: <3sphde$q0l@fido.asd.sgi.com>
Source record: 112261
Cross-posted to: rec.ponds,rec.puzzles,rec.pyrotechnics,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.railroad,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skate,rec.skiing.alpine,rec.skiing.snowboard,rec.skydiving,rec.sport.baseball,rec.sport.baseball.fantasy,rec.radio.amateur.antenna

In article <sjw1fA200iV0E25mgH@andrew.cmu.edu>,
Tse-Sung Wu <tw1u+@andrew.cmu.edu> wrote:
>Spam somewhere else, dude.

Folks - re-posting to a spam does nothing but lengthen its life. You want to do something about the spammers (and I'm all for that), contact postmaster@wherever.com. The big online services (aol, prodigy) seem to produce the most spams (probably because they have the most users, and many of those are fairly clueless :-). The good side of that is that those big online services also respond very quickly to spamming problems originating inside their walls.

The current one we're dealing with did *not* originate there - it came from a site called "ixc.net", which means nothing to me, but I'm going to send an e-mail to the postmaster@ixc.net, just in case.

Regards, Lee
--
Lee Jones | "Jesus just left Chicago, and he's bound for New Orleans."
leej@sgi.com | -Z.Z. Top
415-390-3356 |

2673. Re: - F R E E P U N K R O C K in alt.binaries.sounds.music

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: Tse-Sung Wu <tw1u+@andrew.cmu.edu>
Message-ID: <sjw1fA200iV0E25mgH@andrew.cmu.edu>
Source record: 112262
Cross-posted to: rec.ponds,rec.puzzles,rec.pyrotechnics,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.railroad,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skate,rec.skiing.alpine,rec.skiing.snowboard,rec.skydiving,rec.sport.baseball,rec.sport.baseball.fantasy,rec.radio.amateur.antenna

Spam somewhere else, dude.

2674. Re: Looking for schematics/plans for homebrew TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: jesus@simu1.ele.cie.uva.es
Message-ID: <3somoi$pam@maggie.cpd.uva.es>
Source record: 112263

David Negaard (Oberon-) (negaard@draagen.graceland.edu) wrote:
<deleted>

: Any or all of these extras are negotiable. What's _not_ negotiable is
: at least KISS capability (I'd use a Baycom, otherwise). I want to use
: this with Linux, and KISS _might_ be all I'd need, but I'd still be
: happier with more.

<deleted>
Why a TNC? You can build a PC ISA bus card with a z8530 SCC and you have
HDLC without TNC, and the drivers are distributed with the new versions
of the Linux kernel, and:

- You can get very high speeds if DMA is used (PI card).
- No eprom programming is needed.
- Some schematic about an opto-isolated SCC card (OptoSCC) are avaiable
(Sorry, I can't remember where are they)
--
$$
$ Jes&#65533;s Arias (jesus@simu1.ele.cie.uva.es) $
$$

2675. 2M Walking Stick Beam where can I find plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: bobszabo@ix.netcom.com
Message-ID: <3sp34o$frk@ixnews4.ix.netcom.com>
Source record: 112264

I'm sure this has been asked before but where can I find plans for this and other compact beam type antennas? I live in an apartment with a balcony and can't leave an antenna set up all the time. I would like to experiment with beam type antennas that I can put out on the balcony at night and take down in the daytime. This by the way is for receiving only, for use with a scanner.

Bob Szabo

2676. NEC P-110 CELLPHONE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: uid@ornl.gov
Message-ID: <uid.33.2FF0187D@ornl.gov>
Source record: 112265

I NEED THE DATA ON THE NEC P-110 CELLPHONE CONNECTOR.

I WANT TO TIE THIS CELLPHONE INTO A SPECIAL CAVE RESCUE COMMUNICATIONS PACKAGE
WHICH INCLUDES MILITARY STYLE FEILD PHONE LINES, AND VOX CONTROL RADIOS.

NEC WILL ONLY RELEASE THIS INFO TO NEC SERVICE SHOPS.

ALSO NEED TO KNOW IF THE CONNECTOR IS AVAILABLE. THE ONLY WAY I CAN GET TO
THIS CONNECOTR NOW IS BY BUYING THE $230 HANDS FREE KIT. I WAS GOING TO BUY
THE CELLABS HANDSFREE HEADSET KIT BUT THEY WENT OUT OF BUSINESS.

DANNY BRITTON
QB7@ORNL.GOV

2677. Re: Modifying CB Amp for multiband HF use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3sp6qn$k0j@newsbf02.news.aol.com>
Source record: 112266

And be careful if you plan to use one of those CB amps in a linear mode. The often are thrown together with no consideration for linearity. I would hate to see the Ham bands cluttered with some of the dirtiest amplifiers ever produced! Lot's (if not all) of the CB linear amps use no bias at all, others use very loose poorly designed bias circuits.

My opinion is that these CB amps should be left on CB, unless the guy doing the mod thoroughly understands what he is doing.

73 Tom

2678. Re: How 'bout a freq. counter using SB sound card?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: satoshi@maui.net
Message-ID: <3sp0st$mbs@makai.maui.net>
Source record: 112267

In <stratton.45.015C562B@mit.edu>, stratton@mit.edu (Chris Stratton) writes:
>In article <3skblr$frr@huron.eel.ufl.edu> shima@eel.ufl.edu (Shima) writes:
>>Anyone interested in a frequency counter program using a PC and a SB
>>sound card? I am thinking of writing one that may handle frequencies up
>>to 6kHz. IT would list all strong frequencies in a given signal over a
>>set noise threshold.
>
>>Any takers?
>
>>shima@eel.ufl.edu
>
>I think what you mean is you want to do an audio frequency
>spectrum analyzer. A project like this was published in
>QST a while back, but using a custom audio input, before
>the Sound Blaser type boards became common.
>
>I'd write the program (I once tried, but didn't know enough
>then to get it to work) but I don't have a soundblaster.
>
[deleted]
>
>Chris, N1IIR
>stratton@mit.edu

I remember seeing an ad for a program like that. There were
two versions of the product, about $160/$200 retail, but this
was two years ago.

It could function as spectrum analyzer both in real-time and
from a file. Runs under Windows. Real slick graphics.
Don't remember the title or the manufacturer, though.

Anybody remember who made this and what it was called??

Satoshi Manabe/WH6CTO
Kihei, Maui, Hawaii

satoshi@maui.net

2679. Re: Looking for schematics/plans for homebrew TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: negaard@draagen.graceland.edu
Message-ID: <NEGAARD.95Jun27114906@draagen.graceland.edu>
Source record: 112268

>>>>> "Jesus" == <jesus@simu1.ele.cie.uva.es> writes:

> David Negaard (Oberon-) (negaard@draagen.graceland.edu) wrote:
>> <deleted>

>> : Any or all of these extras are negotiable. What's _not_
>> negotiable is : at least KISS capability (I'd use a Baycom,
>> otherwise). I want to use : this with Linux, and KISS _might_ be
>> all I'd need, but I'd still be : happier with more.

>> <deleted>

Jesus> Why a TNC? You can build a PC ISA bus card with a z8530 SCC and
Jesus> you have HDLC without TNC, and the drivers are distributed with
Jesus> the new versions of the Linux kernel, and:

Jesus> - You can get very high speeds if DMA is used (PI card). - No
Jesus> eprom programming is needed. - Some schematic about an
Jesus> opto-isolated SCC card (OptoSCC) are avaiable (Sorry, I can't
Jesus> remember where are they)

This would be ideal! Alas, archie couldn't find anything under
optoscc, found too much under SCC, and has been generally unhelpful.
Can _anyone_ point me in the right direction for these schematae?
I'll build one in a heartbeat (or as quickly as I can connect enough
aluminium cans to buy the parts).
--
o David Negaard o negaard@graceland.edu
o Help Desk Technician o http://www.graceland.edu/~negaard
o 700 College Avenue o linux-phile
o Lamoni, IA 50140 o 73 de KB0PXK

2680. Re: Looking for GaAsFETs to buy

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: Chuck KD9JQ <reichert>
Message-ID: <3spbek$19k@newdelph.cig.mot.com>
Source record: 112269

I may still have a number of MRF-901s or the leaded version MRF-904 device.

Chuck
--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

2681. Re: How 'bout a freq. counter using SB sound card?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-27 00:00:00 UTC
From: ice@northpole.com
Message-ID: <3spe6s$29n@huron.eel.ufl.edu>
Source record: 112270

>Basically, what you need to do is calculate a Discrete Fourrier
>(not sure about spelling) Transform or DFT at a number of
>different frequencies. You do this by in software generating
>sine and cosine waves at each of the desired frequencies.

It's a Discrete Fourier Transform, and it's WAY too slow. I have an FFT algorithm in C that is burning fast. I can do real time apps with it for 128 and 256 pt. transforms..

>You'd probably need to write in assembly language, although C
>might work as well. Getting it to run under windows would be
>a real pain.

Windows is a no no, but no assembly is required.. Optimal coding is all that is necessary :)

The faster your computer, the more discrete frequencies
>you can divide your band into. The tricky part of the coding is
>remembering to subtract the DC offset of the input, and figuring
>out a way to multiply the 2's compliment numbers.

Again, why do you have to subtract off the DC? The DC ends up inthe 1st FFT bin, just don't look at it if you don't want to! No need to further process it..

The coding is the simple part. The damn limitations of the SB is what is very annoying..

2682. Re: Glass solar panel

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: ddillon@csulb.edu
Message-ID: <3sqht4$f58@garuda.csulb.edu>
Source record: 112189

Pat Moore (Pat.Moore@WKU.EDU) wrote:
: I picked up a glass solar panel at Dayton and they gave me some little
: brass clips to attach to the sides of the panel as contacts. They keep
: slipping off. Does anyone know how to attach secure contacts to the
: panel to get the juice out of it? I'm trying to get it hooked up to
: recharge a gel-cell this weekend so our club can get those extra points.

: Pat Moore, AL7L
: Pat.Moore@WKU.EDU
: 502-793-0470
Go to your local hobby shop, get some brass tubing.
Cut off about an inch, and then cut a slit lengthwise in the brass. Now,
solder a piece of wire to the brass. Now, expand and force the brass
onto the solar panel. I did this, and it makes a good, damn tight fit.
Holds up well in inclinent weather also!

Dan

--

_____
Finger or e-mail for PGPv2.6 key. | Are these views really mine?
Internet:ddillon@engr.csulb.edu | PGPprint = 02 A6 07 34 22 80 53 09
WWIVnet: #612 @ 1187 | 8C 1E 5E 15 1A B4 43 1F
Packet: kd6fpx@k6ve.#soca.ca.usa.noam |Infinet: #224 @ 1
~~~~~~
~~~~~~

2683. Re: how to isolate HT from auto power spikes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: ddillon@csulb.edu
Message-ID: <3sqi1o$f58@garuda.csulb.edu>
Source record: 112190

Peter Reiner (reinerp@panix.com) wrote:

: I'm powering my HT from the cigarette lighter, and although there are no
: problems with noise, I'm afraid of volage spikes from the
: alternator or starter blowing out the radio.
: Would it suffice to put a 35 volt Metal Oxide Varistor in paralell
: with the radio, or do I need a sink resistor somewhere also?
: There *is* a fuse on the lighter plug.
: Thanks for any advice.

This would be a good idea. In addition, you could put a coil in seeries,
and a large cap in paralell with the power leads. I ran with an HT in
th4e car for a few years, and ran a couple of large electrolytic caps in
paralell with the power leads. (I had a dedicated power line from the
battery, with the caps near the radio.) I never had any problem.

Dan

--

Finger or e-mail for PGPv2.6 key. | Are these views really mine?
Internet:ddillon@engr.csulb.edu | PGPprint = 02 A6 07 34 22 80 53 09
WWIVnet: #612 @ 1187 | 8C 1E 5E 15 1A B4 43 1F
Packet: kd6fpx@k6ve.#soca.ca.usa.noam |Infinet: #224 @ 1
~~~~~~
~~~~~~

2684. Re: BNC/N adapter please!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: im@hydra.carleton.ca
Message-ID: <DAwGHA.B70@cunews.carleton.ca>
Source record: 112191
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

Brian Mork (bmork@comtch.iea.com) wrote:
: I need two N female/BNC male adapters. Could anybody offer me a sale at
: a good price?

: This would be the slotted BNC half (not the side with the
: ears), and the N connector with threads exposed rather than inside.

Interesting tidbit - did you know that an N male will mate with
a BNC female? Yup it does ... give it a try (make sure both
are same impedances tho).

If it's just for temp work or testing ... you don't need the
above adapter.

Ian

: --
: Brian J. Mork, InCrea (TM) - Pacific Northwest, Voice 509-244-3764
: bmork@comtch.iea.com / ARO ka9snf@ka7fvv.#ewa.wa.usa
: USMail 6006-B Eaker, Fairchild, WA 99011

--
Ian A. McEachern, VE3PFH | Try our new www server:
Packet Working Group, Ottawa A.R.C. | http://hydra.carleton.ca/
im@hydra.carleton.ca | Interesting stuff about packet
http://hydra.carleton.ca/~im/im.html | radio & our 56kbps radio LAN

2685. Re: Responding to Spams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: drgrant@kilrah.iii.net
Message-ID: <3ssggo$s2s@news.iii.net>
Source record: 112192
Cross-posted to: rec.ponds,rec.puzzles,rec.pyrotechnics,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur

In article <3sphde$q0l@fido.asd.sgi.com>, leej@diver.asd.sgi.com (Lee Jones) says:
>
>In article <sjw1fA200iV0E25mgH@andrew.cmu.edu>,
>Tse-Sung Wu <tw1u+@andrew.cmu.edu> wrote:
>>Spam somewhere else, dude.
>
>Folks - re-posting to a spam does nothing but lengthen its life. You
>want to do something about the spammers (and I'm all for that), contact
>postmaster@wherever.com. The big online services (aol, prodigy) seem to
>produce the most spams (probably because they have the most users, and
>many of those are fairly clueless :-). The good side of that is that
>those big online services also respond very quickly to spamming problems
>originating inside their walls.
>
>The current one we're dealing with did *not* originate there - it came
>from a site called "ixc.net", which means nothing to me, but I'm going to
>send an e-mail to the postmaster@ixc.net, just in case.
>
>Regards, Lee
>--
>Lee Jones | "Jesus just left Chicago, and he's bound for New Orleans."
>leej@sgi.com | -Z.Z. Top
>415-390-3356 |

My provider (and many others) just ignores letters like that a lot of the time,
as it's a waste of the providers time, except for the big, stupid fellows
like AOL or prodigy, who like having "Family net access" which is
a bunch of bull.

-Dr. Grant

2686. Re: Responding to Spams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: higginsj@SunBelt.Net
Message-ID: <higginsj.24.000FC834@SunBelt.Net>
Source record: 112193
Cross-posted to: rec.ponds,rec.puzzles,rec.pyrotechnics,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur

>>Folks - re-posting to a spam does nothing but lengthen its life. You
>>want to do something about the spammers (and I'm all for that), contact
>>postmaster@wherever.com.

>My provider (and many others) just ignores letters like that a lot of the time,
>as it's a waste of the providers time, except for the big, stupid fellows
>like AOL or prodigy, who like having "Family net access" which is
>a bunch of bull.

Ever consider that an e-mail message to the spammer from EVERYONE bugged by it would FLOOD their e-mailbox?... and no one else has to be subjected to it either... I have gotten fairly good response to postmaster@wherever.com messages but I approach them very politely as they are easily offended as if you might be blaming them.

Jim Higgins
higginsj@sunbelt.net
icbm: 33.55.54N, 80.28.13W

2687. WWW site for radio repairs and info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: n4da@mindspring.com
Message-ID: <n4da.4.0034A727@mindspring.com>
Source record: 112194

From: n4da@mindspring.com (Luther M. Lord)
Subject: WWW site for radio repairs and info
Date: Wed, 28 Jun 1995 10:52:51 -0400

If you need a good place to get your amateur radio repaired; we can help.
Visit the Radio Doctor's home page at:
---
http://www.minspring.com/~n4da/top.html

We will answer all technical questions recieved via E-Mail. This sevice is
offered presently at no charge.
Our E-Mail address is:
---
n4da@mindspring.com

2688. Some basic info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: fred@rapid.fi.uib.no
Message-ID: <3srd02$1ks@due.uninett.no>
Source record: 112195

Hi

I've given up finding any example schematics on the net via News, ftp, or WWW.
The result is that I have to design my own radio receiver.

Here is my plan:

```
Antenna -> Selective filter ---> Mixer -> Very selective filter -> Demodulator
|
VCO/Variable oscillator-
```

My assumptions:

1. The antenna delivers a uV signal.
2. There is a need for amplifying the signal from the antenna/filter
3. The selective filter is optional.
4. There are a lot of mixer IC's.
5. There are a lot of demodulator IC's available.

Are these assumptions OK?
I know general electronics, but I'm unexperienced in this field, so any
help will be appreciated.

Fred-Johan

--
Fred-Johan Pettersen Phone: Office: +47-55-212712
Fysisk institutt Home: +47-55-346345
Universitetet i Bergen Fax: +47-55-318334
Allegt. 55 E-mail: fred@kvark.fi.uib.no
N-5007 Bergen Or: Fred-Johan.Pettersen@fi.uib.no
WWW: http://www.uib.no/People/nfyfp/fred.html
==========
Remember: Lindyhoppers do it on the floor...
IRMA 1000 medlem nr. 1952
==========

2689. NRZI

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: CNS@psimemphis.COM
Message-ID: <199506281258.HAA27297@chaos.magibox.net>
Source record: 112196

I have a computer with a 7201 serial chip in it (similar to the z8530). However, it uses high for mark and low for space. How can I convert this to Non-Return-to-Zero-Inverted (transition=space, no transition=mark)? Anybody with a SCC card schematic?

Nathan Sykes email: cns@psimemphis.com
Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM

2690. Re: Some basic info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: stratton@mit.edu
Message-ID: <stratton.48.0025B624@mit.edu>
Source record: 112197

Fred-Johan Pettersen wrote:

>I've given up finding any example schematics on the net via News, ftp, or WWW.
>The result is that I have to design my own radio receiver.

>Here is my plan:

>Antenna -> Selective filter ---> Mixer -> Very selective filter -> Demodulator
> |
> VCO/Variable oscillator-

>I know general electronics, but I'm unexperienced in this field, so any
>help will be appreciated.

>Fred-Johan
>

Well, that is the basic idea, but the superhet receiver you
describe is a little tricky for a first project. A better bet
would be to start with a direct conversion receiver - a single
mixer translates RF down to audio and a little amplifier
drives your speaker. Once you get that working, you change its
local oscillator to make it receive at your desired IF frequency,
and then build a new mixer to get from your signal frequency to
your IF. Every time you add a stage, you add a tuned impedence
matching transformer and a bunch of stuff like that, so starting
simply with the Direct Conversion would let you concentrate on
one thing at a time.

Although it is not the highest in performance, the little Signetics
NE602 mixer/oscillator is a great chip to play with. In it's little
8 pin package, it has an oscillator requiring external L and C or
XTAL and a mixer - plus a little amplifier with quite a bit of gain.

For 40 meters a reasonable oscillator tuned circuit can be made
by taking a 10.7 mhz IF 'can' transformer (from an FM radio)
and padding it with an external capacitor - probably an air
variable - so that you can tune the radio around 7 mhz.
Alternatively get a T68-6 ferite torroid and wind (as a
starting point) about 27 turns of #22 wire around it.

For your audio stage, an LM386 amp works well.

It's good to build the circuit with the main tuning cap
mounted behind a metal front panel - othewise the capacitance
of your hand will pull the oscillator as much as a few Khz,
making tuning it nearly impossible.

Good luck and happy building!

Chris, N1IIR
stratton@mit.edu

2691. Re: Modifying CB Amp for multiband HF use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <3ss8cr$ep@newshost.lanl.gov>
Source record: 112198

stickler@iag.net (Patrick Stickler) wrote:
>
>
> How difficult/feasible is it to modify a CB amplifier (e.g. 5W -> 30W)
> for use on multiple HF bands? Is it as simple as replacing the final
> filter with several bandswitched filters, or would such an amp not be
> suitable for the lower HF frequencies?
>
> Thanks,
>
> ==
> Patrick Stickler * KC4YYY * Orlando, Florida U.S.A. * stickler@iag.net
> --
> Don't put off until tomorrow what you can do today; for if you enjoy it
> today, you can do it again tomorrow...
> ==

I too have not had any trouble using solid-state CB linears 80-10
meters. I have only tried a couple, don't have lots of
experience with them, but many if not most of the CB amps
have the same sort of input/output broadband toroid networks as
the typical Ham amp has. As has been mentioned, harmonic
suppression is marginal but tuners can help both input and
output.
As for the older or current higher power tube amps they will
be quite narrow. I'm surprised at the comments received about
so-called linears not having any bias at all... I have seen the
innards of several cb amps and they all had biasing networks.
I wonder how much of these comments are from first hand
knowledge or just the typical ham-gut reaction to the nastiest
2-letter word ever invented? The noise and hash and splatter
that emanates from many CB linears results from the same thing
that causes it on the Ham bands.... non technical operators
overdriving them, one transistor in a push-pull amp being bad,
transmitting into an antenna system with open/shorted/intermittent
cable connections or otherwise highly mismatched, etc.
Jim WB5AOX

2692. Re: 2m? 70cm? How hard?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <3ss8k2$ep@newshost.lanl.gov>
Source record: 112199

KMTG59A@prodigy.com (David Covert) wrote:
>
> How hard is it to build VHF/UHF transmitters and recievers? (2m and
> 70cm)
>
> I realize that 'how hard' is a realitive thing, so how does it compare to
> building HF QRP stuff or microprocessor/microcontroller projects?
>
> DAVID COVERT, KB5GOG KMTG59A@prodigy.com
> -or- Dave_Covert@msn.com
> -or- davecove@microsoft.com
> Take your pick...
>

Not too difficult, depending on your expertise and test
equipment availability. Especially the UHV/VHF stuff marketed
by Ramsey and Hamtronics is relatively easy to build compared
to HF stuff, you just have to be a bit more careful with coil/
loop dimensions etc at upper frequencies.
I've built several HF and VHF linear amplifiers and at least in
my limited experience VHF/UHF is easier to build and less
difficult to troubleshoot.
Jim WB5AOX

2693. WTB: Kenwood YK-88 Filter Board

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: jdonimi@nv2.uswnvg.com
Message-ID: <3ssd12$911@fred.uswnvg.com>
Source record: 112200

f you've purchased a Kenwood YK-88 crystal filter recently, you noticed it's the same filter as always but now it comes soldered to a daughter board. If you installed that crystal filter in an older rig (TS-940, TS-440) you had to remove the filter from the daughterboard before you soldered it into your rig.

I want that daughter board and will pay $10 for one and I will pay the postage besides.

Contact me at jdonimi@uswnvg.com or call me at (206) 450-8395.

2694. Re: Fiinger Stock

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <3ssfvm$i3t@newsbf02.news.aol.com>
Source record: 112201

I believe RF Parts of San Marcos California carries finger stock- their #
is (619) 744-0750. You can also try Fair Radio Sales in Lima Ohio.

GL es DXOM!

2695. Re: Looking for GaAsFETs to buy

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: Alf Green <alf>
Message-ID: <3ssba5$s6n@cst715.iac.honeywell.com>
Source record: 112202

schiller@adobe.com (Steve Schiller) wrote:
>
>Well you are right, there are silicon transistors that could do the
>job. But I haven't been able to locate a mail order, or surplus, source
>for any of those either.
>
>
>Actually, I think the BFR91 is about as fast as the MRF901. Don't
>know about the BFR96. I was looking for something with an Ft around
>8GHz.
>

I'd suggest RF Parts, in San Marcos, CA 1-619-744-0750
They carry the MGF 1302/1402 and the NE32184A at reasonable prices.

For a silicon part, I like the MRF571, fT 8GHz @40mA/8v also from RF Parts at
abt $1:50 ea.

Good luck
Alf NU8I/G4ABB
alf@agreen.iac.honeywell.com
Phoenix, AZ

2696. REF maual for "2SCtype" rf transistors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <3sshss$ilc@newsbf02.news.aol.com>
Source record: 112203

Well there- I was just repairing my Ft757GX, and had to replace a pair of blown 2SC2879's with a pair of 2N5942's in a pinch (no bux for new ones right now, and I had the 2N's in the junk box).

This got me to wondering- I have a Motorola RF data manual, which comes in VERY handy in times like this, but BOY would it be nice to have a Toshiba or equiv. "2SCtype" manual, showing all the stuff that Motorola shows in their databook.

It would make "repairing by the seat of my pants" a little more based on qualitative data than on- "well- looks the same... databook says it puts out about that much... wonder what the impedance is... what's the effect of running this 28V part at 14V... put on the safety glasses at power up...lets try and see :^)

THANX!

2697. Re: Need Data Sheet of LM 1391

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: jesus@simu1.ele.cie.uva.es
Message-ID: <3ss740$2bt@maggie.cpd.uva.es>
Source record: 112204

limaux (LIMAUX%wema@wema02.elektro.uni-wuppertal.de) wrote:
: I am looking for the data sheet of the LM 1391. I have found this
: chip in a monitor for Horizontal synchro, i suppose. Please send
: the answer in this news group or to :

: LIMAUX%wema@wema02.elektro.uni-wuppertal.de

Yes, I have seen this IC in a Philips VGA monitor. It's a PLL to synchonize
the horizontal scan with the HSYNC pulse from the VGA card.

The pins are:
1 Output (Open colector)
2 GND
3 Sync Input
4 Sawtooth input
5 Phase Detector output
6 Regulator Voltage (A simple Zener regulator is included, so, connect
a resistor to your power suply (20 mA typical))
7 Oscilator Timing (with R to pin 6 and C to GND)
8 Duty Cycle control

From National Semiconductor Special Purpose Linear Devices Databook.

I hope this can help :)
--
$$
$ Jes&#65533;s Arias (jesus@simu1.ele.cie.uva.es) $
$$

2698. WANTED: Hallicrafter S-38 to S-38c

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: tesla@fs.cei.net
Message-ID: <3ssk86$c08@ren.cei.net>
Source record: 112205

[No readable article body recovered]

2699. WANTED: Hallicrafter S-38 to S-38c

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: tesla@fs.cei.net
Message-ID: <3sskcp$c08@ren.cei.net>
Source record: 112206

I want to buy a Hallicrafter model S-38 to S-38c from anyone looking to get rid of one. Will pay good for a COMPLETE radio.

2700. looking for 12:1 of baluns

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: randson@tpts1.seed.net.tw
Message-ID: <3squqd$i0i@aladdin.iii.org.tw>
Source record: 112207

Hello, anybody home?

Who know where can get find a 12:1 of balun, what factory or comapny
sale this one, or who want to sale, active is ok,
I want to using on inverted V diploe!

de Radnson Huang/ BV2DQ
in Taipei, Taiwan
randson@tpts1.seed.ned.tw

2701. WWW site for radio repairs and info (correction)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: n4da@mindspring.com
Message-ID: <n4da.21.00440294@mindspring.com>
Source record: 112208

The URL address for the Radio Doctor's home page was incorrect in my previous listing. It is correct as follows:

---

http://www.mindspring.com/~n4da/top.html

The letter d was left out of the word mindspring

2702. phased array receiving antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-2806951249300001@brainiac.hi.com>
Source record: 112209
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

A while back I posted a query to rec.radio.amateur.antenna and rec.radio.amateur.homebrew about using R-C lattice networks to provide a wideband Hilbert transformer (90 degree phase shift) for a receive antenna phasing unit. These networks are commonly used to generate the audio phase shift for SSB generation or detection.

I asked for a reference on how to design these networks. Yesterday, I received the June 1995 issue of QEX, which has a great article on these networks: "Polyphase Network Calculation usaing a Vector Analysis Method" by Tetsuo Yoshida, JA1KO.

Thanks to Tetsuo Yoshida for the excellent article, and QEX and ARRL for publishing this kind of material.

My next problem is designing a high-input-impedance, high-dynamic-range differential RF amp for the output of the phase shift network.

I've noticed the new JPS antenna noise canceling unit (which is a phased-array receiving antenna, intended to null locally-generated RFI noise) must use some kind of wideband phase-shift network, since it covers at least 3 to 30 MHz with only a two-position bandswitch: low band and high band. Has anyone opened one of these up? What does the phasing network look like? Is it a polyphase network? What does JPS use for an amplifier?

Thanks,
-Steve

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

2703. gps receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: mikelder@aol.com
Message-ID: <3st40h$olq@newsbf02.news.aol.com>
Source record: 112210

A friend of mine was telling me that there was a gps radio out there somewhere, that only had an rs232 interface. No readout or controls, just rs-232 out. He said that it was very cheap. less than $150. If anyone knows of anything like that please let me know. Also I would like a good book on gps.

2704. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3ss92g$58@nnrp1.primenet.com>
Source record: 112211

Chris Stratton (stratton@mit.edu) wrote:
: Direct Digital Synthesis is too noisy, and Phase Locked Loop
: synthesizers don't have a small enough step size for HF use.
: So it seems like a popular way to do things is touse DDS to
: generate the frequency, but then use a PLL to reproduce a
: spectrally clean version of it.

: May QST had an article about a "DigiVFO", a DDS using 64
: phase accumulator, but only 8 bit output fed to the DAC.
: This was okay, because it drove a Drake rig that used
: a PLL to clean up the VFO input. The Harris DDS code producer
: chip acutally had 12 output bits, but only 8 were used to keep
: the cost down.

: By why even bother with 8 bits? The PLL compares the phase of
: the local oscillator and the DDS (the reference). Why does it's
: phase comparator care if the reference is a nice sine wave? In fact,
: wouldn't it be happier with just a square wave? So why not use
: a 1-bit DAC - ie, just feed the phase accumulator MSB into the PLL.

: Re-arranging things conceptually, it seems that this is the
: same as making a tradition PLL synthesizer capable of
: non-integral division factors. That is, sometimes it divides
: by int(f) and sometimes by int(f)+1 with the fractional part
: being determined by the occurence ratio of the two divisors.

: This seems to be about what a DDS does: the frequency desired
: determines how much to increment the phase accumulator. At 360
: degrees it rolls over to zero - but it won't actually hit zero
: unless the numbers work out just right. Instead, the phase
: samples actually used progress slowly each cycle. What
: we're acutally doing is dividing the DDS clock by a non-integer -
: by selecting an integral multiple of a tiny fraction of that clock.

: I'm not sure if this argument makes any sense, much less if it
: is correct. I would guess I'm missing something somewhere which
: says that in the DDS/PLL hybrid, the DDS ouput has to at least look
: like a reasonable sine wave, not a bunch of pulses that only average
: out to being on frequency.

: Anyone have any thoughts? I'm tryin to get my hands on the Harris
: DDS code generator, and will see what happens with the MSB driving
: a PLL - but if someone can tell me directly why this won't work,
: it would save a lot of trouble.

: Chris, N1IIR
: stratton@mit.edu

Chris,
I only want to respond to one item in your posting, and that is
the mention of using a square wave from the DDS to drove the PLL.
I got caught by this a year ago, and it's because there is a
phase jitter term that comes into play. When using the MSB (square
wave) you will experience a 30-degree phase jitter. If you sum it
with the second MSB, it will become 15 degrees (I think I got that
right (?)). This is why we use 8 or so of the MSBs and then add a
low-pass filter to supress the clock feedthru.
Myself, I'm presently constructing a discrete 12-bit DDS for
the 10-Hz resolution fine-tuning in a receiver/transmitter I've been
working on. I'll be using the 8 MSBs, summing them with an R2R lad-
der, filtering with a LPF, and then through a schmidt trigger to pro-
duce a square wave for a PLL. The DDS acts as the reference signal.
I don't need to bother with the sine-wave conversion, but if I had to,
I would simply clip with a resistor and a couple of signal diodes be-
fore the LPF for some shaping, which will take carfe of the rest.
This method has its' limitations in terms of tunable bandwidth, but
for my application it's just right.

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo--

2705. Need UHF 1200 baud link

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: hcooper@moons.sim.es.com
Message-ID: <3srp81$ner@moons.sim.es.com>
Source record: 112212

Anyone know of a small and inexpensive UHF (or better) tx and rx pair
that can handle a 1200 baud bandwidth link. Or schematics for such. I
have seen the stuff from Linear, but it won't pass anything better than
300 baud. Oh, this is a low power, 300' type setup (i.e., no license stuff)
and I believe that the 300 MHz used for wireless alarms and such falls into
this catagory.

hcooper@es.com

--
Harrison Cooper	email : hcooper@.es.com
SP Hardware Design	Phone : 801-582-5847 ext 3275
Evans & Sutherland Computer Corp.	Radio : N7KST 147.04 R, 145.49 R
Salt Lake City, Utah 84158	Davis County ARES 147.42 S

2706. Re: Modifying CB Amp for multiband HF use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun28.123055.14257@ke4zv.atl.ga.us>
Source record: 112213

In article <3smpkn$r8@erinews.ericsson.se> eus.eusmge@memo.ericsson.se (Mike Groves) writes:
>stickler@iag.net (Patrick Stickler) wrote:
>>How difficult/feasible is it to modify a CB amplifier (e.g. 5W -> 30W)
>>for use on multiple HF bands? Is it as simple as replacing the final
>>filter with several bandswitched filters, or would such an amp not be
>>suitable for the lower HF frequencies?
>
>Hi Pat,
>These amplifiers can often be 'pulled' (or tuned up) to the 10 Meter
>band, but that's about it. The transistor matching networks are
>always too high Q (narrow band) to support multiple band operation.
>You'ld be doing good to get it to operate over both the sideband and
>FM portions of 10M band at the same time.

That hasn't been my experience, Mike. Most of these amplifiers seem to be copied direct from the Motorola application note for a broad band 2-30 MHz 100 watt amplifier. The main problem with them is that they have little or no filtering in them to suppress harmonic radiation, just broadband transformers in and out. If you put a good output filter on them, tweak the bias, and watch your drive levels, they can be made into passably fair amateur HF amps for QRP rigs.

The tube amps, now, are generally adapted from a 1960s ARRL Handbook design, consisting of multiple sweep tubes in parallel. They're pretty hopeless. The huge parallel output capacitance of the tubes makes the output networks funky. Junking them out for parts is about all they are worth.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2707. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun28.123714.14336@ke4zv.atl.ga.us>
Source record: 112214

In article <stratton.46.01729045@mit.edu> stratton@mit.edu (Chris Stratton) writes:
>Direct Digital Synthesis is too noisy, and Phase Locked Loop
>synthesizers don't have a small enough step size for HF use.
>So it seems like a popular way to do things is touse DDS to
>generate the frequency, but then use a PLL to reproduce a
>spectrally clean version of it.
[snip]
>By why even bother with 8 bits? The PLL compares the phase of
>the local oscillator and the DDS (the reference). Why does it's
>phase comparator care if the reference is a nice sine wave? In fact,
>wouldn't it be happier with just a square wave? So why not use
>a 1-bit DAC - ie, just feed the phase accumulator MSB into the PLL.
[snip]
>I'm not sure if this argument makes any sense, much less if it
>is correct. I would guess I'm missing something somewhere which
>says that in the DDS/PLL hybrid, the DDS ouput has to at least look
>like a reasonable sine wave, not a bunch of pulses that only average
>out to being on frequency.
>
>Anyone have any thoughts? I'm tryin to get my hands on the Harris
>DDS code generator, and will see what happens with the MSB driving
>a PLL - but if someone can tell me directly why this won't work,
>it would save a lot of trouble.

It seems to me the problem is that the gross steps are going to
introduce a lot of phase jitter into the PLL, IE mondo phase
noise, that would take an incredibly slow loop filter to handle.
So you'd lose all the advantage of DDS by doing this. The cleaner
the DDS output, the less loop filtering you need, and the faster
response time you get.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2708. Re: 6C33C Tube Transmitter (Was: High Efficiency MOSFET HF Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jun28.132020.14600@ke4zv.atl.ga.us>
Source record: 112215

In article <3siatu$f47@tierra.santafe.edu> Jim Potter <jpawi@roadrunner.com> writes:
>cloutier@eisner.decus.org (Steve Cloutier - Notes 'R Us) wrote:
>>
>>I don't understand why I would be exceeding the dissipation of the
>>tube, but maybe I'm missing something (probably)!
>>
>>The rating sheet I got (a poor one at that) shows the tube good for
>>60 watts (both units together) and a max plate current of 600MA. Nothing
>
>There is a complication in calculating the power when the output is sinusoidal.
>The anode voltage is varying from saturation to some higher value during the time
>the grid is pulsed to Vgmax. The wider the pulse with respect to the rf period
>the more dissipation. Of course the power output goes up also. There is some
>maximum efficiency, just like normal class C operation. This will occur
>somewhere between 90 and 180 degress of on-time. (For normal class C maximum
>efficiency occurs at around 140 deg. conduction angle.) You can calculate the grid
>and anode dissipation by looking at the constant current curves for the tube. Both
>the anode and grid current vary along a line of constant grid voltage during the
>fraction of the cycle that the tube is on. From the tube power input you can
>calculate the power output and the power dissipation. Essentially all power
>produced at harmonic frequencies is dissipated in the tube. My conclusion from the
>40 kW amplifier (which I recently beefed up to 60 kW) is that the efficiency is
>somewhat less than with sinusoidal drive, but the simplicity of not having a
>grid/cathode tuned circuit was worth it.

Lets see, now I believe we're talking about a Class D design here. The
tube is turned on hard during a very small part of the cycle, well under
90 degrees, and anode voltage will be clamped to Vsat during that time.
During the rest of the cycle, while the tube isn't conducting, the anode
voltage will follow the tank, and depending on loaded Q, can become rather
high, normally a peak to peak voltage 2x or more of DC plate voltage. We
can ignore that as long as the tube doesn't flash over. The thing we're
interested in is the current pulses we get from the tube during the time
it is saturated. The Rs of the tube will be Vsat/Ip while the power
delivered to the load will be tank Vt/Ip. So plate dissipation will
be proportional to Po*Vsat/Vt.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2709. Convert Mont.Ward (Mod#719) SSB CB to 10M?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-28 00:00:00 UTC
From: chuck62@freenet3.scri.fsu.edu
Message-ID: <3sr634$49c@freenet3.scri.fsu.edu>
Source record: 112216

I've got a Montgomery Ward SSB 40ch.CB I want to convert to 10 meters
if possible. The PLL is a NEC K8Y039 D2824C. It has a single 10.24 Xtal.
(I've heard that the single-Xtal PLL's are harder to do tricks with.)
BTW, all of the ads I've seen for CB modification books mention Sears,
Uniden, Cobra, Realistic, etc., but no Mont.Ward. Is this CB made by
somebody else (a clone)?
Lastly, can you recommend which CB mod. book (Screwdriver's Expert,
CB Tricks I,II, and III, Tomcat's Big CB Handbook, etc.) would do me
the most good for this rig?
...Thanks...

--
Accept no substitutes.............chuck.......KE4QPU.................

2710. Re: how to isolate HT from auto power spikes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1995Jun29.073734.3086@grian.cps.altadena.ca.us>
Source record: 112122

ddillon@csulb.edu (Daniel Dillon) writes:

>Peter Reiner (reinerp@panix.com) wrote:

>: I'm powering my HT from the cigarette lighter, and although there are no
>: problems with noise, I'm afraid of volage spikes from the
>: alternator or starter blowing out the radio.
>: Would it suffice to put a 35 volt Metal Oxide Varistor in paralell
>: with the radio, or do I need a sink resistor somewhere also?
>: There *is* a fuse on the lighter plug.
>: Thanks for any advice.

>This would be a good idea. In addition, you could put a coil in seeries,
>and a large cap in paralell with the power leads. I ran with an HT in
>th4e car for a few years, and ran a couple of large electrolytic caps in
>paralell with the power leads. (I had a dedicated power line from the
>battery, with the caps near the radio.) I never had any problem.

A friend of mine did the same thing, but used a 110v-24v transformer
as the choke - ran the +12 thru the secondary winding, then to the
+ end of the cap (2000 uf, 35v) then to the radio. It worked real well.
He used a fuse rated at one amp more than the radio manual specified,
and a LM 317 set as a 13v regulator, and a 15v 10w zener as a
just-in-case, lets-blow-the-fuse-NOW device.

It worked even better when he shorted the primary winding of the
transformer....

--
Mike Morris WA6ILQ | All opinions must be my own since nobody
PO Box 1130 | pays me enough to be their mouthpiece...
Arcadia, CA. 91077 |
ICBM: 34.07.930N, 118.03.799W | Reply to: morris@grian.cps.altadena.ca.us

2711. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: stratton@mit.edu
Message-ID: <stratton.52.000C863F@mit.edu>
Source record: 112123

In article <3stnc8$3go@franklin.cc.utas.edu.au> ian.mitchell@research.utas.edu.au (Ian Mitchell) writes:

>I am currently working on a DDS would like to be able to connect the
>high order bit to the mixer through an LPF. I built a spread sheet based
>on the output from the high order bit and looked at the fourier
>spectrum generated. It looked ok in that there was no even harmonics and
>the odd harmonics were way down.

>I'm using an IF of 10.7MHz with down conversion, ie dds operates above 10.7MHz

>If I arrange for the front end to reduce images, is this a viable idea, or am I
>missing something here?

>Best Regards,

>Ian

Given the recent discussion of MSB phase noise, that sounds a little too good to be true. Did you run the fourier analysis over many periods of the simulated DDS output? I would think the phase noise would generate a lot of close-in noise - in effect the 'signal' would be a narrow band of noise with a peak in the middle.

I'll have to try this experiment myself when I get home from work...

Chris, N1IIR
stratton@mit.edu

2712. Re: Modifying CB Amp for multiband HF use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3su9g2$2do@newsbf02.news.aol.com>
Source record: 112124

>>As for the older or current higher power tube amps they will
be quite narrow. I'm surprised at the comments received about
so-called linears not having any bias at all... I have seen the
innards of several cb amps and they all had biasing networks.
I wonder how much of these comments are from first hand
knowledge or just the typical ham-gut reaction to the nastiest
2-letter word ever invented? The noise and hash and splatter
that emanates from many CB linears results from the same thing
that causes it on the Ham bands.... non technical operators
overdriving them, one transistor in a push-pull amp being bad,
transmitting into an antenna system with open/shorted/intermittent
cable connections or otherwise highly mismatched, etc.
Jim WB5AOX<<

Jim, You haven't looked at the amplifiers from a micro level then. The
bias circuits are almost always very poor. They have NO regulation, and
that is what causes or aggrivates the excessive IMD products they produce.

For example, look at a typical 4CX250 B amplifier sold as a "Ham"
amplifie4r to CB operators. They almost always have NO screen regulation,
no control grid regulation (an absolute no no with any amplifier that
operates with grid current) and no metering.

Sweep tube CB style amps are often the same. They let the grid jump around
with the drive power. Flat-top and non-linear city....here we come!

Even the solid state amplifiers do not use active devices to source
constant bias voltages, so when the drive goes up the device moves into
class C!

I have *yet* to see a well designed CB amplifier, since the end user
demands carrier shift (forward modulation good buddy) with modulation, and
the very act of complying with this requirement means the amplifier is
pathatically poor in linearity.

CB amplifiers are by far and large absolute junk. They don't belong on
amateur bands unless the user understands the proper way to modify them
and that includes biasing as well as input and output circuits.

73 Tom

2713. Re: phased array receiving antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3sua1m$2i5@newsbf02.news.aol.com>
Source record: 112125
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

>>A while back I posted a query to rec.radio.amateur.antenna and rec.radio.amateur.homebrew about using R-C lattice networks to provide a wideband Hilbert transformer (90 degree phase shift) for a receive antenna phasing unit. These networks are commonly used to generate the audio phase shift for SSB generation or detection.

I asked for a reference on how to design these networks. Yesterday, I received the June 1995 issue of QEX, which has a great article on these networks: "Polyphase Network Calculation usaing a Vector Analysis Method" by Tetsuo Yoshida, JA1KO.

Thanks to Tetsuo Yoshida for the excellent article, and QEX and ARRL for publishing this kind of material.

My next problem is designing a high-input-impedance, high-dynamic-range differential RF amp for the output of the phase shift network.

I've noticed the new JPS antenna noise canceling unit (which is a phased-array receiving antenna, intended to null locally-generated RFI noise) must use some kind of wideband phase-shift network, since it covers at least 3 to 30 MHz with only a two-position bandswitch: low band and high band. Has anyone opened one of these up? What does the phasing network look like? Is it a polyphase network? What does JPS use for an amplifier?

Thanks,
-Steve<<

Steve,

I've been using phased arrays on HF since the early 80's. I use coaxial delay lines and cross fire phasing with broad band untuned loop elements. Some of the arrays have used as many as eight elements.

I am not sure why you would want to use a RC network for phasing. It does not seem like an efficient way to obtain phase shift (in this application) when coaxial delay lines provide lower attenuation and octave band widths (with proper array design).

Can you expound on the merits of RC networks in this application??

73 Tom

2714. Re[2]: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9505298044.AA804445870@mails.imed.com>
Source record: 112126

Chris:

You are correct about the MSB changing being when the DAC output crosses zero. Now let's see, where did I leave my brain? :<)

The problem is that there is phase jitter in the MSB changes. You are correct that they average out over time, BUT each individual zero crossing is VERY likely to be in the wrong place. (To paraphrase a famous TV guy: Can you say Phase Noise?). Any phase noise in the reference will be directly translated into phase noise in the PLL. The phase noise will be multiplied by the same factor as the ratio of PLL output frequency/reference frequency.

I would say one of your assertions differently. The low pass (band pass) filter moves the zero crossing to EXACTLY the right place (not just closer!). This is true, of course, only for ideal components. The amount of phase noise in the output of the DDS is a measure of how good your DAC/filter are. You were pretty close to the answer in your first post. A DDS output of 20 KHz with a clock rate of 4 MHz and 10 bit DAC will give a MUCH cleaner sine wave with almost no phase noise. The same clock frequency with an 8 bit DAC and a 1.5 MHz output would have a much tougher time holding down the phase noise.

I have been curious what effect settling time of the DAC has on spurs and phase noise. Theory pretty well predicts how far down the spurs will be from the fundamental for a given number of bits, but many have remarked that they have seen better results than theory would predict. I want to look into the possibility that the settling time amounts to a LPF inherent in the DAC. This would tend to reduce some of the higher frequency spurs.

Ray Mack
WD5IFS
mack@mails.imed.com

2715. Re: Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <3svoa8$cs9@crl12.crl.com>
Source record: 112127

Dana Myers (myers@West.Sun.COM) wrote:

: Isn't the usual case where the resistance is in series with the
: reactive components? In this case, Q = X/R; larger X gives a
: larger Q for a constant R. Of course, the R isn't constant,
: it goes up linearly as the turns on the inductor increase, but
: the inductance is proportional to the square of the turns; thus
: a larger L is better for high Q. I'd also guess using a larger
: L means that the smaller C required will also have a higher
: Q...

The loading is indeed parallel in general, however. Remember Rick's
suggestion that the load be tapped well down on the tank? This tapped-C
(or alternatively) tapped L arrangement is used as an impedance transformer
so that the tank sees a higher *parallel* resistance. Keep in mind that
it is the circuit *loaded* Q and not just the component Q that matters
here.

I guess the main problem with your argument is that you are talking
about component Q, not tank Q. When calculating the Q of a parrallel
resonant circuit, you must model the resistance in parallel with circuit.
The Q of a series resonant circuit is modeled with the resistor in
series.

When calculating *component* Q, you can model the resistor as being
in series *or* parallel. In fact, you can do a transformation from
one case to the other.

Consider a 1 uH inductor with 0.1 ohms in series at 1 MHz:

* The component Q is (2*Pi*1E6*1E-6)/0.1 = XL/Rs = 62.8

* The equivilent parallel Rp = Rs*Q^2 = 394.78

* Now you can compute Q as Rp/XL = 394.78/6.28 = 62.8

So I guess you could use your series Q formula as long as you
transformed the tank load to the inductor in series, and then
added it to the inductor's own series resistance, and then
computed the Q. Once you started considering your neglected
tank load term, I think you would reach the same conclusions
I did. For cases where the resonator is litely coupled into
the circuit (possible for high device gains), your analysis
is absolutely correct.

: >If large L's are used, the reactance goes up, the Q goes down, and
: >the phase noise increases, per theory.

I guess I should have used the term "loaded Q" here.

: See above. I'd guess that parallel loading of tank circuits
: isn't as much of a problem as the component series R.

Well, power *is* extracted from the tank, so you better consider it.
At low frequencies, where you can use devices with outrageous gain, then
the tank can be quite isolated. At higher frequencies, however, the
tank will generally see more of a load. Since the device gain is lower,
the tank will "see" the device input port more, since more power must
be coupled out of the resonator to keep the loop gain above unity.

: At upper UHF+, there are some neato ceramic resonators available,
: but they're kind of exotic for home experimentation as far as I
: can tell, since they have to be fabricated to the desired frequency.

These are coaxial structures that behave as shorted transmission lines
with a characteristic impedance of something like 6 ohms. They are
easy to work with: I am currently developing a modem product that uses
three of those type of oscillators. The small packaged 900 MHz
oscillators in cellular phones usually use them as well. The home
experimenter can build simular oscillators by using shorted sections
of hardline (but at a bit of a size penalty :)

If you can get hold of a resonator that is for a *lower* frequency
that you desire, you can in fact do some homebrew however:

1) Secure the resonator in a rubber Jaw vise, such as a Panavise, so
as not to damage the plating.

2) Carefully heat the center pin and pull it out with needle nose pliers.

3) The end of the resonator that had the center pin is not plated.
You can grind this end. This is best done quite slowly, with a fast,
fine, wet grinding wheel. Your fingers may be at risk if you are not
extremeely careful.

4) When you are satisfied with the length, solder the center pin back in.
Use 2% silver bearing solder.

5) Most of these resonators use a silver plating. Solder them to your
circuit using 2% silver bearing solder, or the silver will leech or
disolve into the tin-lead solder, ruining the resonator.

6) If you grind too far, capacitive loading can generaally be used to
place your oscillator back on frequency. It is typical to couple
a varactor or trim-cap in to the "tank" with a 1 pf cap. Tenths
of picofarads count.

Have fun!

--

Don Miller My opinions are my own!
dmiller@crl.com

2716. Re: Temp Comp of osc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3st3gl$a79@hpscit.sc.hp.com>
Source record: 112128

In article <804211756.AA02630@hamlink.mn.org>,
Bob Liesenfeld <Bob.Liesenfeld@f100.n282.z1.fidonet.org> wrote:
>Hi all,
> I have a Colpitts type J-FET oscillator running at 14 MHz that I want
>to apply some temperature compensation to. I am familiar with the
>standard techniques, but I'm hoping that someone out there may have some
>shortcuts to this tedious procedure.
> By the way the un-comped osc currently has a negative temp coefficient.
>Thanks for any input!
>Bob L. WB0POQ
>
> Technology is OUT of control.........

First of all, get rid of the JFET. A bipolar is typically much
more temperature stable in the first place.

Second, ever heard of the Hallicrafters technique where you use
a differential type air variable connected in series with a P150
and an N1500 fixed capacitor? You can then continuously vary
the tempco till you hit zero.

Rick Karlquist, N6RK
rkarlqu@scd.hp.com

2717. Re: Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3st3n1$ada@hpscit.sc.hp.com>
Source record: 112129

In article <3sq00g$av0@cismsun.univ-lyon1.fr>, Elendir <elendir@enst.fr> wrote:
>
>
>Hello.
>I'm looking (in the scope to build up a good rx)
>for a design of a very low phase noise VCO.
>Typically, I seek something very near what the ARRL book
>qualifies as 'excellent'
>
>I'll eat everything, every piece of bread :-)
>
>Thanks !
>Vince
>
>--
>F5RCS - Worldwide Friendship through Amateur Radio
>ENST, Ecole Nationale Superieure des Telecommunications, Paris

Tap way down on the tank circuit with the transistor connections.
And use the highest Q tank you can get. Below 20 MHz., use a
Fair-Rite #67 toroid with a few dozen turns of fine magnet wire.
Above 20 MHz, use #68. Above 150 MHz, use an air core coil in
a shield can. Use a large L/C ratio in your tank.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2718. Re: Temp Comp of osc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3st63k$gmm@parsifal.nando.net>
Source record: 112130

Bob.Liesenfeld@f100.n282.z1.fidonet.org (Bob Liesenfeld) wrote:
>
> Hi all,
> I have a Colpitts type J-FET oscillator running at 14 MHz that I want
> to apply some temperature compensation to. I am familiar with the
> standard techniques, but I'm hoping that someone out there may have some
> shortcuts to this tedious procedure.
> By the way the un-comped osc currently has a negative temp coefficient.
> Thanks for any input!
> Bob L. WB0POQ

The only simplification for the long and tedious process I know
about is the one used by E.F. Johnson for quite a spell way back when
in the 50s and 60s. They used a differential capacitor with a
neg temp coeficient on one side of the capacitor, and one of the
same value but a positive coeficient on the other side. The drift
was corrected by changing the position of the differential cap.
As I recall it still took some time to correct drift, but calibration
didn't change as well while correcting for drift.

73,
Don W3FPR

2719. Re: Modifying CB Amp for multiband HF use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3staqv$duo@vixen.cso.uiuc.edu>
Source record: 112131

In a previous article, jdevenport@lanl.gov (Jim Devenport) says:

>As for the older or current higher power tube amps they will
>be quite narrow. I'm surprised at the comments received about
>so-called linears not having any bias at all... I have seen the
>innards of several cb amps and they all had biasing networks.
>I wonder how much of these comments are from first hand
>knowledge or just the typical ham-gut reaction to the nastiest
>2-letter word ever invented? The noise and hash and splatter
>that emanates from many CB linears results from the same thing
>that causes it on the Ham bands.... non technical operators
>overdriving them, one transistor in a push-pull amp being bad,
>transmitting into an antenna system with open/shorted/intermittent
>cable connections or otherwise highly mismatched, etc.
>Jim WB5AOX
>
>

I have seen about a dozen CB solid-state amps in the last few years. They were in the 60-100 watt range; NONE of them had any biasing networks. They were all what you would call "off-brands" I had never heard of before. (Probably made in someone's basement or garage.)

I built an HF amp from the Motorola Applicantion Notes a few years ago (the AN-762 amp.) This is an excellent amp that puts out about 140 watts for 5 watts of drive up to 30 MHz. Just need to make sure you put a LP filter on the output! IMO, this is the way to go!

73, Zack W9SZ

2720. Videos for repair and alignment

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: n4da@mindspring.com
Message-ID: <n4da.33.00434A11@mindspring.com>
Source record: 112132

```
For a complete listing of all the videos available for the repair and
alignment of HF radios; visit the Radio Doctor's home page.
at:
--------------------------------------------------------------------------------
http://www.mindspring.com/~n4da/top.html
--------------------------------------------------------------------------------
The Radio Doctor's home page describes each video in detail along with full
```

2721. Re: Site for QRP stuff???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org
Message-ID: <1995Jun28.234106.15237@wb3ffv.ampr.org>
Source record: 112133

The proper way to subscribe to the QRP list is to send e-mail to

listserv@lehigh.edu [do NOT send to qrp-l@lehigh.edu or
the entire list of over 500 people
and in the text say, will see it...and it will not get you
subscribed, anyhow :-)]
subscribe QRP-L

That's QRP-L, with an "ell" at the end. People always used to advertise it as "qrp-l", and that often caused confusion; some thought that final character was the number one (1). It is not case sensitive, and either way will work, but when telling someone else about it you should type it in upper case to eliminate confusion.

The mailing list also has a daily digest function available, which can be a god-send for some people, as it bundles all the days messages into a single e-mail message addressed to you. If you are not subscribed to the digest, you will receive a large quantity of mail every day, which causes problems for many people for a variety of reasons. Information on getting the digest will be included in the automatic "welcome" message you will receive shortly after subscribing.
Typical daily traffic averages well over 20 messages. (If you are on a system which charges by the number of messages received, the digest will help. If charged by the byte, it will not help.)

73 and Queue Our Pea DE WA8MCQ

2722. Re: Site for QRP stuff???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: David Lee <ddlee@neosoft.com>
Message-ID: <3ste7e$gd4@uuneo.neosoft.com>
Source record: 112134

brian.carling@acenet.com (Brian Carling) wrote:
>Newsgroups: rec.radio.amateur.homebrew
>
>RLL>Hi! I am interested in finding plans & discussions on QRP rigs. Does anyo
>RLL>know if a site exists on this subject? --Gerry
>
>Hi Gerry - do a SUBSCRIBE message to
>qrp-l@lehigh.edu
>
>you will love it!
>---

Hi Brian-

Saw your interesting reponse to Gerry's post. I tried to subscribe by
sending message to qrp-1@lehigh.edu; and put "subscribe" on first line of
message. Nothing entered as Subject. Didn't work. Can you advise me of
my error?

thanks

-dave

--
==
David D. Lee, AB5AX, Houston, Tx
Internet: ddlee@neosoft.com
Compuserve: 71330,2022
"Take 2 aspirin and call me at Turtle Island..."

2723. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <3stiko$hk1@news2.delphi.com>
Source record: 112135

In article <stratton.47.000E02A5@mit.edu>, stratton@mit.edu (Chris Stratton) wrote:
>In article <9505278042.AA804270969@mails.imed.com> mack@mails.imed.COM writes:
>
>>Chris:
>> Here is the short answer to your question: In order for the DDS part to
>>work correctly you MUST convert the DAC output to a sine wave!
>
>> You have missed a subtle part of how the DDS part of the combo works.
>>The PLL uses the zero crossings of the phase reference to do the phase
>>comparison.
>
>The DAC output cannot cross its midpoint (zero of the AC output) without
>the MSB of the 8 bit word fed to the DAC changing. Thus looking at the MSB of
>the sine output (which IS the same as the MSB of the phase register (but 180
>degrees delayed)) will give a square wave with the same frequency and zero
>crossings as the sign wave - but it will be loaded with harmonics
>
>>If you do an
>>analysis of the codes that come out for low fractions of the clock frequency
>>(say 1/3) you will see that the DAC output changes from positive to negative
>by >some pretty weird values and these zero crossings do not necessarily
>correspond >to the zero crossings of the desired phase signal.
>
>True - the zero crossings aren't right - but they average out over time to
>being right. Some sort of LPF is used on the DDS sinewave to
>smooth it out, and this has the effect of moving the zero crossings closer to
>the right place. But they won't always be right - so what effect does this
>have on the ultimate PLL output spectrum? And what would be the effect of
>greater average deviation in zero-crossing timing, ie, a 1 bit DDS output?

You are both "almost" correct here. A simple PLL can only filter out the higher frequency components of the MSB noise. If you have a relatively narrow band tracking filter on the signal going into the PLL, however, you can get rid of SOME of the phase jitter via the zero crossing detector route. The zero crossing detector provides an "average" function for the step just before the MSB changes and the step just after. This "average point" will sit much much closer to the right time regardless of MSB jitter as you increase filtering and increase the bits of precision in your DAC. Of course it seems it might be possible to seperately convert the lesser SBs as a "bias term" on the PLL output to correct for the jitters. Someone wanna analyze that one? (Hint - it's been done before.)

>
>Chris, N1IIR
>stratton@mit.edu
>

>
{^_^} Joanne Dow, Amiga Exchange Editor on BIX
jdow@bix.com The Wizardess

2724. Re: REF maual for "2SCtype" rf transistors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3st7vt$dul@tierra.santafe.edu>
Source record: 112136

What you want is the ECG or NTE replacement parts catalog. These cross reference 2sC devices (and many others) to their corresponding brand of replacement parts. You shoud be able to get one at a local TV service parts distributor. With a litle work you might be able to deduce which 2N device in your junk box will replace the 2SC device.

--
==========

James M. Potter, President Internet: jpawi@roadrunner.com
JP Accelerator Works, Inc. AOL: jpawi@aol.com
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

2725. Re: Site for QRP stuff???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istDAxwG2.M3w@netcom.com>
Source record: 112137

In article <2a6.3037.546@acenet.com> brian.carling@acenet.com (Brian Carling) writes:
-Newsgroups: rec.radio.amateur.homebrew
-RLL>Hi! I am interested in finding plans & discussions on QRP rigs. Does
-RLL>anyone know if a site exists on this subject? --Gerry
-Hi Gerry - do a SUBSCRIBE message to
-qrp-l@lehigh.edu

Yikes! Please don't!!!

The subscribe message should go to listserv@lehigh.edu with the body (the
subject is ignored)

subscribe QRP-L

(or unsubscribe qrp-l to unsubscribe). Sending it to qrp-l@Lehigh.edu
sends it to everyone on the list except the automated list manager that
can handle it.

/mike

--
\|/ Michael L. Ardai N1IST Teradyne ATB, Boston MA
-*- ---
/|\ ardai@maven.dnet.teradyne.com n1ist@netcom.com

2726. Re: 2m? 70cm? How hard?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: zlau@mgate.arrl.org
Message-ID: <3sucqm$cne@mgate.arrl.org>
Source record: 112138

KB5GOG: KMTG59A@prodigy.com (David Covert) wrote:
: >
: > How hard is it to build VHF/UHF transmitters and recievers? (2m and
: > 70cm)
: >
: > I realize that 'how hard' is a realitive thing, so how does it compare to
: > building HF QRP stuff or microprocessor/microcontroller projects?

In the USA, due to the FCC rules, the hardest stuff to build is
VHF gear. Getting spurs down 60 dB is much tougher than getting
them down 40 dB. Often, you need to add real shielding between
stages. On the other hand, you probably want to do that anyway
to keep pagers, cellular phones, TV, and FM broadcast stations
out of your circuitry.

On the other hand, depending on the technology you have available,
70 cm stuff can be even easier to build than HF gear. At 222 MHz
and above, no-tune etched filters are certainly practical for
those with expensive computer software. A set of boards for
432 through 5760 MHz is sold by Down East Microwave.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2727. Re: Help: Reattaching plates on variable capacitor shaft

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: papawizard@aol.com
Message-ID: <3suivj$4p3@newsbf02.news.aol.com>
Source record: 112139

Dave ,
I suggest replacing the whole cap.
I have several of these available and the price is a lot less than the
trouble of attempting to fix the old one.
PAPAWIZARD

2728. Re: Finals and Drivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: papawizard@aol.com
Message-ID: <3suivk$4p0@newsbf02.news.aol.com>
Source record: 112140

Steven,
What your attempting to do is admirable, however it would involve changing more than just the driver and final. You would have to increase the pre-drive stages to be able to supply enough rf to the driver. Also the power cable, on/off switch,and circuit traces are not designed to handle the current needed to opperate at 100-watts output. If you must have more output wattage I suggest you purchase an external amp or an RCI-2970 10-meter radio.

PAPAWIZARD

2729. TUBES FOR SALE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: papawizard@aol.com
Message-ID: <3suivt$4p6@newsbf02.news.aol.com>
Source record: 112141

I have thousands of NEW tubes for sell at reasonable prices.
Please send reply direct to PAPAWIZARD@AOL.COM.

2730. Re: Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <3sumol$pik@cismsun.univ-lyon1.fr>
Source record: 112142

Thanks for all answers.
Here is what I thought before asking :

- Using a high Q tank.
- Using two varicaps
- Optimizing the input impedance for lowest noise (but how to compute Zin ?)
- Using a high frequency reference in the loop
- Using a TCXO as refrence crystal
- Divide the output of the VCO (I mean divide its frequency)

What would be the type of oscillator that would generate the less phase noise ?

Thanks and 73s.
Vince, F5RCS/I2

2731. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <3sun4b$pik@cismsun.univ-lyon1.fr>
Source record: 112143

Say, in the middle of your talk, just a question :

Your DDS is fed by an XTAL oscillator.
What is the effect of its phase noise on the phase noise output of the DDS ?
It seems to me that there must be some.
But I may be wrong.

Vince, F5RCS/I2

2732. Re: how to isolate HT from auto power spikes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: Chris Spacone <spacone@qnet.com>
Message-ID: <3sumvg$cnj@rcp6.elan.af.mil>
Source record: 112144

You could try using one of the many linear voltage regulator chips
available in the market.

73, Chris

2733. Re: REF maual for "2SCtype" rf transistors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <3susd9$pb1@mrnews.mro.dec.com>
Source record: 112145

In article <3sshss$ilc@newsbf02.news.aol.com>, tantonr@aol.com (TANTONR) writes...
>This got me to wondering- I have a Motorola RF data manual, which comes in
>VERY handy in times like this, but BOY would it be nice to have a Toshiba
>or equiv. "2SCtype" manual, showing all the stuff that Motorola shows in
>their databook.

Well, they don't show all the good stuff the Moto books show, like for instance S-parameters and whatnot, but MCM Electronics sells Japanese "2S" databooks for transistors, FETs, and diodes. I have only the bipolar transistor book. What you get is mostly in Japanese, but the data tables use the normal "hFE, Vce, etc." type symbols, so it's readable.

There's enough detail to allow substitutions. I can also pluck "2SC" transistors out of old junk radios and know what they're good for. The best part is all the currently available "2SC" parts are in one book - you don't have to find a book by a manufacturer that happens to make that particular part. I wish there was such a thing for "2N" parts!

-Tom R. N1OOQ randolph@est.enet.dec.com

2734. "Touch-driven" Iambic paddles?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: drenze@icaen.uiowa.edu
Message-ID: <3sv06s$emg@server05.icaen.uiowa.edu>
Source record: 112146

Several years ago (well, sometime since January of 1981) QST published an article detailing how to build a "touch-driven" Iambic paddle. I *believe* that it worked by sensing the change in potential on two plates due to hand capacitance (with an adjustable threshold, as I recall). Well, I've since lost the article, but I'd love to build such a beast--I think it would be fun to use, especially with my CMOS Super Keyer II. ;-) Could somebody please point me to such an article, or to schematics on how to build such a thing? I'd be much obliged. Please reply via e-mail, so as to save band-width. If there's interest, I'll summarize and post for the group.

Tnx es 73 de N0YVW SK

--
Doug Renze, N0YVW * drenze@isca.uiowa.edu * N0YVW @ W0IUQ.ia.usa.na
DRenze@aol.com

Hitchhiking the Infobahn.

2735. Re: Fiinger Stock

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: mai@iquest.net
Message-ID: <DAxw8z.7wG@iquest.net>
Source record: 112147

<3ssfvm$i3t@newsbf02.news.aol.com>
Organization: IQuest Network Services
X-Newsreader: WinVN 0.91.6

In article <3ssfvm$i3t@newsbf02.news.aol.com>, tantonr@aol.com (TANTONR)
says:
>
>I believe RF Parts of San Marcos California carries finger stock- their
#
>is (619) 744-0750. You can also try Fair Radio Sales in Lima Ohio.
>
>GL es DXOM!

Call MAI/Prime Parts @ 317-257-6811 (Fax 317-257-1590) in Indpls., IN.
Stocking finger stock and associated items for homebrewing.

2736. Re: Fiinger Stock

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: mai@iquest.net
Message-ID: <DAxwGp.86n@iquest.net>
Source record: 112148

<3ssfvm$i3t@newsbf02.news.aol.com>
Organization: IQuest Network Services
X-Newsreader: WinVN 0.91.6

In article <3ssfvm$i3t@newsbf02.news.aol.com>, tantonr@aol.com (TANTONR)
says:
>
>I believe RF Parts of San Marcos California carries finger stock- their
#
>is (619) 744-0750. You can also try Fair Radio Sales in Lima Ohio.
>
>GL es DXOM!

2737. Building Zack Lau's QRP 3-bander for 40/80m?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: drenze@icaen.uiowa.edu
Message-ID: <3sv9mo$fai@server05.icaen.uiowa.edu>
Source record: 112149

Hiya, folks. I'm looking to build a QRP tranceiver for use on 40/80m CW (novice/tech bands). I've selected the KH6CP tribander described in the ARRL handbook because it's a self-sufficient tranceiver (I live in an apartment--this is a consideration) and because the notes mention that it's relatively easy to modify this tranceiver for other bands. Has anybody done this--preferrably for 40 and 80m? If so, would you be interested in sharing tips/instructions/TELLING ME HOW TO MAKE THE MODS (hint-hint ;-)) to build this?

Tnx es 73 de N0YVW SK

--
Doug Renze, N0YVW * drenze@isca.uiowa.edu * N0YVW @ W0IUQ.ia.usa.na
DRenze@aol.com

Hitchhiking the Infobahn.

2738. Re: Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3svdpp$82c@abyss.West.Sun.COM>
Source record: 112150

In article <3su6e0$2m9@crl7.crl.com>, Donald J. Miller <dmiller@crl.com> wrote:
>Richard Karlquist (rkarlqu@scd.hp.com) wrote:
>
>: a shield can. Use a large L/C ratio in your tank.
>
>Huh?
>
>When a parallel tank is loaded with a resistance, the Q is equal to
>that resistance divided by the reactance of the L or C (it doesn't
>matter which, since the two reactances are equal in magnitude at
>resonance).

Isn't the usual case where the resistance is in series with the
reactive components? In this case, Q = X/R; larger X gives a
larger Q for a constant R. Of course, the R isn't constant,
it goes up linearly as the turns on the inductor increase, but
the inductance is proportional to the square of the turns; thus
a larger L is better for high Q. I'd also guess using a larger
L means that the smaller C required will also have a higher
Q...

>If large L's are used, the reactance goes up, the Q goes down, and
>the phase noise increases, per theory.

See above. I'd guess that parallel loading of tank circuits
isn't as much of a problem as the component series R.

>In the real world, there are other complications. For a given frequency
>of operation, high quality inductors can be fabricated over only a
>finite range of inductance, so the designer is constrained from using an
>arbitrarily small value of inductance.

At upper UHF+, there are some neato ceramic resonators available,
but they're kind of exotic for home experimentation as far as I
can tell, since they have to be fabricated to the desired frequency.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

2739. Re: Building a Home! (Now that's home Brew...:) (Long!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: s2202629@titan.np.ac.sg
Message-ID: <3sts7g$4mp@titan.np.ac.sg>
Source record: 112217

Found -somewhere- on the internet. I forgot where however... 8P

-Cut Here-

Hello,

A few weeks ago I posted the following:

My friend is thinking about having a house built for him
and he was wondering if you all could offer some
suggestions in making his house "ham freindly". For
instance, having coax run in the walls to his shack or a
rotor mast port in the roof.

I wish to thank the following for their input:

Bob Smits, VE7EMD
Macy Hallock
Marv, KD4EGV
David GM4ZNX
Tom Bodoh
Gary Coffman KE4ZV
Mat Maessen N2NJZ
Scott Sminkey, WO1G

The following is a list of responses:

1. Run four pair twisted pair wire for all telephones, home run
to a central point for all jacks. Use Level 4 wire (less prone
to RFI and xtalk). You can use Shielded Twisted Pair, but it
shouldn't be necessary.

2. Run 2" PVC conduit from the roof, to the prospective
shack location. Stub the conduit thru the roof, using a
vent skirt, put a 180" elbow on the top. Do not glue on
the elbow, though. This run should have no more than
two 90" bends in it. Use 45" bends, if possible.

3. Prepare a support area on the roof structure for a roof
tripod, near the coduit stub. Even if you have use for
a tower, this is a good idea. Its hard to have too many places
to put an antenna.

4. Install Double Shielded RG-59 video cable for the TV runs.
Belden 8232 is a good choice.

5. Arrange for the phone company to install the network interface
inside the house, with the phone line completely buried and not

exposed on the side of the house. Better security and looks nice.

6. Prepare for a grounding system while the house is under construction.
Never, ever skimp on grounding....

7. If you have a basement, run conduit from the shack into the
basement. Useful for standby power (keep the 12v battery in
the basement) and control runs.

8. Wire in remote radion/ music speaker lines. Maybe even prewire some
control station stuff.
(Don't go for a cheap NuTone music/intercom. There are other solutions
that are decent...)

9. Get a professional grade security system installed.
(That's what F.M. Systems does, ask for advice when you are ready)

From: macy@fmsys.fmsystm.ncoast.org (Macy Hallock)

-

Here are my suggestions:

1. Coax or hardline in walls to antennas.
2. Separate subpanel for all electrical outlets in shack.
3. Additional telephone (multipair cable) pulled to shack.
4. Cable tv drop for shack.
5. Driven ground rod in shack area before concrete floor is poured.
6. Cabling installed in wall for rooftop weather station -even if the
station is added later.

Marv, KD4EGV

-

For what it's worth, here's what I did when I added a ham shack (closed
in a car port) last year.

Ran a 220 V feed to the new room, and installed a sub breaker panel.

Added electrical outlets everywhere I could concievably want them,
including a 220 outlet for a linear. About 8 of the outlets are switched
by a light switch near the door, to control desk lights, etc.

I prewired a number of telephone jacks - dual ones for the two phone
lines (for the voice and computer lines), at two locations - one at the
computer desk, one near the ham equipment for the phone and patch.
I also added four runs of RG-6 + extra cable through the wall for the
satellite reciever, plus extra shielded audio cables, so that I can feed
the stereo upstairs with satellite audio.

As far as the ham antenna cables go, I would not install the cables
within the wall, as the cables normally get replaced and/or changed
periodically. I made a plywood door in the ceiling of the shack, put coax

feedthrough connectors in it, and feed the cables to the outside between the rafters. The "door" is directly above the ham gear. (I figure on up to fifteen separate antenna feeds, all RG-8 or better)

All in all, I recommend adding extra electrical outlets wherever you could possibly want them. Having a separate sub-panel for the ham shack will also make it easier to switch in a backup generator, but make absolutely sure that if this is done, that there is absolutely no way of back energizing the power company's lines with the generator.

If you absolutely must install antenna cables in walls, use conduits, so that you can change them in the future. (Sooner or later, you'll want to.) Provide for antenna cable on every band you may wish to operate on, even if you don't install 'em right away. For me, for example, that makes a total of 4 VHF feedlines, 2 UHF, 8 HF and 2 spares. YMMV.

Plot it all out on paper, and do it several times. There's always something you forgot.

73, Bob Smits, VE7EMD

Robert Smits There is *no* idiotproof filter.
VE7EMD Idiots are proof against anything!
Ladysmith B.C. - Richard Chycoski, VE7CVS
e-mail: emd@ham.almanac.bc.ca

-

I read the reply about lots of circuits, 220v 110v, bench lamps off of a light switch by door with interest as it breaks my number one safety rule.

Should you ever have an accident, it is likely that the people who would have to try to save you will be unfamilier with your shack, and may never work out which circuit is biting you.

I feel happier in the vicinity of a large switch in a fully insulated plastic box in easy reach of someone entering the shack, with a bright red arrow and the words "safety switch" pointing to it, which kills all power in the shack.

It has never happened to me, so far, and I've designed power supplies as part of my job, BUT should it happen I want the dice loaded to favour me.

For multiple circuits, you'd need a set of ganged switches. It is also a good way to shut down without bothering to find everything that is turned on.

Hope you never need this,

Cheers
David GM4ZNX (everything is on 240v in this country)

-

I would also suggest ground fault interrupt protection...

++
++
+ Tom Bodoh - Sr. systems software engineer +
+ USGS/EROS Data Center, Sioux Falls, SD, USA 57198 (605) 594-6830 +
+ Internet; bodoh@dgg.cr.usgs.gov (152.61.192.66) +
+ "Welcome back my friends to the show that never ends!" EL&P +
++
++

The only problem with that is that stray RF currents may trigger the GFI syst
em.
Just simply following good grounding techniques should be enough.
--
Mat Maessen N2NJZ | maessm@rpi.edu
------------------------------ +----------------------------------

---
-

First things first, start with a good ground system. A Ufer ground system
should be installed in the poured footings, and radials should be pre-install
ed
from the tower pads. Ground window entrance bulkhead panels should be install
ed
where cable runs will enter the house. This should all be integrated with
the power and telephone ground system to prevent later ground loops. This
is really cheap during construction, and very hard to do right later.

You never pre-wire with enough cables, so conduits with pull ropes should
be installed to all critical areas so that additional cabling can be easily
added later. As a minimum, pre-install in the walls two 50 ohm ethernet/ham
cables and two 75 ohm CATV cables to plates in each room, Also pull multiple
telephone cables and enough power outlets. Don't daisy chain anything. Bring
all phone runs back to a distribution panel, and all CATV and ethernet runs
to other distribution panels. This will allow reconfiguration of the networks

at any future date. The radio room should have it's own cable closet with
conduits, punch blocks, and patch panels.

Use 6 inch walls rather than 4 inch. This will allow larger cable conduits,
and more insulation. For the radio room, there should be computer flooring
and Sonoguard sound treatment. A suspended room inside a room would be best,
but just the sound treatment will help. Shop air should be provided from a
central source, along with a central vacuum system to please the XYL. The
radio room should be on it's own power distribution subpanel, ideally with
full emergency backup and auto switching. Insure plenty of air flow. A
high volume, low velocity, air handling system is best. It will allow
equipment cooling without contributing noise. Avoid metal duct work, use
rigid foam panels for all ducts. This will prevent unwanted resonances

in the air system.

If the neighborhood zoning and covenants allow, freestanding towers are superior to house mounted antenna masts. If the zoning and covenants don't allow, consider building in a different location. Naturally, the higher the site the better for most ham operations. At least two, and preferrably three, six inch underground cable conduits should be installed from each tower base to the ground window. These should be fitted with non-rotting pull ropes and should terminate in weatherproof boxes. Route high level RF through one conduit, low level RF through another, and control wiring through the third.

All non-ham electrical equipment should be scrutinized for possible RFI generation. This includes light dimmers, HVAC controllers, security systems, major appliances, etc. For more ideas, consult the NAB Handbook.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | uunet!rsiatl!ke4zv!gary
534 Shannon Way | Guaranteed! | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | |

-

Tom,

My wife and I had a house built about a year ago and I had a few ham things done that really worked out great. Here you go...

1. Consider where you might put a tower up, where coax from a dipole would fall to the ground, etc. Run buried 4-inch diameter PVC through the basement wall to that point. Use a combination of 22 1/2 or 45 degree bend sections on the outside end to take it out of the ground and bend it over so the opening is facing down (to keep rain out). A plug made of rotproof wood (I used scrap cedar decking material) with holes drilled in it for coax has kept mice from using the PVC to get into the house! This buried PVC has worked out really great to keep from having to string coax thru the air or lying on the lawn.

2. Run PVC inside one of your walls from your basement to your attic. This will give you an easy way to run feedline to any antennas in your attic down to where the radios are. Of course, you have to think about where the shack might be to pick the wall(s) you do this with. Even if you plan on a shack in some place other than the basement, run the PVC from basement to attic in case you change your mind later. If it's an upstairs room, you could attach a PVC tee section to bring it out into the room or just make a note about where the PVC is and punch a hole in the wall later to get at it. Note that having open PVC from basement to attic may be a code violation in some areas because it creates a raceway that can feed a fire. I use a PVC pipe like this to bring feedline from my discone scanner antenna down to the shack in the basement. I think the PVC pipe method is much better than simply

putting coax in the walls: you can choose coax type later and replace it at any time.

3. If you've selected a location for the ham shack, have extra wiring put it while you're building (much cheaper than doing it later). Go all out with this because the extra expense isn't much! Put in a 20 or 30 amp 240V outlet for the "big rig" you might get later. Put in a couple of good (20 amp) 120V circuits just for that room. Put the overhead light socket on a different circuit (probably one in common with other room), so if you blow a breaker, you'll still be able to see what you're doing! Think about using a subpanel in or just outside the romm with a master switch for safety purposes.

4. If you're thinking about a tower, now is the time to think hard! It will cost much less now than later to have heavy equipment dig the holes for the base and anchor footings and get the base and footings poured with whatever rods, pins, rebar frames, base, etc. you'll need. Just think: the equipment and ready-mix concrete trucks will be there already for the big part of the project (foundation, basement walls and floor), so tower stuff is peanuts in terms of extra time and materials. You will need to select a tower type and have a some idea about height to choose dimensions and materials like anchor rods and base plates. I planned for a Rohn 25G guyed installation of 50 to 70 feet.

5. If you're going with a basement shack like I did, drive in a ground rod or two where the room will be before the basement floor is poured, and voila, you've got a ground rod as close as possible to your rigs!

That's all I can think of right now...
73 de Scott WO1G
==========
Scott Sminkey, WO1G
Software Sustaining Engineering
Xyplex, Inc.
295 Foster St.
Littleton, MA 01460
voice: 508 952-4792
fax: 508 952-4702
email: sasminkey@eng.xyplex.com
(Opinions, comments, etc. are mine, not Xyplex's...)

-

2740. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: ian.mitchell@research.utas.edu.au
Message-ID: <3stnc8$3go@franklin.cc.utas.edu.au>
Source record: 112218

In article <stratton.47.000E02A5@mit.edu>, stratton@mit.edu says...
>
>In article <9505278042.AA804270969@mails.imed.com> mack@mails.imed.COM writes:
>
>>Chris:
>> Here is the short answer to your question: In order for the DDS part to
>>work correctly you MUST convert the DAC output to a sine wave!
>
>> You have missed a subtle part of how the DDS part of the combo works.
>>The PLL uses the zero crossings of the phase reference to do the phase
>>comparison.
>
>
Hello Chris and Ray,

I am currently working on a DDS would like to be able to connect the high order bit to the mixer through an LPF. I built a spread sheet based on the output from the high order bit and looked at the fourier spectrum generated. It looked ok in that there was no even harmonics and the odd harmonics were way down.

I'm using an IF of 10.7MHz with down conversion, ie dds operates above 10.7MHz

If I arrange for the front end to reduce images, is this a viable idea, or am I missing something here?

Best Regards,

Ian

2741. Re: Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <3su6e0$2m9@crl7.crl.com>
Source record: 112219

Richard Karlquist (rkarlqu@scd.hp.com) wrote:

: a shield can. Use a large L/C ratio in your tank.

Huh?

When a parallel tank is loaded with a resistance, the Q is equal to
that resistance divided by the reactance of the L or C (it doesn't
matter which, since the two reactances are equal in magnitude at
resonance).

If large L's are used, the reactance goes up, the Q goes down, and
the phase noise increases, per theory.

In the real world, there are other complications. For a given frequency
of operation, high quality inductors can be fabricated over only a
finite range of inductance, so the designer is constrained from using an
arbitrarily small value of inductance.

Later,

--

Don Miller My opinions are my own!
dmiller@crl.com

2742. JVFAX&AA Multifax board

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-29 00:00:00 UTC
From: tfugate@uklans.uky.edu
Message-ID: <3su6ob$1q8@service1.uky.edu>
Source record: 112220

Has anyone tried to interface the AA NOAA WEFAX board to JVFAX 7.0?
The "simple" opamp comparator circuit works very well for HF fax.
The 2206 based VCO that takes the NOAA siganl and then sends it to
opamp comparator works. Just not to well. I have the old multifax
system and was wondering if anybody had had any success interfacing
it to JVFAX 7.0. The old multifax system worked ok but the resolution
was never what I had wanted. The AA board has an 8bit adc with all 8
bits brought out the ouput connector. Parallel ports are rather tricky
to feed. I am thinking that I will need to change the noninverting
output buffer to an inverting buffer. Any thoughts?
The JVFAX program is wonderfull. Anyone who has ever had any interest
in fax hf or NOAA LEO weather sats ought to check it out.

Terry Fugate
WN4ISX

2743. Re: QRP-L?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: wyman@bnlux1.bnl.gov
Message-ID: <NEWTNews.22603.804580323.wyman@kwyman.thor.bnl.gov>
Source record: 112072

In article <3t19s1$k2d@server05.icaen.uiowa.edu>, <drenze@icaen.uiowa.edu>
writes:
> Path:
nntp.bnl.gov!news.sprintlink.net!gatech!swrinde!cs.utexas.edu!math.ohio-state.e
du!hobbes.physics.uiowa.edu!news.uiowa.edu!news1.icaen!drenze
> From: drenze@icaen.uiowa.edu (Douglas J Renze)
> Newsgroups: rec.radio.amateur.homebrew
> Subject: QRP-L?
> Date: 30 Jun 1995 16:48:01 GMT
> Organization: Iowa Computer Aided Engineering Network, University of Iowa
> Lines: 10
> Message-ID: <3t19s1$k2d@server05.icaen.uiowa.edu>
> NNTP-Posting-Host: grind.isca.uiowa.edu
>
> Folks, how do I subscribe to the QRP-L list? It's been so long since I
> was subscribed that I just cain't 'member.
>
> Tnx es 73 de Doug, N0YVW
>
> --
> Doug Renze, N0YVW * drenze@isca.uiowa.edu * N0YVW @ W0IUQ.ia.usa.na
> DRenze@aol.com
>
> Hitchhiking the Infobahn.
>

Send mail to : listserv@lehigh.edu

type in body of mail: subscribe qrp-l your name your call

You'll get E-mail back saying that you have been added to the list and giving
you a rundown on all the list commands....ie how to post to the list etc..

73 de Kevin (KF2VC)

2744. Re: Looking to transmit CW from PC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: jbls@aol.com
Message-ID: <3t0d84$l6t@newsbf02.news.aol.com>
Source record: 112151
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

>I'm looking for software that can be used with a simple interface to
>send CW on an HF transceiver. Receive would be a nice plus, but not
>necessary. Is there anything out there like this?

>73...Jim N2VNO

Try HAMCOM30. A schematic is in the program's docs on how to build the interface. It is relatively simple (I am in process of building one---in fact the PCB is at this moment being etched in my bathroom!!) to build the interface. It is available, I believe, by FTP at oakland.edu (not quite sure of the name).

John
KE6TGN

2745. Looking to transmit CW from PC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: jdc3538@osfmail.isc.rit.edu
Message-ID: <3svils$cqq@news.isc.rit.edu>
Source record: 112152
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

I'm looking for software that can be used with a simple interface to send CW on an HF transceiver. Receive would be a nice plus, but not necessary. Is there anything out there like this?

73...Jim N2VNO

2746. Ignorant question about envelope detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: misc200@csc.canterbury.ac.nz
Message-ID: <1995Jun30.150509@cantva>
Source record: 112153

Hola Everyone,

I'm fairly ignorant of electronics, but I have a question which you may
be able to answer.

It seems to me that a standard envelope detector as used in the
detection of an AM signal would perform better if the standard fixed value
capacitor was replaced by a circuit which had a capacitance which varied with
changes in frequency.

If a large valued capacitor is used in an ordinary envelope detector
lower frequency 'message' signals would be detected well as the discharge from
the capacitor would be roughly linear over the short period of time to the next
signal.

However, at higher 'message' signal frequencies the 'slope' of the
discharge from the capacitor would not be steep enough to ensure that the
voltage across the capacitor at the arrival of the next carrier peak the was
below that carrier peak.

Me thinks that most envelope detectors compromise by having a smaller
valued capacitor, which unfortunately are not so good for the lower freqency
'message' signals.

I of course claim ignorance, so if I'm completely and utterly wrong
then feel free to correct my ignorance.

So if I am right, do there exist any circuits out there, which use off
the shelf components, which may be used as a sought of frequency dependant
capacitor.

Also a friend of mine had an idea about using a 'dual detector' in an
AM receiver, the idea is to use a bridge rectifier of Germainium diodes instead
of the standard single diode. Me thinks it should improve the quality of
detection. Any thoughts or comments on this much appreciated.

Regards,

Stephen Simpson

2747. Re: Site for QRP stuff???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: LEMPICKI@deimos.oit.umass.edu
Message-ID: <3svkcr$1ih@nic.umass.edu>
Source record: 112154

: Saw your interesting reponse to Gerry's post. I tried to subscribe by
: sending message to qrp-1@lehigh.edu; and put "subscribe" on first line of
: message. Nothing entered as Subject. Didn't work. Can you advise me of
: my error?
: -dave

: ==
: David D. Lee, AB5AX, Houston, Tx

Dave, I just did it, so here's the info:

in the body,

SUBSCRIBE QRP-L FULL NAME CALLSIGN

Good Luck! -Gerry

2748. Re: how to isolate HT from auto power spikes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3svgan$84v@abyss.West.Sun.COM>
Source record: 112155

In article <3sumvg$cnj@rcp6.elan.af.mil>,
Chris Spacone <spacone@qnet.com> wrote:
>You could try using one of the many linear voltage regulator chips
>available in the market.

Keep in mind most of the common three pin linear regulators have
about a 2 volt input-output differential; for the device to stay
in regulation, the input must be about 2V greater than the desired
output. For example, a 7812 really needs about 14V in to give a
regulated 12V output. If the input drops, so will the output.
The voltage drop also increases as the load increases; an HT
that works OK receiving may not transmit correctly.

Also, most of the common regulators aren't specified to the
kind of transient voltages that occur in the automotive electrical
system. In fact, for large input spikes or negative input
spikes the regulator may fail, often as a short circuit (I've
tried this at home).

There are regulators designed for the automotive environment;
the LM2941 is a nice 5V part from NatSemi which is specified
for negative and large positive input transients. Also, the
input-output differential is very low, something like 600mV
with a 1A load. The downside is the +5V fixed output.... but
there may be similar devices at higher or adjustable voltages
available now.

I'd probably use an LC filter followed by a fuse and a healthy
Zener on the order of 19V/5W, like a 1N5356A, to protect the
power supply if I was worried.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

2749. FS: Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: YourName <YourName@dr.att.com>
Message-ID: <DAzw50.95L@bigtop.dr.att.com>
Source record: 112156
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

YourName <YourName@dr.att.com> wrote:
>Communication System: Microwave, military, 3 complete units
0A-8044A/TRC-97A by Radiation Systems, Inc
Antenna Group ANTRC-97A,0A 7161A/TRC97 by RCA
all records - equipment is in working order

Govt cost $248,000.00 ea.

All 3 units for about $4500. we load - you haul

Cedardege, Colorado

970-856-7303 -Larry

This is posted for a friend - please call the number above for more info.
Thank you

2750. looking for crystal

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: sbertsch@magnus.acs.ohio-state.edu
Message-ID: <3t1r1b$osv@charm.magnus.acs.ohio-state.edu>
Source record: 112157
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

I'm looking for a crystal in the range of 8.08333.. to 8.1 MHz, preferably in a FT-243 holder, but other styles will do. This is to put my Heath lunchbox in the 145.50 -> 145.80 (misc. & experimental) part of the bandplan.

Let me know if you've got one to sell!

Steve N8KWV

2751. Re: Looking to transmit CW from PC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <3t10t2$ad2@ixnews5.ix.netcom.com>
Source record: 112158
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <3svils$cqq@news.isc.rit.edu> jdc3538@osfmail.isc.rit.edu (CRONIN)
writes:
>
>
>I'm looking for software that can be used with a simple interface to
>send CW on an HF transceiver. Receive would be a nice plus, but not
>necessary. Is there anything out there like this?
>
>73...Jim N2VNO
>

Look on QRZ web server at http://www.qrz.com

Under the FTP option go into the files section, then the morse. There
are several files here. The ones I'm familiar with that I think do
what you want is PROCW and CW104. It has been a year or two since I
played with them, but I think they will do what you want.

or if you have a CD go ahead and spring $25 for the CD and get lots of
shareware stuff.

I am in no way associated with QRZ, just a satisfied customer.

KI5GY Sparky

2752. Multi Band Wire Antenna Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: lewis@phoenix.phoenix.net
Message-ID: <lewis-3006952032530001@199.3.234.108>
Source record: 112159
Cross-posted to: rec.radio.amateur.antenna,alt.radio.amateur.club.clarc,rec.radio.amateur.equipment,rec.radio.shortwave,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I want to put up a trapped wire for 80 - 10 meters. Space is a major problem. I own the house but the lot is small and the deed restrictions are large. I have no large trees to run a wire up to and the house is only about 23' tall at the peak.

The question I have is can I put the wire up with a minimum ground clearance of 15' and use it as a modified sloping inverted vee with out too many problems? I want to tie to the chimney and the top ot the garage in one direction and the chimney and a elevated swallow house pole on the other leg. This will give me about 60 degrees of seperation with the 'point' of the vee pointed upward to the east and the other two legs pointing nortwest and southwest.

Will the wire be omnidirectional in this configuration or directional? I am a neopyhte at this and really need a little help. I am studing to take the ham tests and getting my 'shack' in order for the day when the ticket finally comes in.

Thanks for the help in advance.

Lewis Stephens

--
~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~
Lewis Stephens lewis@phoenix.phoenix.net Pasadena,Texas
~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~

2753. QRP-L?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: drenze@icaen.uiowa.edu
Message-ID: <3t19s1$k2d@server05.icaen.uiowa.edu>
Source record: 112160

Folks, how do I subscribe to the QRP-L list? It's been so long since I was subscribed that I just cain't 'member.

Tnx es 73 de Doug, N0YVW

--
Doug Renze, N0YVW * drenze@isca.uiowa.edu * N0YVW @ W0IUQ.ia.usa.na
DRenze@aol.com

Hitchhiking the Infobahn.

2754. Re: Mast-mounted pre-amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: Chris Spacone <spacone@qnet.com>
Message-ID: <3t1il0$10l@rcp6.elan.af.mil>
Source record: 112161

ae517@FreeNet.Carleton.CA (Russ Renaud) wrote:

>
>If relays, how do they get them to switch fast enough without burning out the active device?
>

Sequencers. When you key the mic it switches the preamp out, then the transverter (if you are using one) then keys the rig. Unkey the mike and it all happens in reverse. Works great, most of the time.

73, Chris KD6OUB

2755. Re: how to isolate HT from auto power spikes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: zlau@mgate.arrl.org
Message-ID: <3t0v3m$v0q@mgate.arrl.org>
Source record: 112162

Dana Myers (myers@West.Sun.COM) wrote:

: There are regulators designed for the automotive environment;
: the LM2941 is a nice 5V part from NatSemi which is specified
: for negative and large positive input transients. Also, the
: input-output differential is very low, something like 600mV
: with a 1A load. The downside is the +5V fixed output.... but
: there may be similar devices at higher or adjustable voltages
: available now.

QST published an article on using the LM2941T adjustable
regulator in November 1989. It even has information
about the auto electrical enviroment.

They have one well known problem--you need a good electrolytic
or tantalum capacitor of sufficiently large capacitance and low
series resistance on the output of the device to keep it
from oscillating. The more current you draw, the smaller
the capacitor you need. A 22 uF tantalum works well in many
cases, though I'd recommend you look up the data book notes
or copy a circuit that works.

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2756. Re: Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3t1tcg$a13@hpscit.sc.hp.com>
Source record: 112163

In article <3su6e0$2m9@crl7.crl.com>, Donald J. Miller <dmiller@crl.com> wrote:
>Richard Karlquist (rkarlqu@scd.hp.com) wrote:
>
>: a shield can. Use a large L/C ratio in your tank.
>
>Huh?
>
>When a parallel tank is loaded with a resistance, the Q is equal to
>that resistance divided by the reactance of the L or C (it doesn't
>matter which, since the two reactances are equal in magnitude at
>resonance).
>
>If large L's are used, the reactance goes up, the Q goes down, and
>the phase noise increases, per theory.
>
>In the real world, there are other complications. For a given frequency
>of operation, high quality inductors can be fabricated over only a
>finite range of inductance, so the designer is constrained from using an
>arbitrarily small value of inductance.

Let me clarify this. Use a large inductor and small capacitor, but
tap way down on the tank to avoid de-Qing it with the resistance.
Yes, there is a limit to how high you can go (due to self resonant
frequency getting too low), but, generally, higher values of L result
in higher values of Q, other things being equal.

Rick N6RK

2757. Re: Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <3t1knh$ecd@cismsun.univ-lyon1.fr>
Source record: 112164

I'm bazck...

Well. Okay for using a large L with a small C.
But what about capacitive leakage ? Stray capacitance ?
What about the Q of the varicaps ?

There is something I don't really figure out :
Which one of these hypothesis is wrong :
1. A small C implemented with a varicap will be more sensitive to thermal or other types of noise, thereby increasing phase noise of the VCO.
2. Since small changes in varicap command signal produce great swing, the PLL will reduce more efficently the noise.

Thanks.
Vince - F5RCS

2758. Re: Ferrite design equations

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: royle@emerald.cse.tek.com
Message-ID: <3t2024$mg7@tekadm1.cse.tek.com>
Source record: 112165
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

rkarlqu@scd.hp.com (Richard Karlquist):

>Roy does a good job here of clearing up a common misconception. However,
>let me add that this advice applies only at low power levels. For high
>power transformers, such as output transformers in power amplifiers, it
>*does* matter whether the magnetizing impedance is resistive or inductive,
>because resistive loads dissipate power and heat up the ferrite. Inductive
>loads cause relatively little heating. In a 6 meter KW amplifier, you
>will find that low permeability ferrites will heat up much less than high
>permeability ones (that look resistive) even though the high permeability
>ones have higher impedance.

Rick is absolutely correct.

At low power levels, 1/2 dB of loss isn't much. But it's 122 watts if you're running a KW. Nobody'll notice the loss in your signal, but you'll sure notice it if you grab a core dissipating that kind of power.

The folks designing broad-band transformers for high power have a tough job, because with reactance comes resonance. Resistive impedances are much easier to live with over a wide frequency range.

My apology for looking at the problem from my narrow perspective, and thanks to Rick for bringing the other viewpoint to light.

73,
Roy Lewallen, W7EL
roy.lewallen@tek.com

2759. Temp Comp of osc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: royle@emerald.cse.tek.com
Message-ID: <3t206u$mi1@tekadm1.cse.tek.com>
Source record: 112166

rkarlqu@scd.hp.com:

>First of all, get rid of the JFET. A bipolar is typically much
>more temperature stable in the first place. . .

(I'm assuming you're referring to a VFO rather than a crystal oscillator,
although I suspect my comments apply also to crystal oscillators.)

Hm, this is interesting, and a bit of lore I hadn't heard before. In the
oscillators I've designed, the active element wasn't a noticeable contributor
to temperature sensitivity, although I'm sure it would have shown up sooner
or later if I had tweaked the passive components extremely carefully. In
a well-designed oscillator, you shouldn't be able to detect the temperature
sensitivity of the active device, unless you've managed to compensate the
passive components (particularly the inductor) to an extraordinary degree.

FETs are fine for this use.

73,
Roy Lewallen, W7EL
roy.lewallen@tek.com

2760. Radar Jammers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: mikkey@azstarnet.com
Message-ID: <3t21rt$1tt@web.azstarnet.com>
Source record: 112167

Anyone seen these ads for radar jammers (DAEMARK for one)?
Do these things work? Also can a spark gap transmitter effectively
jam either local high frequency transmissions (like 800 mhz); reception?
Just curious (for informational purposes only).
Thanks, mikkey.

2761. Peak Hold Meter Circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: "Kenneth M. Gianino" <gianino@sbctri.sbc.com>
Message-ID: <3t1332$7ut@sbctri.tri.sbc.com>
Source record: 112168

I have an application for a meter (analog) peak hold circuit. The
device is similar to an s-meter and a manual reset button would be
fine. Can anyone direct me to to a good schematic?
Ken - WB0QNA gianino@sbctri.sbc.com

2762. Re: How 'bout a freq. counter using SB sound card?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: ctyoung@mtu.edu
Message-ID: <3t26l9$1tc@dip.geo>
Source record: 112169

Shima (shima@eel.ufl.edu) wrote:
:
:
: Anyone interested in a frequency counter program using a PC and a SB
: sound card? I am thinking of writing one that may handle frequencies up
: to 6kHz. IT would list all strong frequencies in a given signal over a
: set noise threshold.
:
: Any takers?
:
: shima@eel.ufl.edu
:
What you want is a share ware program called CoolEdit. The job has been done.
Look in shareware catalogs. My friend said it is available from some shareware
source on the net.

Chuck Young ctyoung@mtu.edu

2763. Radios in Kit Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-06-30 00:00:00 UTC
From: bd608@torfree.net
Message-ID: <DB01p3.1Hx.0.bloor@torfree.net>
Source record: 112170

Since Heathkit is no longer operating (atleast in this area), is there
any other companies in North America that offers Amateur Radios and
equipment in Kit Form?

Thanx in Advance.
Jeff
VA3JFF
--
==========
L. Jeffrey Hetherington
Niagara Falls, Ontario, Canada
E-Mail - jhetheri@freenet.niagara.com

2764. Re: Looking to transmit CW from PC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: cmoore@sedona.intel.com
Message-ID: <3t43c8$er7@chnews.ch.intel.com>
Source record: 112073
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <3svils$cqq@news.isc.rit.edu>,
CRONIN <jdc3538@osfmail.isc.rit.edu> wrote:
>
>I'm looking for software that can be used with a simple interface to
>send CW on an HF transceiver. Receive would be a nice plus, but not
>necessary. Is there anything out there like this?

I haven't tried it, but according to the SuperMorse manual, SuperMorse
can send Morse code using one of the RS-232 support lines, like DSR (DTR?)
driving a transistor switch to key the transmitter. If a transistor is
not compatible with the transmitter keying circuit, a relay can be driven
by the transistor. The relay then drives the transmitter CW keying input.

73, Cecil, KG7BK, OOTC (not speaking for my employer)

2765. Re: Multi Band Wire Antenna Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <3t4esj$889@news.azstarnet.com>
Source record: 112074
Cross-posted to: rec.radio.amateur.antenna,alt.radio.amateur.club.clarc,rec.radio.amateur.equipment,rec.radio.shortwave,rec.radio.amateur.homebrew,rec.radio.amateur.misc

lewis@phoenix.phoenix.net (Lewis Stephens) wrote:
>I want to put up a trapped wire for 80 - 10 meters. Space is a major
>problem. I own the house but the lot is small and the deed restrictions
>are large. I have no large trees to run a wire up to and the house is only
>about 23' tall at the peak.
>
>The question I have is can I put the wire up with a minimum ground
>clearance of 15' and use it as a modified sloping inverted vee with out
>too many problems? I want to tie to the chimney and the top ot the garage
>in one direction and the chimney and a elevated swallow house pole on the
>other leg. This will give me about 60 degrees of seperation with the
>'point' of the vee pointed upward to the east and the other two legs
>pointing nortwest and southwest.
>
>Will the wire be omnidirectional in this configuration or directional? I
>am a neopyhte at this and really need a little help. I am studing to take
>the ham tests and getting my 'shack' in order for the day when the ticket
>finally comes in.

Lewis:

What you describe will certainly not be optimum, however, it should work. There may be some directivity on some frequencies, but I wouldn't count on it. You may have to tinker with the
wire segment lengths some to maintain resonance, but that's what ham radio is all about anyway.

With the proximity to house wiring that you will have, you may experience some mutual interference to/from TV and telephone service. This may require some extra effort to overcome
or may necessitate avoiding some freqencies. You will just have to wait and see.

If it's any consolation (I'm almost ashamed to say this), I have two acres and no deed restrictions but because my interest is mainly 2M CW/SSB, my HF antenna is a trapped dual-band
20/80 meter dipole 20ft high in the middle and about 10' at the ends.

With 100 W on 80 meters, I can work all of the US and have worked JA, VK, etc so don't dispair. Just stay out of contests :-)

Best wishes in your studies and many happy years of hamming.

Regards, Wes Stewart, N7WS

2766. Re: Temp Comp of osc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3t449h$dmb@hpscit.sc.hp.com>
Source record: 112075

In article <3t206u$mi1@tekadm1.cse.tek.com>,
Roy W Lewallen <royle@emerald.cse.tek.com> wrote:
>rkarlqu@scd.hp.com:
>
>>First of all, get rid of the JFET. A bipolar is typically much
>>more temperature stable in the first place. . .
>
>(I'm assuming you're referring to a VFO rather than a crystal oscillator,
>although I suspect my comments apply also to crystal oscillators.)
>
>Hm, this is interesting, and a bit of lore I hadn't heard before. In the
>oscillators I've designed, the active element wasn't a noticeable contributor
>to temperature sensitivity, although I'm sure it would have shown up sooner
>or later if I had tweaked the passive components extremely carefully. In
>a well-designed oscillator, you shouldn't be able to detect the temperature
>sensitivity of the active device, unless you've managed to compensate the
>passive components (particularly the inductor) to an extraordinary degree.
>
>FETs are fine for this use.
>
>73,
>Roy Lewallen, W7EL
>roy.lewallen@tek.com

I agree that the active device should drop out of the picture in an
optimum oscillator. I don't know to what extent this is possible, or
to what extent the original poster had achieved it. I guess he could
apply circuit cooler to his JFET and see what the damage was. Another
test is to vary the power supply voltage or bias current and note the
effect on frequency.

I was specifically complaining about JFET's not FET's in general. A
UHF dual gate MOSFET like the BF98X/BF99X series would probably be fine.
An old war horse like the 2N4416 has rather low gain and high capacitance.
Lots of Miller effect to act as a reactance modulator across the tank.
I suspect the original poster may have been using something like that.

Speaking of crystal oscillators, here is an anecdote. In the early 1970's,
a company (Konel) where I worked that made marine radios happened to have
an engineer who fell in love with FET's for some reason. He started using
them everywhere, whether it made sense or not. One place they showed up
was the crystal oscillator in the HF SSB radio. The oscillators drifted
like crazy for the first minute or so they were turned on as the FET junction
temperature increased. So everytime you went from transmit to receive or
vice versa, your voice "unclarified". About this time, another engineer

at Konel left to go to a competitor and when he got there, he copied a bunch of our circuits including the above oscillator. We thought it served him right. Shortly thereafter we went back to bipolar oscillators and the problem went away.

Thanks for your comments.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2767. Kenwood Microphone Plug

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: sem2r@galen.med.Virginia.EDU
Message-ID: <DB21rr.Esz@murdoch.acc.Virginia.EDU>
Source record: 112076

I'm looking for the "male" portion of a Kenwood, standard eight
pin microphone connector. This is the portion which mounts in
the rig, rather than on the microphone cord. I want to make a
microphone switch box to change between different microphones,
and I haven't been able to locate a source for a male mic. connector
with this many pins. The radio shack versions only have 4
pins. The female 8 pin connectors are easy to find, but the
male 8-pin counterparts are hard to come by.

Anyone know of a good source??

BTW: I'm also looking for a source for the male 13 pin DIN
connector for one of the accessory jacks on the back of many
current Kenwood rigs.

Thanks!!

Please E-mail direct to:
sem2r@galen.med.virginia.edu
--
-73's de WB4QKT
Stacey E. (Chuck) Mills
E-mail: sem2r@galen.med.virginia.edu

2768. Re: Mast-mounted pre-amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: n7tcf@primenet.com
Message-ID: <3t4dq4$1uq@panic.primenet.com>
Source record: 112077

In <3t1il0$10l@rcp6.elan.af.mil>, Chris Spacone <spacone@qnet.com> writes:
>ae517@FreeNet.Carleton.CA (Russ Renaud) wrote:
>
>>
>>If relays, how do they get them to switch fast enough without burning out the active device?
>>
>
>Sequencers. When you key the mic it switches the preamp out, then the
>transverter (if you are using one) then keys the rig. Unkey the mike and
>it all happens in reverse. Works great, most of the time.
>
>73, Chris KD6OUB
My 2 cents....
I used simple interlocking relays for about a year and lost 4 or 5 GASFETS. About $25 worth, not to mention the hassle of disassembling the array to replace.
Now I use the sequencer from the Handbook. Premade boards are availible for about $6. Works fine. Haven't lost a transitor in almost two years.

Jim N7TCF

2769. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3t4fbv$1vg@panic.primenet.com>
Source record: 112078

Elendir (elendir@enst.fr) wrote:
: Say, in the middle of your talk, just a question :

: Your DDS is fed by an XTAL oscillator.
: What is the effect of its phase noise on the phase noise output of the DDS ?
: It seems to me that there must be some.
: But I may be wrong.

: Vince, F5RCS/I2

Yes, there will be. Although I'm not able to do the analysis
myself, I know for certain that the DDS will not improve upon
the phase noise of the XTAL reference. My immediate impression
would be that the DDS phase noise would be that of the XTAL
plus added noise from the DDS itself.

This is a very intersting question. Can anyone shed some light
here? It doesn't appear to be as simple as the phase noise from
a PLL, which can be done graphically.

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo---

2770. Re: Radar Jammers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Jul1.155914.313@nad.com>
Source record: 112079

In article <3t21rt$1tt@web.azstarnet.com>, mikkey@azstarnet.com (mikkey) writes:
> Anyone seen these ads for radar jammers (DAEMARK for one)?
> Do these things work? Also can a spark gap transmitter effectively
> jam either local high frequency transmissions (like 800 mhz); reception?
> Just curious (for informational purposes only).
> Thanks, mikkey.
No, don't know and No.
Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com

2771. Folded Dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: cingersn@bdam.win.net
Message-ID: <12@bdam.win.net>
Source record: 112080

Can anyone out there in Cyberspace furnish me with the measurements
for a multi-band folded dipole antenna?

I would like to construct one similar to the crude diagram below:

```
oo------------------------------------------------------------oo----
\ /
\-----------------------------------/
```

As I said, this a crude diagram showing one side of the antenna.

Any assistance will be greatly appreciated.

Carl N1DXM
cingersn.@bdam.win.net

P.S.
Want antenna to cover 80,40,20 at least.

2772. Re: Folded Dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: rsmits@ham.island.net
Message-ID: <070195203046Rnf0.79b6@ham.island.net>
Source record: 112081

cingersn@bdam.win.net (Carleton C. Ingerson) writes:

>
>Can anyone out there in Cyberspace furnish me with the measurements
>for a multi-band folded dipole antenna?
>

By definition, there is no such thing. A dipole is simply an antenna with two poles, usually fed at the centre with ladder line, twin lead or coaxial cable. The approximate dimensions for such an antenna can be determined by the formula 468/f (MHz), which will give you the length in feet of the entire antenna.

A folded dipole begins with a dipole antenna, but an extra element is then connected not to the feed line but from one end of the antenna to the other, somewhat like this:

```
_____________________________________________________________
|_____________________________ _____________________________| |
| |
| |
| |
| |
```

Antennas of this type are often constructed to raise the feedpoint impedance of the antenna, since the impedance is about four times the impedance of the simple dipole.

>I would like to construct one similar to the crude diagram below:
>
```
>oo-----------------------------------------------------oo----
> \ /
> \-----------------------------------/
```
>
>As I said, this a crude diagram showing one side of the antenna.
>
>Any assistance will be greatly appreciated.

I think what you want is not a folded dipole, but a multiband dipole, which can be made quite easily by adding more than one pair of elements to the same, common feedpoint.

A typical antenna might include an eighty metre dipole, a forty metre dipole, and a twenty metre dipole, all made approximately to the 468/f formula, and usually connected to a 50 ohm coaxial cable without a balun. The dipole elements can be strung at right angles to each other as dipoles or inverted vees, or the ends of the elements can be separated by 5-10

feet to minimize the interaction.

You will find some adjustment is necessary.

--
rsmits@ham.island.net (Robert Smits VE7HS)

2773. Wanted: Info on I/F to KWD 742 Band units

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: dws30@p1svp11.amdahl.com
Message-ID: <1995Jul1.013906.19510@ccc.amdahl.com>
Source record: 112082

Trying to locate any information on I/O from the control head and band modules of the Kenwood 742A.

--

Dave Sharpe Sunnyvale Ca. DWS30@duts.ccc.amdahl.com 73 DE KE6IRZ

2774. PCB layout/autorouters for Mac?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: drenze@icaen.uiowa.edu
Message-ID: <3t2g4j$mcn@server05.icaen.uiowa.edu>
Source record: 112083

Any PCB layout/autorouter progs out there for the Mac?

--
Doug Renze, N0YVW * drenze@isca.uiowa.edu * N0YVW @ W0IUQ.ia.usa.na
DRenze@aol.com

Hitchhiking the Infobahn.

2775. Re: QRP-L?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org
Message-ID: <1995Jun30.205155.14876@wb3ffv.ampr.org>
Source record: 112084

Sorry, I forgot about the name and callsign when signing up for the QRP list; in the past, you just used command SUBSCRIBE QRP-L, but now they are on a different host, using ListProc instead of majordomo. Under majordomo you could send a command to get a listing of all subscribers to a mailing list, and it returned a list of e-mail address--not too helpful, as a large number of those are quite cryptic. When you sign up for a mailer under ListProc you are supposed to include name and call sign. That's your real name, not e-mail address--it strips that off the header so you don't need to repeat it.

To get a list of all the people on the list, send e-mail to

listserv@lehigh.edu

and in the text write

RECIPIENTS QRP-L [not case sensitive, but I used upper case
to make it plain that it's QRP-L, not QRP-1.]

You will shortly receive an automated reply with e-mail addresses along with the corresponding names and call signs--that's why you're requested to use them when subscribing. It makes it soooo much easier to find out who is really on the list.

Again, for the latecomers, to subscribe to the QRP mailing list, send e-mail to

listserv@lehigh.edu

and in the text say

SUBSCRIBE QRP-L [your name] [your call sign]

73 and Queue Our Pea DE WA8MCQ

2776. VCR/TV/Camcord Service man. 4 sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: "Burt M. Polson" <71154.560@CompuServe.COM>
Message-ID: <3t3qf2hsp3@mhade.production.compuserve.com>
Source record: 112085
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap,sci.electronics

Misc. service manuals for sale cheap. Email me for a list.
71154.560@compuserve.com

--
~ Burt M. Polson ~
~ 71154.560@CompuServe.com ~
~ Share the Good News! ~

2777. Re: Low phase noise vco de

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <804593268.AA02741@hamlink.mn.org>
Source record: 112086

EE>From: elendir@enst.fr (Elendir)
EE>Newsgroups: rec.radio.amateur.homebrew
EE>Subject: Low phase noise VCO design
EE>Organization: ENST - Telecom Paris
EE>Message-ID: <3sq00g$av0@cismsun.univ-lyon1.fr>
EE>Date: 27 Jun 1995 22:16:47 GMT
EE>
EE>
EE>
EE>Hello.
EE>I'm looking (in the scope to build up a good rx)
EE>for a design of a very low phase noise VCO.
EE>Typically, I seek something very near what the ARRL book
EE>qualifies as 'excellent'
EE>
EE>I'll eat everything, every piece of bread :-)
EE>
EE>Thanks !
EE>Vince
EE>
EE>--
EE>F5RCS - Worldwide Friendship through Amateur Radio
EE>ENST, Ecole Nationale Superieure des Telecommunications, Paris
EE>
EE>---
EE> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
EE>(1:282/100.0)
Hi Vince,
What frequency and range, and how much can you spend?
Bob WB0POQ

Technology is OUT of control.....

2778. HF Rig wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: neville.denetto@oln.com
Message-ID: <1f0.2965.1741@oln.com>
Source record: 112087

I'm looking for a used HF transceiver along with related
equipment. Essential specs include:

1. Ham bands, *and* general coverage
2. Solid state construction
3. Digital readout/s
4. Computer interface
5. Memories

Options that I am looking for are:
6. Antenna tuner (internal or external)
7. Power supply (internal or external)
8. 110/220 volt operation
9. Microphone
10. Manuals/Operating Instructions
11. Any other accessories/equipment

If a direct shipment to my home address in Canada is not possible, I
am prepared to pick it up at the Pigeon River (near Duluth, Minn)
border crossing.

Please contact me either on this conference, or by voice/fax at:
807-768-1491, all day and evenings, EDST.

Thanks

Neville Denetto
284 Poplar Avenue
Thunder Bay, Ont, Canada, P7B 1V9

---
* UniQWK v4.2 * The Windows Mail Reader

2779. Re: Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jul1.144952.29253@ke4zv.atl.ga.us>
Source record: 112088

In article <3t1tcg$a13@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist) writes:
>In article <3su6e0$2m9@crl7.crl.com>, Donald J. Miller <dmiller@crl.com> wrote:
>>Richard Karlquist (rkarlqu@scd.hp.com) wrote:
>>: a shield can. Use a large L/C ratio in your tank.
>>
>>Huh?
>>
>>When a parallel tank is loaded with a resistance, the Q is equal to
>>that resistance divided by the reactance of the L or C (it doesn't
>>matter which, since the two reactances are equal in magnitude at
>>resonance).
>>
>>If large L's are used, the reactance goes up, the Q goes down, and
>>the phase noise increases, per theory.
>>
>>In the real world, there are other complications. For a given frequency
>>of operation, high quality inductors can be fabricated over only a
>>finite range of inductance, so the designer is constrained from using an
>>arbitrarily small value of inductance.
>
>Let me clarify this. Use a large inductor and small capacitor, but
>tap way down on the tank to avoid de-Qing it with the resistance.
>Yes, there is a limit to how high you can go (due to self resonant
>frequency getting too low), but, generally, higher values of L result
>in higher values of Q, other things being equal.

This can be confusing. *Component* Q is X/R, with R being the *series*
resistance of the component, so the higher the value of X, or lower value
of R, the higher the Q. The parallel tank *loaded* Q, however, is R/X,
with R being the *parallel* loading resistance, so high values of R, or low
values of X, will give higher loaded Q. Both types of Q occur together
in real circuits.

Large inductances typically have a disproportionately larger series R than
small inductances, so smaller inductance values will often show higher
component Q. Capacitors typically have very high component Q, so a high C
LC tank will generally have the highest unloaded Q. Tapping down on the
tank inductor can make the parallel load R look much larger than it is
due to auto-transformer action. This, coupled with a small inductive X,
will result in a higher loaded Q.

High L tanks are generally undesirable because of the lower component
Q, and because of the very wide tuning change caused by a small change
in C. With PLL loops that use varactors, this means that a high L tank
will have much more phase jitter due to noise currents in the varactor

than would a high C tank where most of the C is supplied by a parallel fixed capacitor.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2780. Re: Radar Jammers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jul1.145434.29332@ke4zv.atl.ga.us>
Source record: 112089

In article <3t21rt$1tt@web.azstarnet.com> mikkey@azstarnet.com (mikkey) writes:
>Anyone seen these ads for radar jammers (DAEMARK for one)?
>Do these things work?

No. They're scams. And who you gonna call when you find out they
won't do the illegal thing you wanted them to do? So they get away
with the scam.

>Also can a spark gap transmitter effectively
>jam either local high frequency transmissions (like 800 mhz); reception?
>Just curious (for informational purposes only).
>Thanks, mikkey.

You bet a spark transmitter can generate interference over a very
broad band of frequencies. However, receivers in the 800 MHz
area use FM, and are relatively immune to the AM noise generated
by a spark gap transmitter unless it is overpoweringly strong.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

2781. Re: Multi Band Wire Antenna Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3t4oam$imj@parsifal.nando.net>
Source record: 112090
Cross-posted to: rec.radio.amateur.antenna,alt.radio.amateur.club.clarc,rec.radio.amateur.equipment,rec.radio.shortwave,rec.radio.amateur.homebrew,rec.radio.amateur.misc

lewis@phoenix.phoenix.net (Lewis Stephens) wrote:
>
> I want to put up a trapped wire for 80 - 10 meters. Space is a major
> problem. I own the house but the lot is small and the deed restrictions
> are large. I have no large trees to run a wire up to and the house is only
> about 23' tall at the peak.
>
> The question I have is can I put the wire up with a minimum ground
> clearance of 15' and use it as a modified sloping inverted vee with out
> too many problems? I want to tie to the chimney and the top ot the garage
> in one direction and the chimney and a elevated swallow house pole on the
> other leg. This will give me about 60 degrees of seperation with the
> 'point' of the vee pointed upward to the east and the other two legs
> pointing nortwest and southwest.
>
> Will the wire be omnidirectional in this configuration or directional? I
> am a neopyhte at this and really need a little help. I am studing to take
> the ham tests and getting my 'shack' in order for the day when the ticket
> finally comes in.
>
> Thanks for the help in advance.
>
> Lewis Stephens

Since you have a space/height problem, just put up what you can and
use it. In many cases like yours, a good antenna tuner is a big
asset, it may allow you to load whatever form of antenna that you
can get into the air. I have found that low antennas can be somewhat
directional in unpredictable ways due to the close proximity of
surrounding objects. Put it up and see what you get, it will
certainly be better than nothing. Later you can try moving things
around to see if it might work better (or worse).

I personally use a 102 foot wire at about 25 feet strung from house
to tree to tree, it is painted with black, then green. then brown
paint to keep it from being obvious, and I feed it in the center
with ladder line just long enough to reach the tuner in the shack.
It's not the best, but it works, and the neighbors haven't called
in the covenant police yet.

In case you need a directional antenna for the low HF bands, first
get your antenna farm plot of ground (with no restrictions)
and go from there - the rest is easy by comparison.

GL & 73,
Don W3FPR

> --
> ~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~
> Lewis Stephens lewis@phoenix.phoenix.net Pasadena,Texas
> ~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~

2782. Re: Ignorant question about envelope detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: Mark Atherton <mla@dolby.com>
Message-ID: <3t4ov4$oj8@hoho.quake.net>
Source record: 112091

misc200@csc.canterbury.ac.nz (Stephen William Simpson) wrote:

> It seems to me that a standard envelope detector as used in the
> detection of an AM signal would perform better if the standard fixed
> value capacitor was replaced by a circuit which had a capacitance which
> varied with changes in frequency.

If you are talking about a TRF (direct detection - like a crystal set):

It really depends upon what you mean 'better'. If you are concerned about maintaining a maximum high frequency response after de-modulation then I think that you are right. However, normally the ratio of the modulation frequency to the carrier frequency is sufficiently great that the response of the envelope detector will not vary too much on carrier frequency.

In the case of a normal super-het design, the IF frequency is the same indepenant of signal frequency (sometimes around 455kHz) so the detector will behave the same.

Make any sense ?

Mark Atherton,
MLA@DOLBY.COM
KE6LVK

etc.

2783. Re: Wanted: Info on I/F to KWD 742 Band units

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: ddillon@csulb.edu
Message-ID: <3t4sci$5q3@garuda.csulb.edu>
Source record: 112092

David Sharpe (dws30@p1svp11.amdahl.com) wrote:
: Trying to locate any information on I/O from the control head and band modules of the Kenwood 742A.

I would also like some info on these rigs. I want to tap the AGC or the metering circuit for some external sig strength meters for t-hunting. Has anyone out there done this, and where did you tap. This surface mount stuff is really intimidating when it comes to modifying and adding circuitry to the rig.

Thanks , Dan

--

_____
Finger or e-mail for PGPv2.6 key. | Are these views really mine?
Internet:ddillon@engr.csulb.edu | PGPprint = 02 A6 07 34 22 80 53 09
WWIVnet: #612 @ 1187 | 8C 1E 5E 15 1A B4 43 1F
Packet: kd6fpx@k6ve.#soca.ca.usa.noam |Infinet: #224 @ 1
~~~~~
~~~~~

2784. Re: Temp Comp of osc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: acl@ultranet.com
Message-ID: <acl-0107952242080001@amber1.ultranet.com>
Source record: 112093

In article <3t449h$dmb@hpscit.sc.hp.com>, rkarlqu@scd.hp.com (Richard Karlquist) wrote:

> Speaking of crystal oscillators, here is an anecdote. In the early 1970's,
> a company (Konel) where I worked that made marine radios happened to have
> an engineer who fell in love with FET's for some reason. He started using
> them everywhere, whether it made sense or not. One place they showed up
> was the crystal oscillator in the HF SSB radio. The oscillators drifted
> like crazy for the first minute or so they were turned on as the FET junction
> temperature increased. So everytime you went from transmit to receive or
> vice versa, your voice "unclarified". About this time, another engineer
> at Konel left to go to a competitor and when he got there, he copied a
> bunch of our circuits including the above oscillator. We thought it served
> him right. Shortly thereafter we went back to bipolar oscillators and
> the problem went away.

There's a pretty good article in the December (November?) 1993 issue of QST on temperature compensation of VFOs, including a little temperature controlled chamber for testing. It concentrates primarily on choosing capacitors to offset inductance drift.

Jon

--
Jon Goguen

"Nothing worth knowing can be understood by the human mind."

2785. HELP with basic electronics, please?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: perryrt@clark.net
Message-ID: <3t5b8n$t78@clarknet.clark.net>
Source record: 112094

OK... I'm trying to rig up an AC adaptor for something. The specifications for the gear say that it needs 9V at 150mA. I've got various 9V Radio Shack adaptors lying around my shack, but they all have ratings greater than 150mA. I think the closest is 300mA, and they go up to a full amp.

Basic question.. Can I get away with using a larger amperage supply, or will this be a BAD THING? I really don't want to "let the smoke" out of my pocket computer, so keep in mind that it's electronic/computer stuff here.

My basic sense says that it should be fine, as long as the device is less than the supply, it'll be OK. However, a little knowledge is a dangerous thing, so I thought I'd ask.
--
Regards,
R. T. Perry
KF4BAL
GMOO
- The world is divided into two groups of people: Those that own HP's and those that yell "HEY! Where's the equals sign?"

2786. Re: Temp Comp of osc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <804661753snz@lfheller.demon.co.uk>
Source record: 112095

Oxley Developments here in the UK make a device called a Tempatrimmer
for temp. compensation of oscillators. They are *very* expensive,
apparently.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

2787. Re: HELP with basic electronics, please?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: "James A. Storm" <jastorm@ix.netcom.com>
Message-ID: <3t5i06$ffn@ixnews3.ix.netcom.com>
Source record: 112096

Assuming the device calls for 9VAC and the supply is 9VAC,
it shouldn't be a problem.

Jim WB6LWS

2788. Kenwood TH42 Conversion Info?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: louburke@indirect.com
Message-ID: <3t5hqh$bp1@globe.indirect.com>
Source record: 112097

Help,

Looking for conversion info for Kenwood TH42 Hand Held. Trying to extend out-of-band receive
capabilities. Thank you for any help you may be able to provide.

<< W7JI >>

2789. Re: Multi Band Wire Antenna Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: rherron@rherron.digex.com
Message-ID: <NEWTNews.21134.804702170.rherron@rherron.digex.com>
Source record: 112098
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,alt.radio.amateur.club.clarc

In article <3t4esj$889@news.azstarnet.com>, <N7WS@azstarnet.com> writes:
> Path:
news3.digex.net!news2.digex.net!howland.reston.ans.net!news.sprintlink.net!news
azstarnet.com!usenet
> From: Wes Stewart <N7WS@azstarnet.com>
> Newsgroups:
rec.radio.amateur.antenna,alt.radio.amateur.club.clarc,rec.radio.amateur.equipm
ent,rec.radio.shortwave,rec.radio.amateur.homebrew,rec.radio.amateur.misc
> Subject: Re: Multi Band Wire Antenna Help
> Date: 1 Jul 1995 21:32:03 GMT
> Organization: Arizona Daily Star - AZSTARNET
> Lines: 41
> Message-ID: <3t4esj$889@news.azstarnet.com>
> References: <lewis-3006952032530001@199.3.234.108>
> NNTP-Posting-Host: dialup27.azstarnet.com
> Mime-Version: 1.0
> Content-Type: text/plain; charset=us-ascii
> Content-Transfer-Encoding: 7bit
> X-Mailer: Mozilla 1.1N (Windows; I; 16bit)
> To: lewis@phoenix.phoenix.net
> Xref: news3.digex.net rec.radio.amateur.antenna:12124
alt.radio.amateur.club.clarc:7 rec.radio.amateur.equipment:14740
rec.radio.shortwave:46367 rec.radio.amateur.homebrew:8478
rec.radio.amateur.misc:75723
>
> lewis@phoenix.phoenix.net (Lewis Stephens) wrote:
> >I want to put up a trapped wire for 80 - 10 meters. Space is a major
> >problem. I own the house but the lot is small and the deed restrictions
> >are large. I have no large trees to run a wire up to and the house is only
> >about 23' tall at the peak.
> >
> >The question I have is can I put the wire up with a minimum ground
> >clearance of 15' and use it as a modified sloping inverted vee with out
> >too many problems? I want to tie to the chimney and the top ot the garage
> >in one direction and the chimney and a elevated swallow house pole on the
> >other leg. This will give me about 60 degrees of seperation with the
> >'point' of the vee pointed upward to the east and the other two legs
> >pointing nortwest and southwest.
> >
> >Will the wire be omnidirectional in this configuration or directional? I
> >am a neopyhte at this and really need a little help. I am studing to take
> >the ham tests and getting my 'shack' in order for the day when the ticket

> >finally comes in.
>
> Lewis:
>
> What you describe will certainly not be optimum, however, it should work. There may be some
> directivity on some frequencies, but I wouldn't count on it. You may have to tinker with the
> wire segment lengths some to maintain resonance, but that's what ham radio is all about
> anyway.
>
> With the proximity to house wiring that you will have, you may experience some mutual
> interference to/from TV and telephone service. This may require some extra effort to overcome
> or may necessitate avoiding some freqencies. You will just have to wait and see.
>
> If it's any consolation (I'm almost ashamed to say this), I have two acres and no deed
> restrictions but because my interest is mainly 2M CW/SSB, my HF antenna is a trapped dual-band
> 20/80 meter dipole 20ft high in the middle and about 10' at the ends.
>
> With 100 W on 80 meters, I can work all of the US and have worked JA, VK, etc so don't
> dispair. Just stay out of contests :-)
>
> Best wishes in your studies and many happy years of hamming.
>
> Regards, Wes Stewart, N7WS
>
>

2790. Re: Multi Band Wire Antenna Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: lewis@phoenix.phoenix.net
Message-ID: <lewis-0207950854100001@199.3.234.34>
Source record: 112099
Cross-posted to: rec.radio.amateur.antenna,alt.radio.amateur.club.clarc,rec.radio.amateur.equipment,rec.radio.shortwave,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <3t4esj$889@news.azstarnet.com>, Wes Stewart
<N7WS@azstarnet.com> wrote:

Snip>

> Lewis:
>
> What you describe will certainly not be optimum, however, it should
work. There may be some
> directivity on some frequencies, but I wouldn't count on it. You may
have to tinker with the
> wire segment lengths some to maintain resonance, but that's what ham
radio is all about
> anyway.
>
> With the proximity to house wiring that you will have, you may
experience some mutual
> interference to/from TV and telephone service. This may require some
extra effort to overcome
> or may necessitate avoiding some freqencies. You will just have to wait
and see.
>
> If it's any consolation (I'm almost ashamed to say this), I have two
acres and no deed
> restrictions but because my interest is mainly 2M CW/SSB, my HF antenna
is a trapped dual-band
> 20/80 meter dipole 20ft high in the middle and about 10' at the ends.
>
> With 100 W on 80 meters, I can work all of the US and have worked JA,
VK, etc so don't
> dispair. Just stay out of contests :-)
>
> Best wishes in your studies and many happy years of hamming.
>
> Regards, Wes Stewart, N7WS

The warning about household wiring was something I hadn't considered.
After reading your message, I have started to consider a different
location for the wire. I think I can get the center up about 20'-25' and
the ends about 12' by adding a couple of more bird houses in the back
yard. This would let me stretch it out above the back fence which is 72'
long. I'm going to try both for a couple of days and see which if any
will hear better. I'll be glad when the next exam day comes. I think I

have the written, now if the code will come.

Lewis

--
~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~
Lewis Stephens lewis@phoenix.phoenix.net Pasadena,Texas
~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~

2791. Re: HELP with basic electronics, please?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: lewis@phoenix.phoenix.net
Message-ID: <lewis-0207950913530001@199.3.234.34>
Source record: 112100

In article <3t5b8n$t78@clarknet.clark.net>, perryrt@clark.net (Richard
Todd Perry) wrote:

> OK... I'm trying to rig up an AC adaptor for something. The
specifications for
> the gear say that it needs 9V at 150mA. I've got various 9V Radio Shack
> adaptors lying around my shack, but they all have ratings greater than 150mA.
> I think the closest is 300mA, and they go up to a full amp.
>
> Basic question.. Can I get away with using a larger amperage supply, or will
> this be a BAD THING? I really don't want to "let the smoke" out of my pocket
> computer, so keep in mind that it's electronic/computer stuff here.
>
> My basic sense says that it should be fine, as long as the device is
less than
> the supply, it'll be OK. However, a little knowledge is a dangerous thing, so
> I thought I'd ask.
> --
> Regards,
> R. T. Perry
> KF4BAL
> GMOO
> - The world is divided into two groups of people: Those that own HP's
> and those that yell "HEY! Where's the equals sign?"

If what ever you are using only requires 150ma, them that is all it is
going to ask for. The rest is just availible surplus capacity. Go for it!

Lewis

--
~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~
Lewis Stephens lewis@phoenix.phoenix.net Pasadena,Texas
~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~

2792. Re: HELP with basic electronics, please?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3t6c1u$mmh@solaris.cc.vt.edu>
Source record: 112101

In article <lewis-0207950913530001@199.3.234.34>,
lewis@phoenix.phoenix.net (Lewis Stephens) wrote:
>In article <3t5b8n$t78@clarknet.clark.net>, perryrt@clark.net (Richard
>Todd Perry) wrote:
>
>> OK... I'm trying to rig up an AC adaptor for something. The
>specifications for
>> the gear say that it needs 9V at 150mA. I've got various 9V Radio Shack
>> adaptors lying around my shack, but they all have ratings greater than
150mA.
>> I think the closest is 300mA, and they go up to a full amp.
>> Basic question.. Can I get away with using a larger amperage supply, or
will
>> this be a BAD THING? I really don't want to "let the smoke" out of my
pocket
>> computer, so keep in mind that it's electronic/computer stuff here.
>> My basic sense says that it should be fine, as long as the device is
>less than
>> the supply, it'll be OK. However, a little knowledge is a dangerous thing,
so
>> I thought I'd ask.

>
>If what ever you are using only requires 150ma, them that is all it is
>going to ask for. The rest is just availible surplus capacity. Go for it!

Do keep in mind, however, that those "power cube" or "wallwart" units have no voltage regulation and often a high output impedance. Effect: the output voltage rises above the rated voltage as the load decreases. A unit rated for "9V" may have an open-circuit voltage of 12 to 14V, which decreases to about 9V as the load is increased to the rating. So using less than the full current capacity from one will mean more than the rated voltage. Units with higher current rating (e.g. 1A) also have less internal resistance and thus usually less variation in voltage with changing load. It may be a good idea to measure the open-circuit voltage before connecting and make sure that it is acceptable to the device. In your case, if the original supply was also an unregulated power cube, the computer is probably built to handle large variations in voltage.

-Mike KD4QDM

2793. Pulling Freq. in 100 MHz Quartz Crystal Osc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: Bob Mueller <IFF161@DJUKFA11.BITNET>
Message-ID: <95183.164128IFF161@DJUKFA11.BITNET>
Source record: 112102

To anyone with experience!
I need a pair of quartz crystal oscillators at about 100 Mhz with
their frequencies spaced by about 20 kHz. Is there a fair chance of pulling
one or both (in opposite directions!) so I can take two standard crystals
and reach this spacing. As a percentage it is not very much but I worry.
I assume the standard crystals are AT-cut running on the 5th overtone
(most likely choice), but I have the impression overtone crystals are not
very cooperative, one reason for sometimes running on an overtone at
frequencies as low as 5 MHz.
Thank you for any expert advice!

Bob<iff161@djukfa11>

2794. EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: bruces@bga.com
Message-ID: <3t6hcf$k5v@giga.bga.com>
Source record: 112103
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

Simple question - sorry I could not find a FAQ that addressed this.

I want to erase EPROMs at home. I could spend $40 on an eraser
but I am looking for a cheap way out.
EPROMs typically need UV at 2537 angstroms with an integrated
dose of 40W/cm**2. Is there a consumer type of product (read cheap)
that is capable of this? I have seen UV(?) lamps for plants, will
this do it? How about sunlight? I don't really care if it takes a
day to erase the thing.

Thanks ahead of time for any help,
Bruce
--

--- Bruce Schurmann | "You gotta find what you like and ---
--- bruces@bga.com | let it kill you." Kinky Friedman ---

2795. Re: Pulling Freq. in 100 MHz Quartz Crystal Osc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3t5q4n$7ub@dump.primenet.com>
Source record: 112104

Bob Mueller (IFF161@DJUKFA11.BITNET) wrote:
: To anyone with experience!
: I need a pair of quartz crystal oscillators at about 100 Mhz with
: their frequencies spaced by about 20 kHz. Is there a fair chance of pulling
: one or both (in opposite directions!) so I can take two standard crystals
: and reach this spacing. As a percentage it is not very much but I worry.
: I assume the standard crystals are AT-cut running on the 5th overtone
: (most likely choice), but I have the impression overtone crystals are not
: very cooperative, one reason for sometimes running on an overtone at
: frequencies as low as 5 MHz.
: Thank you for any expert advice!

Bob,
Overtone crystals operate at a harmonic of the crystal blank, as
you may already know. To keep them from operating at a different over-
tone (harmonic), we generally use an oscillator circuit that contains a
resonant LC tank circuit as well, such as a modified Pierce or a grounded-
base Colpitts.
The Colpitts is best suited for pulling the crystal, and is by
far the most popular when designing VCXOs (voltage-controlled crystal
oscillators). Marvin Frerking's book "Crystal Oscillator Design and
Temerature Compensation" is an excellent source of information on this
subject.

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo---

2796. Re: Kenwood TH42 Conversion Info?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <3t71pk$qfp@cismsun.univ-lyon1.fr>
Source record: 112105

louburke@indirect.com wrote:
: Help,

: Looking for conversion info for Kenwood TH42 Hand Held. Trying to extend out-of-band receive
: capabilities. Thank you for any help you may be able to provide.

Well -
First IF at 45.55 MHz
Second IF is directly 455 kHz

Good luck !
Vince

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

2797. Help with EIA 19" Rack Panel Dimensions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3t71o1$aum@nuclear.microserve.net>
Source record: 112106

Can someone tell me what the dimensions are for the space between the centers of the mounting slots for the following EIA panel heights:

5-1/4"
7"
8-3/4"
10-1/5"

There will only be two slots on each side of the panels. I want to cut these slots close to the upper and lower edges (say, within about 1-1/2") and they will be centered vertically on each side.

Information will be greatly appreciated.

73,

Jack WB3U
jackl@pinetree.microserve.com

2798. Re: HELP with basic electronics, please?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: mdulcey@pryder.pn.com
Message-ID: <DB3xHw.pM@pryder.pn.com>
Source record: 112107

In article <3t5b8n$t78@clarknet.clark.net>,
Richard Todd Perry <perryrt@clark.net> wrote:
>OK... I'm trying to rig up an AC adaptor for something. The specifications for
>the gear say that it needs 9V at 150mA. I've got various 9V Radio Shack
>adaptors lying around my shack, but they all have ratings greater than 150mA.
>I think the closest is 300mA, and they go up to a full amp.
>
>Basic question.. Can I get away with using a larger amperage supply, or will
>this be a BAD THING? I really don't want to "let the smoke" out of my pocket
>computer, so keep in mind that it's electronic/computer stuff here.
>
>My basic sense says that it should be fine, as long as the device is less than
>the supply, it'll be OK. However, a little knowledge is a dangerous thing, so
>I thought I'd ask.

The one thing to watch out for here is that many of these "power bricks" have
poor voltage regulation. They might put out the correct voltage at the
rated current, but the output voltage will be significantly higher at a
lower voltage. The only way to know for sure is to put a load that will
draw the amount of current you want (a suitable resistor, for example) on
the supply, and measure with a voltmeter to see what you get.

If the output voltage is suitable, the larger supply should be just fine.

2799. wanted Test Anecdotes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: Mark Horton <Mark@jamr4.demon.co.uk>
Message-ID: <804673079snz@jamr4.demon.co.uk>
Source record: 112108

I'm not absolutely sure this is the right group.
But it was recommended by a regular.
Presumably because it is full of friendly "hands on people"
who like details.

In my spare time, i'm co-writing a book on many aspects of
electronic/light electrical Production Test of products (not chips).

I'm currently looking for interesting/humourous/illuminating
anecdotes on how easy it can be to screw things up.
(or even a celebration of getting it right, although
I suspect these will be rare)

All reasonable and considered submissions will be acknowleged
in an appendix at the back of the book.
All Used submissions will be fully acknowleged, and at Least
one copy will will be posted to the provider.
(extra will depend on the final format of the book)
Any edits will be agreed beforehand (mention of specific
names etc. may require some masking, for a number of reasons)

Any pointers to your favourite sources/books on test would also
be appreciated.(Robert Pease excepted)
(not your reading lists..those you actually read)

--
Mark
"If you think its simple, you don't understand it "

2800. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <3t7935$8c6@ixnews3.ix.netcom.com>
Source record: 112109
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

In <3t6hcf$k5v@giga.bga.com> bruces@bga.com (Bruce Schurmann) writes:
>
>Simple question - sorry I could not find a FAQ that addressed this.
>
>I want to erase EPROMs at home. I could spend $40 on an eraser
>but I am looking for a cheap way out.
>EPROMs typically need UV at 2537 angstroms with an integrated
>dose of 40W/cm**2. Is there a consumer type of product (read cheap)
>that is capable of this? I have seen UV(?) lamps for plants, will
>this do it? How about sunlight? I don't really care if it takes a
>day to erase the thing.
>
>Thanks ahead of time for any help,
>Bruce
>--
>--
>--- Bruce Schurmann | "You gotta find what you like and ---
>--- bruces@bga.com | let it kill you." Kinky Friedman ---
>--
>
Hmmm... if I remember correctly, direct sunlight (perfectly OK) takes
one to two WEEKS for a reliable erase. I went down to the local
hardware superstore and bought a 6" and an 8" flourescent lamps. Then
I dug through the yellow pages until I found a supplier of disinfectant
UV bulbs that fit the lamps. Then I turned them on and blinded myself
completely. OOOPS... OK, I knew that this UV could damage my eyes so
I took a suitable small box, lined it with aluminum foil and mounted
the erasure lamp inside. I then cut some foam strips to match and used
them to adjust the lamp to chip distance. To use the box, I mount the
chips, close the box tightly and place it out of the way where it won't
accidently shine in my eyes. Thirty minutes later erased chips by the
dozen. Admittedly, the bulbs are $20 to $30 each and the whole thing
cost me $60 to $70. But I now have a lifetime supply of erasers equal
to a couple of hundred dollars of commercial stuff and I still haven't
gone completely blind...
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

2801. Power Supply Ratings

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: Lloyd <lloyd@merlin.nando.net>
Message-ID: <Pine.SUN.3.90.950702202218.2733B-100000@merlin.nando.net>
Source record: 112110

Richard,
Its ok to use a power supply with a higher current rating than your load requirement provided the voltage regulation is good enough to keep the voltage close to the same value.(so as not to exceed the breakdown voltage rating or the dissipation rating of any component in the load)
The 300 ma. supply will run cool with only a 150 ma.(50%) load.
Hope this will help,
Dallas Lloyd
lloyd@nando.net
Raleigh, N.C.

2802. Re: Mast-mounted pre-amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-02 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <419083947wnr@ifwtech.demon.co.uk>
Source record: 112111

In article: <3t4dq4$1uq@panic.primenet.com> n7tcf@primenet.com writes:
:
: In <3t1il0$10l@rcp6.elan.af.mil>, Chris Spacone <spacone@qnet.com> writes:
: >ae517@FreeNet.Carleton.CA (Russ Renaud) wrote:
: >
: >>
: >>If relays, how do they get them to switch fast enough without burning out the active device?
: >>
: >
: >Sequencers. When you key the mic it switches the preamp out, then the
: >transverter (if you are using one) then keys the rig. Unkey the mike and
: >it all happens in reverse. Works great, most of the time.
: >
: >73, Chris KD6OUB
: My 2 cents....
: I used simple interlocking relays for about a year and lost 4 or 5 GASFETS. About
: $25 worth, not to mention the hassle of disassembling the array to replace.
: Now I use the sequencer from the Handbook. Premade boards are availible
: for about $6. Works fine. Haven't lost a transitor in almost two years.
:

While I don't wish to decry the multi-step changeover sequencers (the ARRL Handbook design works FB) it can all be done with just two relays.

This circuit has worked reliably for over ten years, with key-controlled changeover of 1kW at 432MHz and NO GaAsFET preamp failures - ever! So if you want a regular excuse to try the latest new GaAsFET, maybe this circuit is not for you :-)

The basic circuit came from G4DGU, founder of the original muTek company. It works for me, and for several others too, so we included it in 'The VHF/UHF DX Book'.

What follows is the best I can manage within the limitations of this ASCII medium. If you draw your own circuit diagram from the details below, it should all make sense.

The whole idea of sequenced changeover is not about switching "fast enough" - it's all about switching SLOWLY enough.

There are two DPCO relays. RL1 is the 'slow' relay, slow to make and slow to break; and RL2 is the 'fast' relay. By interlocking slow and fast changeover contacts you get the following sequence of events.

RX to TX: fast changeover of coax relays
fast removal of RX 12V supply
delayed 12V supply to transverter/exciter
delayed PTT to PA

TX to RX: fast disconnection of PTT to PS
fast removal of tvtr/excr 12V supply
delayed release of coax relays
delayed 12V to RX

This gives time (a few hundred milliseconds) for all the
necessary changeovers to take place. It doesn't guarantee
that they HAVE taken place, but in practice it works reliably.

The VHF/UHF DX Book also contains a much more elaborate unit
which includes 'tell-back' from auxiliary contacts on the coax
relays, and uses the external ALC input to the transceiver
to hold off the RF drive until everything is ready to transmit.

This simpler circuit assumes that all coax relays are energized
on RECEIVE - which is strongly recommended because most failure
modes give protection to the preamp. It also protects the
preamp for the large proportion of the time when the whole
system is unpowered. If the masthead relay fails, it leaves
you with the antenna connected to the low-loss TX feedline,
so maybe you're not completely off the air.

```
-------------------- +12V DC
| |
R1 |
| |
RL1+C1+D1 RL2+D2
| |
D3------- D4
|
PTT(gnd) from exciter
```

RL1 and RL2 are both DPCO.
Each relay has a diode (1N4001 etc) in parallel,
cathode 'up' (towards +12V side).

RL1 has a 6V coil
R1 has same resistance as the coil of RL1

C1 = a few hundred uF in parallel with RL1 coil.
Select to make a few hundred milliseconds delay between
RL1 and RL2 (audible 'ker - lick' on both make and break).

D3, D4 = 1N4001 etc, cathodes 'down' (towards PTT side)

Relay contact wiring: (join X-X and Y-Y)

Centre Normally closed Normally open

RL1 c/o 1 +12V supply X +12V to exciter

RL2 c/o 1 X +12V to RX (no connection)
+12V to coax relays
(on RX only)

RL1 c/o 2 ground (no connection) Y

RL2 c/o 2 Y (no connection) PTT (gnd) to PA

That's the basic circuit. Mine is built into the transverter, which receives its PTT (ground) from the HF transceiver, and passes on a delayed PTT to the PA.

The coax relays and the masthead preamps are all fed from the same switched +12VDC, up the coax line between the transverter input and the preamp output.

With ordinary PTT-operated phone, it works fine - press the PTT, and by the time you've drawn a breath, it's ready for you to start talking. It doesn't work with VOX, because it misses the first syllable, and on CW it loses the first dot - but I know of no sequencer that does better. The important thing on CW is that it's always safe to hit the key, because the whole system will change-over reliably without blowing anything up.

An afterthought - maybe a large part of the reliability comes from not trying to achieve too fast a changeover. If you really try to shave the margins, the system becomes very vulnerable to a relay sticking for a few tens of milliseconds. That may happen only once every few months, but it may be just enough to throw everything out of sequence and kill the preamp... again.

Hope this may be useful to someone.

(Standard disclaimer: I'm not mentioning The VHF/UHF DX Book to try and sell more copies. It's simply the place where I and others have collected our best ideas on the subject, in a longer format than this ASCII medium allows.)

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

2803. Need ICOM R70 Service Manual & Filter Info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: geoffs@onr.com
Message-ID: <3t981a$bdd@Sierra.onr.com>
Source record: 111972

I've posted this to several Usenet rec.radio.* groups, thanks for your patience if you've run into it previously.

I recently acquired a super clean R70 at a very attactive price. It's got a few shortcoming that I'd like to remedy.

First, I need the service manual with all of the alignment instructions, specs and schematics. I can probably buy one from ICOM but those things sometimes get left behind when an owner sells the hardware. I have the operators manual already.

Secondly, anyone got an FL-44 or FL-63 (I'd like both) for sale? Anyone know of a Fox-Tango equivalent?

Finally, there's a Murata 455kHz AM filter that's leagues ahead of the cheapie that's standard in the R70. It's called a CFU 455 I or CFU 455J. Murata stuff's hard to get these days. Anyone got a source or a spare one?

Thanks again.

Geoff Schecht NQ7A Austin, TX

Please e-mail info/prices to: geoffs@onr.com

2804. Are these coils/inductors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: mam@cbnews.cb.att.com
Message-ID: <DB5J66.HMC@nntpa.cb.att.com>
Source record: 111973

A while ago, my Quasar VHR (1980) broke. Doing what I always do with broken appliances I get, I opened it up to start salvaging stuff.

There are these cute little baby-blue colored things labeled Lxx, with two colored dots on top. They look like puffed-up ceramic capacitors, but I'm pretty sure they're coils/inductors. __ <--Colors dots up here
(__) <--Puffy baby-blue body here.
Are they? | | <--Leads down here

What's the decoder ring to determine value from the color dots?

I'm just about to built a QRP rig, and need some coils; If these are they then I'm home free.

Thanks,

Mark KB2els
mccuistion@attmail.com

2805. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: gkaufman@opal.tufts.edu
Message-ID: <1995Jul3.140833@opal.tufts.edu>
Source record: 111974
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

> I want to erase EPROMs at home. I could spend $40 on an eraser
> but I am looking for a cheap way out.

I've erased them for years using a small germicidal fluorescent
bulb fit into a standard fixture (12" bulb). The only caution is that the
short wave uv is dangerous and can cause cataracts/eye damage with exposure.
I use my eraser under a metal baking dish. I paid about $15 for the bulb in
the late 70's and I'm still using the same bulb (probably about 100 erase
cycles later...). Not pretty, or particularly safe - but it works!

- Gary

--
Gary Kaufman | GKAUFMAN@OPAL.TUFTS.EDU | -Standard Disclaimer-

2806. Re: Radios in Kit Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-0307951139540001@burdick.interval.com>
Source record: 111975

L. Jeffrey Hetherington wrote:

> Since Heathkit is no longer operating, are there
> any other companies in North America that offer Amateur Radio equipment
in kit form?

Yup. Most of the kits are accessories and QRP equipment, however. I
don't know of a major kit supplier that sells a line of full-power rigs
like Heath's.

You'll find Ten-Tec, MFJ, OHR, Small Wonders Labs, and other kit suppliers
advertised in major ham magazines. There are also many smaller
companies. (One of these is Wilderness Radio [415-494-3806] which sells
the NorCal 40A and Sierra CW transceiver kits that I originally developed
for the NorCal QRP Club.)

If you have more specific questions about kits, let me know.

73,
Wayne
N6KR

2807. 100 MHZ CRYSTALS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: Lloyd <lloyd@merlin.nando.net>
Message-ID: <Pine.SUN.3.90.950703151713.24552C-100000@merlin.nando.net>
Source record: 111976

Bob,
Its been a long time since I was an engineer with a crystal mfg. co., 1950's), but I think you may have a problem with stability of oscillation or frequency stability. I would go with crystals cut for the two freqs. required. You can get crystals cut to frequency reasonable from International Crystal Co. I don't have the address handy, but if you have trouble finding it let me know.

Good luck with your circuit,
Dallas Lloyd
lloyd@nando.net
Raleigh, N.C.

2808. Re: Convert Mont.Ward (Mod#719) SSB CB to 10M?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <3t9j1m$ndf@newsbf02.news.aol.com>
Source record: 111977

CBC International sells a kit to do the job. The cost of a catalog is about 3 bucks and the address is:

C.B.C international, Inc
P.O. Box 31500
Phoenix, Az 85046

They don't have a phone number. The cost of the catalog is worth 3.00 bucks

PDRUNEN

2809. Re: Are these coils/inductors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <DB5IKE.DH0@news.hawaii.edu>
Source record: 111978

mam@cbnews.cb.att.com (mark.a.mccuistion) writes:

>I'm just about to built a QRP rig, and need some coils; If these are they
>then I'm home free.

I believe some component manufacturers are trying their best to
confuse use laymen. I had what I thought was a ceramic disk cap
which I used in a VFO - turned out the dang thing was an inductor.
Same shape and value markings that would lead one to believe it was
a cap.

I mentioned this error on the QRP email list and someone sent me a
bunch of caps and inductors disguised as 1/8 watt resistors!

Jeff NH6IL

2810. Re: Pulling Freq. in 100 MHz Quartz Crystal Osc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3t9lp0$ect@hang.primenet.com>
Source record: 111979

Richard Karlquist (rkarlqu@scd.hp.com) wrote:

: Chris: Please reread Frerking's book (or any other book on crystals)
: and learn that "overtone" is not a synonym for "harmonic", although
: it is easy to see why people would confuse them. Let's not confuse
: Bob a priori.

Yes, you're correct. Poor choice of words on my part.
I was trying to avoid getting sidetracked into a dis-
cussion of the resonant modes of a crystal blank. I
instead wanted to address the immediate problem.

: Having said that, unless you know exactly what you are doing, you
: probably won't be able to achieve +/- 10 kHz. (The first 100 MHz
: VCXO I built 20 years ago pulled +/- 100 Hz.!, and I'm not sure
: even now I could get 10 kHz. out of a 5th overtone.)

A modification of Frerking's grounded base Colpitts circuit
gives far more pulling. Use a series-resonant crystal and
use it in place of the base bypass capacitor. In the tank
circuit, replace the crystal with a coupling cap, and then
adjust the tank circuit for pulling. In a VCXO, the lower
capacitor in the tank becomes the varactor. I have a 125 MHz
VCXO at work that is <VERY> tunable.

: Another approach would be to use 50 MHz. 3rd overtone xtals with the
: oscillators followed by frequency doublers made out of SBL-1 mixers.
: Still questionable to save $30.

Yet another possibility would be to make a single, good
100 MHz crystal oscillator, then mix it with 10 KHz using
the same SBL-1 mixer. You'll get some 100 MHz leakage,
but you'll have two tones 20 KHz apart. Does this help
you any??

We keep making it better, not more expensive!

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo---

2811. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: krieder@buffnet.net
Message-ID: <3t8lgd$l20@buffnet2.buffnet.net>
Source record: 111980
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

Bruce Schurmann (bruces@bga.com) wrote:
: I want to erase EPROMs at home. I could spend $40 on an eraser
: but I am looking for a cheap way out.
: EPROMs typically need UV at 2537 angstroms with an integrated
: dose of 40W/cm**2. Is there a consumer type of product (read cheap)
: that is capable of this? I have seen UV(?) lamps for plants, will
: this do it? How about sunlight? I don't really care if it takes a
: day to erase the thing.

Bruce... the UV light energy needed for erasing EPROMs exactly matches one of the strongest emision lines of the mercury vapor spectra. The erasing devices available on the market use mercury vapor lamps for that reason.

Some years back I found that mercury vapor germacidal lamps also work very well. The ones I have were made by GE and Sylvania (discontinued), are about the size of auto turn signal/tail light bulbs and will work just fine on 115 VAC with a 40 W light bulb in series. I had to hunt for these and when I finally found some... bought all the store had. As it turned out... the first one is still going strong and the spares were never needed. The plant GROW-LIGHTS won't work any better than ordinary flourecent lights... they just drop a bit here and there. Sunlight could work... think in terms of days... weather permitting.

I can erase up to five EPROMs in one 15 minute cycle by putting a square cardboard sleeve over the bulb (one hole on each face) holding them on with a rubber band, the last one goes on top. You need to be aware that the UV light can zap your eyes (actually it's like getting a sunburn on the inside of the eyeball). I flip the switch and walk out of the room never looking directly at the bulb.

Since I have never needed all the spares... would be happy to let them go for a reasonable sum. Far, far less than you would pay for a ready made unit. If you or anyone else is interested, email.

Kurt n2tte krieder@buffnet.net

2812. MORSE DECODER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: Anton <zlbaec@zoo.upe.ac.za>
Message-ID: <3t8rls$po0@marlin.upe.ac.za>
Source record: 111981

I wish to decode coastal weather reports transmitted by coastal radio stations on the HF bands in morse at 170 Hz, 50 baud. I have recently been given a copy of the "morse decoder" in the May 1994 edition of Elektor Electronics. Has anyone built this kit or have any comments regarding it's usefulness?

73
Anton
ZR2BBB

2813. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: jeff.sumberg@sailboard.com
Message-ID: <8AC8337.012E0007BA.uuout@sailboard.com>
Source record: 111982

TV>In <3t6hcf$k5v@giga.bga.com> bruces@bga.com (Bruce Schurmann) writes:
TV>>I want to erase EPROMs at home. I could spend $40 on an eraser
>>but I am looking for a cheap way out.

In <3t7935$8c6@ixnews3.ix.netcom.com> drted@ix.netcom.com (Ted Viens):

TV>I dug through the yellow pages until I found a supplier of disinfectant
>UV bulbs that fit the lamps. Then I turned them on and blinded myself
>completely. OOOPS... OK, I knew that this UV could damage my eyes so

TV>Admittedly, the bulbs are $20 to $30 each and the whole thing
>cost me $60 to $70.

A simpler place to get the "germicidal" bulbs is your local aquarium store. Tell them you need a replacement 4w bulb for your "Sterilizer" (tell them Hawiian Marine if they ask for a model). The bulb is about $20. You'll then need a ballast, some sockets, and an enclosure. It'll probably cost you $40 to make a home brew eraser, so why not just buy a finished one for that price, if you know of one? There really is no cheap way out due to the lamp price.

I built one, as Ted did. I had an old Sterilizer from a fish tank. I just disassembled everything (I had ballast, sockets, bulb from sterilizer) and built it into a box.

And as Ted Viens says, the emissions from this lamp are "deadly" to your eyes. DO NOT UNDER ANY CIRCUMSTANCES LOOK AT THIS LAMP WHEN IT"S ON!!! I once had a UV exposure burn to my eyes from reflected short wave light. It is not something you want to experience, it is very painful. I'm quite sure that enough exposure could permanently damage your retina or blind you. Also avoid skin exposure to the lamp, it does cause "sunburn" QUICKLY.

--
****
* 73 de N2VYU, Jeff, in New Jersey (Fn21) *
* Email: jeff.sumberg@sailboard.com *
* Packet: N2VYU @ WA2SNA.NJ.USA.NA *
* Advanced class - WAC on RTTY *
* Ramapo Mountain Amatuer Radio Club *
****

* 1st 2.00d #32s * .

2814. Re: Pulling Freq. in 100 MHz Quartz Crystal Osc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3t9rh9$b8g@hpscit.sc.hp.com>
Source record: 111983

In article <3t9lp0$ect@hang.primenet.com>,
Christopher Trask <ctrask@primenet.com> wrote:
>
>: Having said that, unless you know exactly what you are doing, you
>: probably won't be able to achieve +/- 10 kHz. (The first 100 MHz
>: VCXO I built 20 years ago pulled +/- 100 Hz.!, and I'm not sure
>: even now I could get 10 kHz. out of a 5th overtone.)
>
> A modification of Frerking's grounded base Colpitts circuit
> gives far more pulling. Use a series-resonant crystal and
> use it in place of the base bypass capacitor. In the tank
> circuit, replace the crystal with a coupling cap, and then
> adjust the tank circuit for pulling. In a VCXO, the lower
> capacitor in the tank becomes the varactor. I have a 125 MHz
> VCXO at work that is <VERY> tunable.

Far more than +/- 100 Hz. or far more than +/- 10 kHz.? Anyway,
how much do you get? The last 125 MHz VCXO I designed was good for
+/- 5 kHz. at best, although I wasn't trying for +/- 10 kHz.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2815. Re: Help with EIA 19" Rack Panel Dimensions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3t9umv$db@nuclear.microserve.net>
Source record: 111984

In article <3t71o1$aum@nuclear.microserve.net>,
jackl@pinetree.microserve.com (WB3U) wrote:
>Can someone tell me what the dimensions are for the space between the
>centers of the mounting slots for the following EIA panel heights:

Thanks to Jim Haynes for his expert help with this. Problem solved.

73,

Jack WB3U

2816. Re: Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3t9pim$aev@hpscit.sc.hp.com>
Source record: 111985

In article <1995Jul1.144952.29253@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>
>Large inductances typically have a disproportionately larger series R than
>small inductances, so smaller inductance values will often show higher
>component Q. Capacitors typically have very high component Q, so a high C
>LC tank will generally have the highest unloaded Q. Tapping down on the
>tank inductor can make the parallel load R look much larger than it is
>due to auto-transformer action. This, coupled with a small inductive X,
>will result in a higher loaded Q.

My experience (and it is extensive) is exactly the opposite, at least
for inductors wound on ferrite or powdered iron toroids. As you add
turns, the Q goes up, even though you have to make the wire smaller
to do so. I don't know why this is the case, because using twice as many turns
of wire of half the diameter should quadruple both the inductance and
the RF resistance, but in reality, the RF resistance doesn't quadruple,
at least as indicated by the Q. Maybe the proximity effect gets into the act.

For air core inductors at VHF, it is also hard to get good Q at low
inductance values. The Q of a 4 turn coil is always better than the
Q of a straight piece of wire, or even a strap, in my experience.

>High L tanks are generally undesirable because of the lower component
>Q, and because of the very wide tuning change caused by a small change
>in C. With PLL loops that use varactors, this means that a high L tank
>will have much more phase jitter due to noise currents in the varactor
>than would a high C tank where most of the C is supplied by a parallel
>fixed capacitor.

With a high L, small C tank, you can use a low capacitance tuning diode
and you won't have any more tuning sensitivity (MHz/volt) than you
would with a lower L, higher C tank. You can put several coils in
parallel to get the equivalent of a lower inductance (but with the
Q of a higher inductance). One design here at HP uses 96 inductors in
parallel. Somewhat extreme, but the circuit does kick butt (they
do know what they're doing at the Spokane division).

The limiting factor with high L/C tanks, as I said in a previous post,
is the self resonant frequency problem of the coil. Note that using
multiple coils in series to raise the SRF solves that problem but
doesn't solve the Q problem.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2817. Re: MORSE DECODER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: cmoore@sedona.intel.com
Message-ID: <3ta003$no6@chnews.ch.intel.com>
Source record: 111986

In article <3t8rls$po0@marlin.upe.ac.za>, Anton <zlbaec@zoo.upe.ac.za> wrote:

>... on the HF bands in morse at 170 Hz, 50 baud.

Hi Anton, 170 Hz, 50 baud doesn't sound like a description of Morse code.
Sounds more like Frequency Shift Keying and a Morse code decoder will not
decode FSK. As a matter of interest, has anybody ever heard the term
"baud" used with Morse code?

73, Cecil, KG7BK, OOTC (not speaking for my employer)

2818. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: 76703.4265@compuserve.com
Message-ID: <3t7lut$f19@dub-news-svc-6.compuserve.com>
Source record: 111987

In <3stiko$hk1@news2.delphi.com>, jdow@BIX.com (Joanne Dow) writes:
>In article <stratton.47.000E02A5@mit.edu>, stratton@mit.edu (Chris Stratton) wrote:
>>In article <9505278042.AA804270969@mails.imed.com> mack@mails.imed.COM writes:
>>
>>>Chris:
>>> Here is the short answer to your question: In order for the DDS part to
>>>work correctly you MUST convert the DAC output to a sine wave!
>>
>>> You have missed a subtle part of how the DDS part of the combo works.
>>>The PLL uses the zero crossings of the phase reference to do the phase
>>>comparison.
>>
>>The DAC output cannot cross its midpoint (zero of the AC output) without
>>the MSB of the 8 bit word fed to the DAC changing. Thus looking at the MSB of
>>the sine output (which IS the same as the MSB of the phase register (but 180
>>degrees delayed)) will give a square wave with the same frequency and zero
>>crossings as the sign wave - but it will be loaded with harmonics
>>
>>>If you do an
>>>analysis of the codes that come out for low fractions of the clock frequency
>>>(say 1/3) you will see that the DAC output changes from positive to negative
>>by >some pretty weird values and these zero crossings do not necessarily
>>correspond >to the zero crossings of the desired phase signal.
>>
>>True - the zero crossings aren't right - but they average out over time to
>>being right. Some sort of LPF is used on the DDS sinewave to
>>smooth it out, and this has the effect of moving the zero crossings closer to
>>the right place. But they won't always be right - so what effect does this
>>have on the ultimate PLL output spectrum? And what would be the effect of
>>greater average deviation in zero-crossing timing, ie, a 1 bit DDS output?
>
>You are both "almost" correct here. A simple PLL can only filter out the higher
>frequency components of the MSB noise. If you have a relatively narrow band
>tracking filter on the signal going into the PLL, however, you can get rid of
>SOME of the phase jitter via the zero crossing detector route. The zero crossing
>detector provides an "average" function for the step just before the MSB changes
>and the step just after. This "average point" will sit much much closer to the
>right time regardless of MSB jitter as you increase filtering and increase the
>bits of precision in your DAC. Of course it seems it might be possible to
>seperately convert the lesser SBs as a "bias term" on the PLL output to correct
>for the jitters. Someone wanna analyze that one? (Hint - it's been done before.)
>
>>
>>Chris, N1IIR

>>stratton@mit.edu
>>
>>
>{^_^} Joanne Dow, Amiga Exchange Editor on BIX
> jdow@bix.com The Wizardess
Hmmmm...

Didn't Ulrich Rhode just have an article on this in QST?

Tom G.

2819. Re: NRZI

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: jesus@simu1.ele.cie.uva.es
Message-ID: <3t9aao$pje@maggie.cpd.uva.es>
Source record: 111988

C. Nathan Sykes (CNS@psimemphis.COM) wrote:
: I have a computer with a 7201 serial chip in it (similar to the
: z8530). However, it uses high for mark and low for space. How can I
: convert this to Non-Return-to-Zero-Inverted (transition=space, no
: transition=mark)? Anybody with a SCC card schematic?
: --
: Nathan Sykes email: cns@psimemphis.com
: Sr. Engineer amprnet: kd4ghg@gate.n9gsa.ampr.org
: Process Systems Inc. ax25: KD4GHG@W4BS.#WESTN.TN.USA.NOAM
: --

It's simple:

1 Invert the TxD stream with a NOT gate.
2 connect the NOT output to the J & K input of a FF (74ls73). The CLK signal must be the TxC line in the 7201 (leading edge triggered?, if not, another inverter is needed), and Voila!! You get the NRZI in the Q output of the FF.

To receive the NRZI code a DPLL is needed, but it is not too difficult to design. A simple aproach can be:

- Use a CLK signal that is 16 times the baud rate, and feed it into a 4 bit binary counter (74ls93)
- Detect the transitions in the NRZI data with a D type FF conected to the 16X CLK and a eXclusive NOR gate between D & Q. Reset the counter to zero if a data thansition is found.
- In the Q4 output of the binary counter you get the RxC signal (Leading edge). Use this clock signal to store 2 bits of the NRZI data in a 2 D type FF's, then compare it with a XNOR gate. If the two bits differ you get a LOW.

(This Kind of DPLL was software emulated (assembler) and worked well for 1200 bps)

I hope you can draw an schematic with this ascii description :)
--

73's by
$$
$ Jes&#65533;s Arias (jesus@simu1.ele.cie.uva.es) $
$$

2820. Preamp T/R Switch?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: mbrinkho@falcon.inetnebr.com
Message-ID: <3t9f9t$ma@duck.inetnebr.com>
Source record: 111989

Does anyone have a schematic/know where I get get one for a small T/R switch
so I can have my preamp switched out of line when I xmit? It needs to
switch around 100 watts on 10 Meters.

Thanks!

--
Matt C. Brinkhoff (KB0RXC)
mbrinkho@inetnebr.com
Lincoln, Nebraska (EN10PT)

2821. Re: Need PC board for 30-50 Amp 12 VDC power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: demetre@helios.intranet.gr
Message-ID: <3t8cpt$olh@helios.intranet.gr>
Source record: 112112

christopher shustak (shustak@parkcomm.iii.net) wrote:
: Hi. N1AUP here.

: I would like to build a high current, 13.8 VDC power supply to power my
: ham station. I need a circuit board that will handle the regulation and protection
: circuitry for such a project. Has anyone seen a company who sells such an
: item? I want to build a first class supply using a transformer that I just picked up.

I've build a high current power supply described in the ARRL handbook,
the original was a 28 Volt 10 Amper supply with high voltage and spike
protection, with a few modifications (transformer, rectifier and regulation
transistors) I build a 35 Amper 13.8 Volt power supply.
The project is very simple and very affective, look it up...

73's

2822. Re: HELP with basic electronics, please?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: ddillon@csulb.edu
Message-ID: <3t7ge3$mna@garuda.csulb.edu>
Source record: 112113

Richard Todd Perry (perryrt@clark.net) wrote:
: OK... I'm trying to rig up an AC adaptor for something. The specifications for
: the gear say that it needs 9V at 150mA. I've got various 9V Radio Shack
: adaptors lying around my shack, but they all have ratings greater than 150mA.
: I think the closest is 300mA, and they go up to a full amp.

: Basic question.. Can I get away with using a larger amperage supply, or will
: this be a BAD THING? I really don't want to "let the smoke" out of my pocket
: computer, so keep in mind that it's electronic/computer stuff here.

: My basic sense says that it should be fine, as long as the device is less than
: the supply, it'll be OK. However, a little knowledge is a dangerous thing, so
: I thought I'd ask.
: --
: Regards,
: R. T. Perry
: KF4BAL
: GMOO
: - The world is divided into two groups of people: Those that own HP's
: and those that yell "HEY! Where's the equals sign?"

Make sure the polarity is correct. Make sure that the voltage
matches up. Excess current is no bigdeal as long as some mishap doesn't
cause you to use it :)
You are most likely using a DC supply. You could pop in a fuse,
or better yet, get a 12 volt cube, and run it into a little 7809 voltage
regulator, and you are set for safety. 12 volts in, and REGULATED 9
volts out. Pop a cap in parallell for ripple rejection, and you have a
power cube that is of higher quality than you would have if you baught
the factory original. ... and all this for less than 5 to 7 dollars
de Dan

--
____
Finger or e-mail for PGPv2.6 key. | Are these views really mine?
Internet:ddillon@engr.csulb.edu | PGPprint = 02 A6 07 34 22 80 53 09
WWIVnet: #612 @ 1187 | 8C 1E 5E 15 1A B4 43 1F
Packet: kd6fpx@k6ve.#soca.ca.usa.noam |Infinet: #224 @ 1
~~~~~~
~~~~~~

2823. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: ian.mitchell@research.utas.edu.au
Message-ID: <3t7k8a$8fo@franklin.cc.utas.edu.au>
Source record: 112114

In article <stratton.52.000C863F@mit.edu>, stratton@mit.edu says...
>
>In article <3stnc8$3go@franklin.cc.utas.edu.au>
ian.mitchell@research.utas.edu.au (Ian Mitchell) writes:
>
>>I am currently working on a DDS would like to be able to connect the
>>high order bit to the mixer through an LPF. I built a spread sheet
based
>>on the output from the high order bit and looked at the fourier
>>spectrum generated. It looked ok in that there was no even harmonics
and
>>the odd harmonics were way down.
>
>>I'm using an IF of 10.7MHz with down conversion, ie dds operates above
10.7MHz
>
>>If I arrange for the front end to reduce images, is this a viable idea,
or am I
>>missing something here?
>
>>Best Regards,
>
>>Ian
>
>Given the recent discussion of MSB phase noise, that sounds a little
>too good to be true. Did you run the fourier analysis over many
>periods of the simulated DDS output? I would think the phase noise
>would generate a lot of close-in noise - in effect the 'signal' would
>be a narrow band of noise with a peak in the middle.
>
>I'll have to try this experiment myself when I get home from work...
>
>Chris, N1IIR
>stratton@mit.edu
>
Well, I used a simulated 8 bit phase accumulator and took 256 and 1024
samples for the fourier analysis. Both specrums indicated no even
harmonics and low odd harmonics not dissimlar to the response
you would expect from a square wave.

If there is any phase noise it's not showing up in the spectrum. But
who cares anyway - I would like to use the output directly, not to
phase lock a PLL.

If it to introduces some noise into the receiver that's ok, as long as it is not substantial. I'm trying to build a continuous tuning receiver for 1-30MHz using frequency synthesis of some sort with an IF of 10.7MHz based around an MC3362 narrow band FM receiver chip. FM demodulation is built in! For AM I can tap off the 455KHz filter while for SSB, change the second LO to 10.7MHz and tap off the 10.7MHz filter through an LPF. (Well, ok it is actually a DSB receiver).

But there it is, a low cost AM/FM/SSB receiver for 1-30MHz.

Anyway I'm hoping I haven't made some obvious blunder here with respect to the DDS. What do people think?

Regards, Ian

2824. Help with tranciever for 2400 BPS modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: site@flood.xnet.com
Message-ID: <3t7lnc$92g@flood.xnet.com>
Source record: 112115

My previous post must not have made it through. (were having trouble with the server or some provider somewhere) My question relates to transievers, I am new to radio and need some direction. I am currently building two 2600 BPS modems (using the EXAR chipset XR-2400 with XR-2443 microcontroller) These are standard telco modems, but I am adding audio in and out jacks. Can I connect these directly to audio in/out of the transiever? If I used a 9600/14.4/28.8 modem could I connect it directly? What frequency should I look for? What price should I expect to pay? I am building 2 to set up a communications link between two devices through standard serial ports. I have heard *some*thing about a TNC, is this for packet radio? With my setup will I be able to access packet radio? Ack, I am confused. Will this require an FCC license, if so where can I get a book to study for it. I need a reange of a few miles, but if price is too much I can settle for around 500ft. Are there any FCC regulations against encrypting my signal? Can I keep it up for extendad periods?

That's enough questions, I would really appreciate it if you could Email me at site@xnet.com, thanks!

2825. Re: Pulling Freq. in 100 MHz Quartz Crystal Osc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3t7pp9$1f0@hpscit.sc.hp.com>
Source record: 112116

In article <3t5q4n$7ub@dump.primenet.com>,
Christopher Trask <ctrask@primenet.com> wrote:
>Bob Mueller (IFF161@DJUKFA11.BITNET) wrote:
>: To anyone with experience!
>: I need a pair of quartz crystal oscillators at about 100 Mhz with
>: their frequencies spaced by about 20 kHz. Is there a fair chance of pulling
>: one or both (in opposite directions!) so I can take two standard crystals
>: and reach this spacing. As a percentage it is not very much but I worry.
>: I assume the standard crystals are AT-cut running on the 5th overtone
>: (most likely choice), but I have the impression overtone crystals are not
>: very cooperative, one reason for sometimes running on an overtone at
>: frequencies as low as 5 MHz.
>: Thank you for any expert advice!
>
>Bob,
> Overtone crystals operate at a harmonic of the crystal blank, as
>you may already know. To keep them from operating at a different over-
>tone (harmonic), we generally use an oscillator circuit that contains a
>resonant LC tank circuit as well, such as a modified Pierce or a grounded-
>base Colpitts.
> The Colpitts is best suited for pulling the crystal, and is by
>far the most popular when designing VCXOs (voltage-controlled crystal
>oscillators). Marvin Frerking's book "Crystal Oscillator Design and
>Temerature Compensation" is an excellent source of information on this
>subject.
>

Chris: Please reread Frerking's book (or any other book on crystals)
and learn that "overtone" is not a synonym for "harmonic", although
it is easy to see why people would confuse them. Let's not confuse
Bob a priori.

Bob: Pullability is inversely proportional to overtone number.
Fundamental crystals can be reliably pulled about +/- 1000 to 5000 ppm,
depending on a number of factors. Hence 5th overtone crystals can be pulled at most
+/- 200 ppm, which would be +/- 20 kHz. at 100 MHz. You might try
pulling one crystal high and the other one low, so that each is
only pulled 10 kHz. (but in opposite directions).

Having said that, unless you know exactly what you are doing, you
probably won't be able to achieve +/- 10 kHz. (The first 100 MHz
VCXO I built 20 years ago pulled +/- 100 Hz.!, and I'm not sure
even now I could get 10 kHz. out of a 5th overtone.) Unless
you just want to try to prove you can do it, you are probably better off
buying a pair of crystals spaced 20 kHz. apart for $15 each. Or

if the tolerance on the standard ones is poor enough, you may be able to select 2 that are that far apart in frequency.

Another approach would be to use 50 MHz. 3rd overtone xtals with the oscillators followed by frequency doublers made out of SBL-1 mixers. Still questionable to save $30.

2826. New Ham needs Help/info on homebrew equip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: av440@freenet.buffalo.edu
Message-ID: <DB4Mvz.B57@freenet.buffalo.edu>
Source record: 112117

```
--
--Tom T. Shaffer------------ 8o) --------- av440@freenet.buffalo.edu -----
| KB2URI | Fan of: TYO's, Ab-Fab, MPFC & Clas. Rock! |
| | MST3K member #10102, Don and Mike R Back! on 1370Am Buf,Ny |
--If your M. Palin, E. Idle, W. Shatner or Anyone MAIL ME!!! :) ----------
```

2827. Re: Temp comp of osc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <804729703.AA02758@hamlink.mn.org>
Source record: 112118

RR>From: rkarlqu@scd.hp.com (Richard Karlquist)
RR>Newsgroups: rec.radio.amateur.homebrew
RR>Subject: Temp Comp of osc
RR>Organization: Hewlett-Packard
RR>Message-ID: <3st3gl$a79@hpscit.sc.hp.com>
RR>Date: 29 Jun 1995 02:35:01 GMT
RR>
RR>In article <804211756.AA02630@hamlink.mn.org>,
RR>Bob Liesenfeld <Bob.Liesenfeld@f100.n282.z1.fidonet.org> wrote:
RR>>Hi all,
RR>> I have a Colpitts type J-FET oscillator running at 14 MHz that I
RR>> want o apply some temperature compensation to. I am familiar with
RR>> the tandard techniques, but I'm hoping that someone out there may
RR>> have some hortcuts to this tedious procedure.
RR>> By the way the un-comped osc currently has a negative temp
RR>> coefficient. hanks for any input!
RR>>Bob L. WB0POQ
RR>>
RR>> Technology is OUT of control.........
RR>
RR>First of all, get rid of the JFET. A bipolar is typically much
RR>more temperature stable in the first place.
RR>
RR>Second, ever heard of the Hallicrafters technique where you use
RR>a differential type air variable connected in series with a P150
RR>and an N1500 fixed capacitor? You can then continuously vary
RR>the tempco till you hit zero.
RR>
RR>Rick Karlquist, N6RK
RR>rkarlqu@scd.hp.com
RR>
RR>---
RR> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
RR>(1:282/100.0)
Hi Rick,
Hmmmm, I have had better luck with J-FETS than bipolars as far as
stability is concerned...Have to look at that one again.
As far as he "tempa-trimmer", I do remember them, but don't have any
diff type caps around, altho that idea is looking better all the time.
Thanks for the input
72 Bob WB0POQ

Technology is OUT of control......

2828. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: zlau@mgate.arrl.org
Message-ID: <3t8qpv$vu6@mgate.arrl.org>
Source record: 112119

Ian Mitchell (ian.mitchell@research.utas.edu.au) wrote:
: If there is any phase noise it's not showing up in the spectrum. But
: who cares anyway - I would like to use the output directly, not to
: phase lock a PLL.

People who would like to listen to SSB/CW signals might care.
I remember a cheap "multimode" scanner that was OK on FM,
but was unusable for listening to SSB/CW. The large amount of
phase noise made it impossible to properly re-insert the carrier.

: If it to introduces some noise into the receiver that's ok, as long
: as it is not substantial. I'm trying to build a continuous tuning
: receiver for 1-30MHz using frequency synthesis of some sort with an
: IF of 10.7MHz based around an MC3362 narrow band FM receiver chip.
: FM demodulation is built in! For AM I can tap off the 455KHz filter
: while for SSB, change the second LO to 10.7MHz and tap off the 10.7MHz
: filter through an LPF. (Well, ok it is actually a DSB receiver).

You might try listening to your oscillator on SSB/CW receiver with
known good phase noise....

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2829. How 'bout a freq. counter using SB sound card?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: jj@scs.leeds.ac.uk
Message-ID: <1995Jul3.133703.15778@leeds.ac.uk>
Source record: 112120

Check out the program 'freq' available from

ftp://x2ftp.oulu.fi/pub/msdos/programming/mxtils/freq4.zip

freq4.zip Freq4 - realtime spectrum analysis program (SB/PAS16)

It's pretty good. Works with SoundBlaster2 and SoundBlaster16 for certain.

cheers
Jim

Chris Stratton (stratton@mit.edu) writes:
:
: >Anyone interested in a frequency counter program using a PC and a SB
: >sound card? I am thinking of writing one that may handle frequencies up
: >to 6kHz. IT would list all strong frequencies in a given signal over a
: >set noise threshold.
:
: >Any takers?
:
: >shima@eel.ufl.edu
:
: I think what you mean is you want to do an audio frequency
: spectrum analyzer. A project like this was published in
: QST a while back, but using a custom audio input, before
: the Sound Blaser type boards became common.
:

2830. Re: Temp comp of osc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-03 00:00:00 UTC
From: geoffs@onr.com
Message-ID: <3t97qt$bdd@Sierra.onr.com>
Source record: 112121

From: Bob.Liesenfeld@f100.n282.z1.fidonet.org (Bob Liesenfeld)
Newsgroups: rec.radio.amateur.homebrew
Subject: Re: Temp comp of osc
Message-ID: <804729703.AA02758@hamlink.mn.org>
Date: Mon, 03 Jul 1995 00:59:41 -0100

RR>From: rkarlqu@scd.hp.com (Richard Karlquist)
RR>Newsgroups: rec.radio.amateur.homebrew
RR>Subject: Temp Comp of osc
RR>Organization: Hewlett-Packard
RR>Message-ID: <3st3gl$a79@hpscit.sc.hp.com>
RR>Date: 29 Jun 1995 02:35:01 GMT
RR>
RR>In article <804211756.AA02630@hamlink.mn.org>,
RR>Bob Liesenfeld <Bob.Liesenfeld@f100.n282.z1.fidonet.org> wrote:
RR>>Hi all,
RR>> I have a Colpitts type J-FET oscillator running at 14 MHz that I
RR>> want o apply some temperature compensation to. I am familiar with
RR>> the tandard techniques, but I'm hoping that someone out there may
RR>> have some hortcuts to this tedious procedure.
RR>> By the way the un-comped osc currently has a negative temp
RR>> coefficient. hanks for any input!
RR>>Bob L. WB0POQ

RR>First of all, get rid of the JFET. A bipolar is typically much
RR>more temperature stable in the first place.

Sorry, wrong answer or certainly not the entire one. Using IC temperature
compensation techniques with an integrated bipolar array (CA3127 or
similar) can indeed minimize the changes in Ic vs temp and therefore yield
a stabilized gm. Problem is, gain changes have a smaller effect on
stability than things like loading of the resonant circuit and temperature
induced reactive element drifts.

JFETs like the 2N4416 or 2N5386 are commonly used in oscillators due
to their higher-than-bipolar input impedances and their very low S21
parameters. Gm is lower than in bipolars, though (as a rule).

Geoff NQ7A Austin, TX

RR>Second, ever heard of the Hallicrafters technique where
you use RR>a differential type air variable connected in series with a P150
RR>and an N1500 fixed capacitor? You can then continuously vary
RR>the tempco till you hit zero.
RR>
RR>Rick Karlquist, N6RK

RR>rkarlqu@scd.hp.com
R

Hi Rick,
Hmmmm, I have had better luck with J-FETS than bipolars as far as
stability is concerned...Have to look at that one again.
As far as he "tempa-trimmer", I do remember them, but don't have any
diff type caps around, altho that idea is looking better all the time.
Thanks for the input
72 Bob WB0POQ

Oxley in England made the "tempatrimmer" years ago. I don't think that they're still available bit you can gin something up that uses a +X TC capacitor in series with a -X TC cap that Rick mentioned. You wouldn't want to use a P150 with an N1500; you'd want an N150 or things would get fussy in spots.

Probably the best thing to do is stick the uncompensated oscillator, well buffered into a freq cntr, into an oven with a thermocouple and go through the old point-by point method of plotting temp vs freq on graph paper. Then find a cap arrangement that produces the complimentary temp characteristic and substitute it in the original ckt. <Remembering of course that the resonant frq is proportional to 1/(sqrt(c))>

Geoff NQ7A

2831. Motorola - tech help - where from?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jul4.081421.57074@ucl.ac.uk>
Source record: 111990

I've got a problem trying to use an MRF-136 (15W VHF power FET). Its claimed to have 1dB noise figure, but the test circuit given looks (to me) unlikely to give this, as they use a low value (17 Ohms I think) stabilising resistor from gate to earth. If you simulate it (using small signal S parameters) without the resistor it makes a nice oscillator - not what I'm after. I want a very high dynamic range amp (1dB NF, > +40 dBm IP3) amp at 82 MHz, with about 10dB of gain.

If you work out the input Z at 82 MHz, you can see 17 Ohms will incur >1dB loss, so unless the device has a negative noise figure (thats a nice thought), I cant see how it can achieve it.

Can anyone either suggest how I might go about achieving this or suggest where in Motorola I can get someone who

(a) Can be bothered to answer tech questions.
(b) Knows what they are talking about.

So far, I've only tried the UK for help. The only person whose job it seems to be to answer tech questions from a University, is to say the least getting me *******. He first tells me the circuit will do it, then admits he does not know. Finally I get him to agree to ask an RF engineer, but some 3-4 weeks later I have no response.

Am I the only one who has this problem with Motorola?

Dave Kirkby G8WRB,
Dept. of Medical Physics,
University College London.
Tel: 0171-380-9700
Fax: 0171-380-9577

2832. Low Dropout Current Regulators

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: zlau@mgate.arrl.org
Message-ID: <3tblm0$hmg@mgate.arrl.org>
Source record: 111991

Anyone have experience using chips like the LT1086 and LM2941T
below their low dropout voltages to take advantage of their current
limiting capabilities?

For instance, expensive power FETS can will burn up if you
have a stiff drain to source voltage and the negative bias
supply fails. But, if you limit the current, you can protect
the device. Modern regulators seem like an ideal
instead of an expensive FET blowing up, the regulator
just gets hot.

Question is, what about running a 12 volt regulator off
an 11 volt supply? Seems to work OK, I still get 10 volts
of output at full current (about 1 amp). You might consider
this to be one of those engineering tradeoffs--I still want
it to work when my batteries run low, but I'm willing to
put up with slightly degraded performance. After all,
people run amplifiers on the crowded HF bands without
stiff plate supplies....

This technique may even make sense for HF QRP rigs--a cheap
way to protect the final from low impedance loads. The
voltage regulator can protect against mishaps like automotive
electrical system burps and unregulated solar panel voltage.

Anyone have any trouble with regulator stability or ???

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2833. AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: nowhere@erehwon.net
Message-ID: <3tbnt0$p4r@park.interport.net>
Source record: 111992

Howdy. I don't know anything about radio, but I need plans for a device capable of jamming one particular AM frequency favored by the asshole below me. If anyone can point me in the right direction (I've already looked though Phrack without success), please do.

Note: I don't plan on fucking with anyone but my neighbor, so a very limited range is fine.

2834. Re: AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <3tbqnk$93a@cc.iu.net>
Source record: 111993

In <3tbnt0$p4r@park.interport.net>, nowhere@erehwon.net (nobody) writes:
>Howdy. I don't know anything about radio, but I need plans for a device
>capable of jamming one particular AM frequency favored by the asshole below
>me. If anyone can point me in the right direction (I've already looked though
>Phrack without success), please do.
>
>Note: I don't plan on fucking with anyone but my neighbor, so a very limited
>range is fine.

yeah, yeah. how about buying him a set of headphones and just making a point
about general noise (without getting into the content of the broadcast).

he's got a right to listen to the broadcast. maybe you should buy some head
phones and when the offending program comes on, cover your ears, turn up the
favorite program running on your receiver and enjoy.

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio

2835. Re: Radar Jammers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: horowitz@nosc.mil
Message-ID: <1995Jul4.182700.5810@nosc.mil>
Source record: 111994

Toomay, _Radar Principles for the Non-Specialist_

It has a very good treatment, from first principles, of the problem of sizing a radar jammer. Uses only high school trigonometry.

2836. TNC PLANS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: LLBH80B@prodigy.com
Message-ID: <3tc3lu$1ltc@usenetp1.news.prodigy.com>
Source record: 111995

I was wondering if anyone had plans to build a terminal node
controller that would work on an IBM 8086 XT. And if so were i could
possibly get the soft were to run it. I have heard that BayComm and
Ramsey have somthing like this.

Thanks

-
KEVIN HURLEY LLBH80B@prodigy.com

2837. TNC PLANS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: LLBH80B@prodigy.com
Message-ID: <3tc46e$2n2u@usenetp1.news.prodigy.com>
Source record: 111996

COULD SOME ONE PLEASE SEND ME PLANS FOR BUILDING A TERMINAL NODE
CONTROLLER THAT WILL WORK USING AN IBM 8086. PLEASE SIMPLE PLANS ONLY.

LLBH80A@prodigy.com

2838. Re: AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <DB7ELG.KCI@news.hawaii.edu>
Source record: 111997

@park.interport.net> nowhere@interport.net (nobody) writes:

>Howdy. I don't know anything about radio, but I need plans for a device
>capable of jamming one particular AM frequency favored by the a**hole below
>me. If anyone can point me in the right direction (I've already looked though
>Phrack without success), please do.
>
>Note: I don't plan on f****** with anyone but my neighbor, so a very limited
>range is fine.

Go over to rec.radio.broadcasting and buy one of the used 10,000-25,000
watt transmitters that ocassionally gets posted on there. Then get a
dummy load capable of disipating the output power of your new
transmitter. Cost: $15,000 or so (excluding your monthly electric bill).

Jeff

2839. Re: TNC PLANS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: Ken Knapp <kknapp@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950704174521.17108A-100000@grape.epix.net>
Source record: 111998

Kevin,

Just about any TNC made today (unless specified for the commodore, etc.)
will work with an xt. If you get a baycomm modem, you will need the
special software. Just about all the other TNC's out there will work just
fine with about any terminal program such as PROCOMM. Remember, all you
need is RS-232 on the PC and TNC, and a terminal program, and you're set.

Ken

On 4 Jul 1995, Kevin Hurley wrote:

> I was wondering if anyone had plans to build a terminal node
> controller that would work on an IBM 8086 XT. And if so were i could
> possibly get the soft were to run it. I have heard that BayComm and
> Ramsey have somthing like this.
>
> Thanks
>
>
>
> -
> KEVIN HURLEY LLBH80B@prodigy.com
>
>
>
>

2840. Re: AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3tcefu$nni@panic.primenet.com>
Source record: 111999

jeffrey@math.hawaii.edu wrote:
: @park.interport.net> nowhere@interport.net (nobody) writes:

: >Howdy. I don't know anything about radio, but I need plans for a device
: >capable of jamming one particular AM frequency favored by the a**hole below
: >me. If anyone can point me in the right direction (I've already looked though
: >Phrack without success), please do.
: >
: >Note: I don't plan on f****** with anyone but my neighbor, so a very limited
: >range is fine.

: Go over to rec.radio.broadcasting and buy one of the used 10,000-25,000
: watt transmitters that ocassionally gets posted on there. Then get a
: dummy load capable of disipating the output power of your new
: transmitter. Cost: $15,000 or so (excluding your monthly electric bill).

: Jeff

--

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------oo0~(_)~Ooo----------

2841. ARRL 2Mb/s 10GHz Data Link Any updates ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: jim hatton <jim@hatton.demon.co.uk>
Message-ID: <550823754wnr@hatton.demon.co.uk>
Source record: 112000

Hi and thanks for reading this. I am building up the high speed data link published in the ARRL handbook. I'm having a bit of trouble setting up the receiver (MC13055). Yeah I know its only got 2 coils and it should be a piece of cake but mine doesnt want to go.

I was wondering if there are any updates / eratta / corrections etc for this project. I already found a bug in the audio amp circuit and I hope there arent any more.

Please E-Mail any responses as I dont normally read this news group, but will keep an eye on it for a while.

Thanks in advance

Jim

--

| Jim Hatton E-Mail jim@hatton.demon.co.uk |
| Packet Radio GM4RJX@GB7SAN |

2842. Re: Low phase noise vco de

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <804822189.AA02770@hamlink.mn.org>
Source record: 112001

RR>From: rkarlqu@scd.hp.com (Richard Karlquist)
RR>Newsgroups: rec.radio.amateur.homebrew
RR>Subject: Low phase noise VCO design
RR>Organization: Hewlett-Packard
RR>Message-ID: <3t1tcg$a13@hpscit.sc.hp.com>
RR>Date: 30 Jun 1995 22:21:04 GMT
RR>
RR>In article <3su6e0$2m9@crl7.crl.com>, Donald J. Miller
RR><dmiller@crl.com> wrote:
RR>>Richard Karlquist (rkarlqu@scd.hp.com) wrote:
RR>>
RR>>: a shield can. Use a large L/C ratio in your tank.
RR>>
RR>>Huh?
RR>>
RR>>When a parallel tank is loaded with a resistance, the Q is equal to
RR>>that resistance divided by the reactance of the L or C (it doesn't
RR>>matter which, since the two reactances are equal in magnitude at
RR>>resonance).
RR>>
RR>>If large L's are used, the reactance goes up, the Q goes down, and
RR>>the phase noise increases, per theory.
RR>>
RR>>In the real world, there are other complications. For a given
RR>>frequency of operation, high quality inductors can be fabricated
RR>>over only a finite range of inductance, so the designer is
RR>>constrained from using an arbitrarily small value of inductance.
RR>
RR>Let me clarify this. Use a large inductor and small capacitor, but
RR>tap way down on the tank to avoid de-Qing it with the resistance.
RR>Yes, there is a limit to how high you can go (due to self resonant
RR>frequency getting too low), but, generally, higher values of L
RR>result in higher values of Q, other things being equal.
RR>
RR>Rick N6RK
RR>
RR>---
RR> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
RR>(1:282/100.0)
Hi Rick,
This touches on a long standing question regarding loaded tank Q for
me. I get the part about the Z of the tank with a parallel load being
approx = to the load and Q=R/X, thereby to get a higher Q, use a big cap
and a small coil. However, an UNloaded tank is Q=X/R, R in this case

being the RF losses the coil and to a lesser extent in the cap, thereby for high Q use a big coil and a small cap.
Now take the high Q tank, ie, big coil, small cap and tap a load into it. (light coupling). The Q (now a loaded Q) goes down. To boost the Q up, would one use yet a larger coil, with a matching lower value cap, thereby raising the effective UNloaded Q of the tank, and in effect decreasing the effect of the loading? Or would one swtch to using a smaller coil and bigger cap in accordance with the Q=R/X formula above?
Another way to put this question I suppose would be, at what degree of loading does one put aside the formula for an UNloaded tank, ie, Q=X/R, and use the loaded formula Q=R/X?
Hope all this makes some sense!
Tnx es 72 WB0POQ

Technology is OUT of control.....

2843. PC Soundcard as an 'scope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: cscon0151@uoft02.utoledo.edu
Message-ID: <DB7zw9.G6s@utnetw.utoledo.edu>
Source record: 112002
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

I am looking for software that will allow a 8-bit Soundblaster card to function as a crude oscilloscope. I was told by a fellow ham that a UK magazine (Wireless or Shortwave?) had a short review of it about 2 yrs ago. I can FTP or search via Archie or Veronica if someone can provide me with a filename.

I'd like to get a hold of it before my foray in 9600 baud packet, so I can monitor my deviation.

Please EMail if possible.

Thanks...

Brad Steinman, N8ZRP
The University of Toledo
Internet: cscon0151@uoft02.utoledo.edu
AMPRNet : n8zrp@n8pdk.ampr.org
AX25 : n8zrp@w2xo.#swpa.pa.usa.noam (AX25 -> Internet)

2844. Re: Pulling Freq. in 100 MHz Quartz Crystal Osc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3ta31g$9nl@solaris.cc.vt.edu>
Source record: 112003

Maybe selected wide-tolerance "microprocessor" crystals could be used. Generally avaialable up to 50 MHz, so doubler or tripler would be required, although the new Mouser catalog lists a 96 MHz series resonant crystal. These often have tolerances of +- 100 ppm, so two carefully selected outlier ones could be different by 20 KHz before you started pulling. The original post did not mention anyting about the application: is it more important to have one exactly 100 MHz, or more important that the difference always be 20 KHz. Making one voltage-tunable, mixing the two together, then using a PLL to lock the beat frequency to 20 KHz could help a lot with the latter. If low phase noise isn't required, using VCOs for both in conventional PLL circuits is certainly possible, though more complicated than crystal oscillators.

-Mike KD4QDM

2845. Bell and CCITT.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: Larus Baldursson <tflb@itn.is>
Message-ID: <DB65KC.79s@itn.is>
Source record: 112004

Is there any packet expert out there, who can tell me
if i can use old, ITT Data Modem DCB 19200 MK2.
for 9600 baud packet use.
I think it has CCITT V.29 and CCITT V.32 forward and fallback
changeable...and 1/2P-FSK. PFSK.
What standard is used for 9600 baud packet.
on ham freq....

Larus Baldursson.

TF3LB.

email tflb@itn.is

2846. Re: Pulling Freq. in 100 MHz Quartz Crystal Osc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3tagqq$gjq@panic.primenet.com>
Source record: 112005

Richard Karlquist (rkarlqu@scd.hp.com) wrote:
: In article <3t9lp0$ect@hang.primenet.com>,
: Christopher Trask <ctrask@primenet.com> wrote:
: >
: >: Having said that, unless you know exactly what you are doing, you
: >: probably won't be able to achieve +/- 10 kHz. (The first 100 MHz
: >: VCXO I built 20 years ago pulled +/- 100 Hz.!, and I'm not sure
: >: even now I could get 10 kHz. out of a 5th overtone.)
: >
: > A modification of Frerking's grounded base Colpitts circuit
: > gives far more pulling. Use a series-resonant crystal and
: > use it in place of the base bypass capacitor. In the tank
: > circuit, replace the crystal with a coupling cap, and then
: > adjust the tank circuit for pulling. In a VCXO, the lower
: > capacitor in the tank becomes the varactor. I have a 125 MHz
: > VCXO at work that is <VERY> tunable.

: Far more than +/- 100 Hz. or far more than +/- 10 kHz.? Anyway,
: how much do you get? The last 125 MHz VCXO I designed was good for
: +/- 5 kHz. at best, although I wasn't trying for +/- 10 kHz.

I found out this evening that the pulling of a crystal is
inversly proportional to the SQUARE of the overtone number.
Therefore, a +/- 200ppm crystal in fifth overtone would
only pull +/- 4ppm (about +/- 500 Hz).

I don't recall how much my circuit pulled, but I do recall
that the amount did surprise me. I'll have to go back and
check that out (it has been a while). I was using a BBY40
varactor, which I'm told is by far one of the best, if not
the best, varactor for this application. Very linear, as
well.

Also, the other resonant modes for a 100 MHz AT-cut crystal
would be 20 MHz and 33 MHz. Since the original poster was
experiencing a low-frequency mode, he was probably using an
SC-cut crystal. The SC also has an interesting mode at 110%
of fo which can be used as a linear thermometer. This mode
is usually supressed.

Most of this information comes by way of a fellow I know here
who has worked for a number of crystal oscillator companies
over the years. I once got an interview with CTS Knights about
three years ago by way of him. Fascinating place! About 75%
of the building is a lapidary shop, as they cut their own
blanks from raw quartz crystal bars.

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo---

2847. Re: NRZI

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-04 00:00:00 UTC
From: wdk@neptune.frc.maf.govt.nz
Message-ID: <WDK.95Jul4162029@neptune.frc.maf.govt.nz>
Source record: 112006

In article <199506281258.HAA27297@chaos.magibox.net> CNS@psimemphis.COM (C. Nathan Sykes) writes:

> I have a computer with a 7201 serial chip in it (similar to the
> z8530). However, it uses high for mark and low for space. How can I
> convert this to Non-Return-to-Zero-Inverted (transition=space, no
> transition=mark)? Anybody with a SCC card schematic?

Feature for feature, the 7201 would come closer to the Z80SIO than
the Z8530.

The z8530 SCC is very popular for packet users because it does HDLC
with NRZI encoding, and has a DPLL for receive clock recovery.
One minor disadvantage the 8530 has is it requires an external divide
by 32 counter for the transmit clock. A schematic of a SCC card will
not help you.

To Interface the 7201 you will require an external NRZ to NRZI converter
for TX (D Type Flip Flop and Ex-Or gate) and a NRZI to NRZ converter
with clock recovery on receive. The best sources for this info are
the schematics of the TNC-2, which is based on the Z80 SIO chip.

I also understand the XEROX 820 used by the early packet pioneers
was based on the Z80SIO, and there is an external circuit make it
do NRZI

A simple external clock recovery circuit is prone to get triggered by
noisy data, but under most conditions, it is not noticable.

Hope this helps,
73
Wayne, ZL2BKC
--
_____ Real: Wayne Knowles Title : Systems Manager
/ o \/ Post: Marine Research Centre Usenet: wdk@frc.maffish.govt.nz
\/ v /\ P.O. Box 297, Greta Point Phone : +64 4 386 1029
`---' Wellington, NEW ZEALAND FAX : +64 4 386 0574

2848. Wanted - SSB IF filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jul5.105734.52860@ucl.ac.uk>
Source record: 112007

Anyone got an IF filter (8 pole or more) with a bandwidth of 2.4 KHz (6dB points) that they want to sell? I would prefere a centre frequency of 9.0 or 10.7MHz.

If so, let me know the spec and price.

Dave Kirkby G8WRB.

2849. Re: Temp comp of osc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <804906453.AA02776@hamlink.mn.org>
Source record: 112008

AA>From: acl@ultranet.com (Jon Goguen)
AA>Newsgroups: rec.radio.amateur.homebrew
AA>Subject: Temp Comp of osc
AA>Organization: UltraNet Communications, Inc.
AA>Message-ID: <acl-0107952242080001@amber1.ultranet.com>
AA>Date: 2 Jul 1995 03:37:27 GMT
AA>
AA>In article <3t449h$dmb@hpscit.sc.hp.com>, rkarlqu@scd.hp.com
AA>(Richard Karlquist) wrote:
AA>
AA>
AA>> Speaking of crystal oscillators, here is an anecdote. In the
AA>> early 1970's, a company (Konel) where I worked that made marine
AA>> radios happened to have an engineer who fell in love with FET's
AA>> for some reason. He started using them everywhere, whether it made
AA>> sense or not. One place they showed up was the crystal oscillator
AA>> in the HF SSB radio. The oscillators drifted like crazy for the
AA>> first minute or so they were turned on as the FET
AA>junction
AA>> temperature increased. So everytime you went from transmit to
AA>> receive or vice versa, your voice "unclarified". About this time,
AA>> another engineer at Konel left to go to a competitor and when he
AA>> got there, he copied a bunch of our circuits including the above
AA>> oscillator. We thought it served him right. Shortly thereafter we
AA>> went back to bipolar oscillators and the problem went away.
AA>
AA>There's a pretty good article in the December (November?) 1993 issue
AA>of QST on temperature compensation of VFOs, including a little
AA>temperature controlled chamber for testing. It concentrates
AA>primarily on choosing capacitors to offset inductance drift.
AA>
AA>Jon
AA>
AA>--
AA>Jon Goguen
AA>
AA>"Nothing worth knowing can be understood by the human mind."
AA>
AA>
AA>---
AA> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
AA>(1:282/100.0)
Hi all,
Just a note to all regarding this article in QST. While it is well

done, the folks at the mag messed up the graphs and some of the specs. As I recall the graphs are all off by a factor of 10 as is some of the Hz/Degree drift factors. This is pretty obvious if you read it carefully.
Bob WB0POQ

Technology is OUT of control......

2850. Re: Help with basic electr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <804906453.AA02777@hamlink.mn.org>
Source record: 112009

PP>From: perryrt@clark.net (Richard Todd Perry)
PP>Newsgroups: rec.radio.amateur.homebrew
PP>Subject: HELP with basic electronics, please?
PP>Organization: Clark Internet Services, Inc.
PP>Message-ID: <3t5b8n$t78@clarknet.clark.net>
PP>Date: 2 Jul 1995 05:36:23 GMT
PP>
PP>OK... I'm trying to rig up an AC adaptor for something. The
PP>specifications for
PP>the gear say that it needs 9V at 150mA. I've got various 9V Radio
PP>Shack adaptors lying around my shack, but they all have ratings
PP>greater than 150mA.
PP>I think the closest is 300mA, and they go up to a full amp.
PP>
PP>Basic question.. Can I get away with using a larger amperage supply,
PP>or will this be a BAD THING? I really don't want to "let the smoke"
PP>out of my pocket computer, so keep in mind that it's
PP>electronic/computer stuff here.
PP>My basic sense says that it should be fine, as long as the device is
PP>less than
PP>the supply, it'll be OK. However, a little knowledge is a dangerous
PP>thing, so
PP>I thought I'd ask.
PP>--
PP> Regards,
PP> R. T. Perry
PP> KF4BAL
PP> GMOO
PP>- The world is divided into two groups of people: Those that own
PP>HP's and those that yell "HEY! Where's the equals sign?"
PP>
PP>
PP>---
PP> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
PP>(1:282/100.0)
Hi R.T.,
Yes the current rating of the supply can be = to or higher than the
current required by the device. HOWEVER... be advised that these little
"wall wart" types of power supplies typically have very poor voltage
regulation along with poor hum filtering. This is not a problem for many
uses, but can spell real trouble for others. As it looks like you will
be running a device that may take this into account, I think you will be
ok on these counts, but it would'nt hurt to check your manual etc.
See ya. Bob WB0POQ

Technology is OUT of control.....

2851. Re: Radar Jammers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: zlau@mgate.arrl.org
Message-ID: <3te7ne$m4@mgate.arrl.org>
Source record: 112010

Erik Werner (werner@acsu.buffalo.edu) wrote:
: mikkey (mikkey@azstarnet.com) wrote:
: >Anyone seen these ads for radar jammers (DAEMARK for one)?
: >Do these things work? Also can a spark gap transmitter effectively
: >jam either local high frequency transmissions (like 800 mhz); reception?
: >Just curious (for informational purposes only).
: >Thanks, mikkey.

: a EE friend of mine was thinking about taking the microwave part of a broken
: oven and installing it in his grill (shielding rearward of course!). He
: figures that if the police are using a few watts of power, his 1500W trans-
: mitter would effectivly jam the police's radar. (Informational Purposes only)

Quite unlikely. Police radar undoubtedly uses waveguide, which acts as
an excellent low pass filter. Microwave ovens operate at roughly 2.45
GHz, while the police use 10.5 and 24 GHz (approximately).

Anyone attempting to install such a transmitter is advised to conduct
tests in a location where the inability to control the vehicle won't
bother other people. See the Sept. 1994 QST about what the auto makers
say about installing transmitters in your car.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2852. Re: DDS & PLL Hybrid Theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DB92nK.CzE@hpqmoea.sqf.hp.com>
Source record: 112011

Joanne Dow (jdow@BIX.com) wrote:

: You are both "almost" correct here. A simple PLL can only filter out the higher
: frequency components of the MSB noise. If you have a relatively narrow band
: tracking filter on the signal going into the PLL, however, you can get rid of
: SOME of the phase jitter via the zero crossing detector route.

The PLL acts as a bandpass "tracking" filter itself.

The information in the phase register of a DDS is exactly perfect, the phase values it has to be able to represent are precisely within its resolution. The fun comes when we want to create smooth sinusoids up to a decent fraction of the clock frequency. One way of looking at the sine look-up table, DAC and filter is as a particularly neat interpolator.

In real life DDS's, the phase word is truncated (LSBs dropped) to keep the table size acceptable. After sine conversion, it would take an infinite number of bits to give absolute precision, even though the phase generator is precise AND finite. So, there is a second truncation forced by available and affordable DACs. Normally the DAC limitation is in the driving seat, and the truncated phase word is made 2 or 3 bits larger than the DAC word.

To get a quick mental picture of the nature of the unwanted stuff coming out of a DDS, think of the output voltage of the DAC as being a series of steps following the wanted sinewave. You can think of this as being the sum of the wanted waveform, and a "quantisation" waveform. The sinusoid has a simple spectrum, but the quantisation waveform is wierd shaped being odd segmented chunks of offset bits of sinewave. It will be different for different output frequencies, and will have a complex spectrum, sometimes containing components right down to the increment frequency itself.

As Joanne points out, the PLL following the DDS will give the wanted output plus a variety of unwanted spectral components. The loop bandwidth sets how wide a band around the output frequency can contain quantisation components. The choice of PLL BW is a nasty compromise, you may want to have a wide-ish loop to help clean up phase noise from the PLL VCO, or to get fast frequency changeing, but this lets more quantisation stuff through. Getting a good DAC with more resolution, and expanding the look up table in both dimensions to suit will reduce the amplitude of the quantisation components. Note that many DACs don't work as well as you might think for the number of bits they have, in high speed applications, the glitches created on transitions can be a bigger limiting factor.

Some earlier posts suggested that quantisation components might be confused with phase noise. They are different, discrete spurs at various frequencies, and are quite repeatable and predictable, while phase noise is usually reserved to describe random noise components resembling phase modulation sidebands. DDS's usually give exellent phase noise performance, and loads of quantisation spurs!

I wrote a piece on the tradeoffs in multiloop and hybrid DDS/PLL synthesisers, and finished off with a detailed runthrough of the design and tradeoffs in the ICOM 765 synth, covering just these areas. If anyone's interested its at the end of chapter 14 in the 1995 ARRL handbook.

: DAC. Of course it seems it might be possible to
: seperately convert the lesser SBs as a "bias term" on the PLL output to correct
: for the jitters. Someone wanna analyze that one? (Hint - it's been done before.)

It has indeeed! There are a few reasonable approximations that make the analysis a manageable task, but certainly not fun and recreation. The sort of analogue precision and stability that could be achieved in the "correction" system meant that you still got sidebands formed by the fractional frequency becoming phase modulation about 70 or 80 dB down on the wanted carrier.

Frac-N loops were used on their own for applications that were not critical on cleanliness. For clean synthesisers, they were used to replace the lower significance loops of a classical multi-loop synthesiser, and their output was frequency divided before contributing to the output. Freq division reduces the amplitude of phase mod sidebands by around 20dB per decade of division, and so reduces the effect of frac-N sidebands on the final signal.

(All the people who once designed analogue-phase-correction frac-N synthesisers have switched over to DDS's or to "Noise-shaping" frac-N techniques, and are much happier, now...)

Cheers
David GM4ZNX

2853. Re: SPICE, MININEC, etc. etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <3teckt$dsj@detroit.freenet.org>
Source record: 112012

I would be interested in what recomendations you have for an
ecconomical version to run on my 386/387 w/8 Meg RAM?
--

2854. Polyphase Network Article in June QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: raymonda@Eng.Sun.COM
Message-ID: <3tegvo$fn2@engnews2.Eng.Sun.COM>
Source record: 112013

I just finished going over the interesting article by Tetsuo Yoshida (JA1KO) in the June 95 issue of QEX.

He states that by not using a constant value resistor for all the stages in the polyphase network, but rather scaling the values by a number arrived at from equation 12 in his article, that the the amplitude response of the network is vastly improved. (See fig 13 on the next to last page in his article.)

I just ran a series of spice simulations on the "4 column" network he describes. I was able to replicate his phase response plots, but haven't been able to get anywhere close to his claimed network attenuation plots. I was wondering if anyone else has looked at this, and has been able to replicate the response shown in fig. 13. When I run a simulation on the circuit using his suggested R's and C's, I get a rising freq. response (about 10 dB over the 40 to 20KHz range) as opposed to JA1KO's flat response. He says his results are a result of measurement, so perhaps we are not looking at the same phenomena. any comments appreciated.

Ray Anderson WB6TPU
raymonda@radium.eng.sun.com

2855. Re: AM Jammer plans neede

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.3345.546@acenet.com>
Source record: 112014

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

You wrote to nowhere@erehwon.net:

BN>yeah, yeah. how about buying him a set of headphones and just making a point
BN>about general noise (without getting into the content of the broadcast).

BN>he's got a right to listen to the broadcast. maybe you should buy some head
BN>phones and when the offending program comes on, cover your ears, turn up the
BN>favorite program running on your receiver and enjoy.

Bill, if he RUNS on his receiver, it might break!

 SLMR 2.1a If I had his voice I would sing just as well!

2856. Modifying AM radio for SW

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: ss6349@ux1.cso.uiuc.edu
Message-ID: <3tf4no$21m@vixen.cso.uiuc.edu>
Source record: 112015

I've heard that it's possible to modify a regular AM radio to receive shortwave transmissions. Anyone know more about this who can steer me toward references on how to do this. Thanks.

--
Steven H. Schimmrich schimmri@hercules.geology.uiuc.edu

Department of Geology, University of Illinois at Urbana-Champaign
245 Natural History Building, Urbana, IL 61801 (217) 244-1246

http://hercules.geology.uiuc.edu/~schimmri/

2857. Re: Low phase noise vco de

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3tf6s0$5jn@hpscit.sc.hp.com>
Source record: 112016

In article <804822189.AA02770@hamlink.mn.org>,
Bob Liesenfeld <Bob.Liesenfeld@f100.n282.z1.fidonet.org> wrote:

>Hi Rick,
> This touches on a long standing question regarding loaded tank Q for
>me. I get the part about the Z of the tank with a parallel load being
>approx = to the load and Q=R/X, thereby to get a higher Q, use a big cap
>and a small coil. However, an UNloaded tank is Q=X/R, R in this case
>being the RF losses the coil and to a lesser extent in the cap, thereby
>for high Q use a big coil and a small cap.
> Now take the high Q tank, ie, big coil, small cap and tap a load into
>it. (light coupling). The Q (now a loaded Q) goes down. To boost the Q
>up, would one use yet a larger coil, with a matching lower value cap,
>thereby raising the effective UNloaded Q of the tank, and in effect
>decreasing the effect of the loading? Or would one swtch to using a
>smaller coil and bigger cap in accordance with the Q=R/X formula above?
> Another way to put this question I suppose would be, at what degree of
>loading does one put aside the formula for an UNloaded tank, ie, Q=X/R,
>and use the loaded formula Q=R/X?
> Hope all this makes some sense!

Let's bottom line this. If you want high unloaded Q and also high loaded
Q, put 20 or 30 turns around a toroid and resonate it with a capacitor
or tuning diode to your desired frequency. Now use a 1, 2 or 3 turn
secondary winding on the toroid as your connection to the rest of the
oscillator. It's always worked like a charm for me.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2858. Re: Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DB9CF1.BK0@hpcvsnz.cv.hp.com>
Source record: 112017

Richard Karlquist (rkarlqu@scd.hp.com) wrote:

: With a high L, small C tank, you can use a low capacitance tuning diode

One problem with this, in the experience of some folk around here whom I've talked with about this subject, is that the tuning diode is likely going to be the lowest-Q part in the tank, and the highest-Q tuning diodes are of moderate, not very low, capacitance. You can put diodes in series, or to some extent tap them down on the coil, to keep a high Q.

Generally, however, I agree with what Rick has been posting on this thread. As a particular example of the "high L, low C, high Q" tank, consider the helical resonator. At least at VHF, they are acknowledged to be volumetrically very efficient at achieving high Q. There are a couple notes about the use of helical and coaxial resonators in Ulrich Rohde and Chao-Ren Chang, "Analysis and Optimization of Oscillators for Low Phase Noise and Low Power Consumption," _RF_Design_, March, 1995, pg 70-79.

73, K7ITM

2859. Re: MORSE DECODER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <3teoq1$11j@newsbf02.news.aol.com>
Source record: 112018

Do you have a PC? Decode with software! Try HAMCOM30.
PFZouave@aol.com
Pete Friedrichs
*** Common Sense Is Not That Common ***

2860. Re: AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: nowhere@erehwon.net
Message-ID: <3tcoaj$rh6@park.interport.net>
Source record: 112019

In article <3tbqnk$93a@cc.iu.net>, wnewkirk@iu.net (Bill Newkirk) wrote:
>In <3tbnt0$p4r@park.interport.net>, nowhere@erehwon.net (nobody) writes:
>>Howdy. I don't know anything about radio, but I need plans for a device
>>capable of jamming one particular AM frequency favored by the asshole below
>>me. If anyone can point me in the right direction (I've already looked
though
>>Phrack without success), please do.
>>
>>Note: I don't plan on fucking with anyone but my neighbor, so a very limited
>>range is fine.
>
>yeah, yeah. how about buying him a set of headphones and just making a point
>about general noise (without getting into the content of the broadcast).
>
>he's got a right to listen to the broadcast. maybe you should buy some head
>phones and when the offending program comes on, cover your ears, turn up the
>favorite program running on your receiver and enjoy.
>
>Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
>Melbourne, FL duty now for the future of amateur radio
>

Who said anything about the content of the broadcast??? I happen to like the station he's playing, just not the fact that it's coming though my windows and _floors_ at 110db!! And I already said that he's ignored by attempts at reason (most polite by the way...). That seems to leave me with only several alternatives:

1) Call the police. Not an option.
2) Move. Not an option.
3) Pay him a visit with a couple of my friends and a cattle prod. Not a serious option.
4) Find some other way to put an end to his outrageous conduct. A possibility.

In any case, just forget the whole question. I should have realized what the tenor and makeup of a group like this would be <me: ducks>. Seeing the response which included a censored version of my post says it all...

Have fun!

2861. Re: AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <3tcobb$5e@usenet.interramp.com>
Source record: 112020

nowhere@erehwon.net (nobody) wrote:
>Howdy. I don't know anything about radio, but I need plans for a device
>capable of jamming one particular AM frequency favored by the asshole below
>me. If anyone can point me in the right direction (I've already looked though
>Phrack without success), please do.
>
>Note: I don't plan on fucking with anyone but my neighbor, so a very limited
>range is fine.

Its illegal. Period. Not sure who the real a**hole is here ....

2862. Re: Radar Jammers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: werner@acsu.buffalo.edu
Message-ID: <3tcv12$9ld@azure.acsu.buffalo.edu>
Source record: 112021

mikkey (mikkey@azstarnet.com) wrote:
>Anyone seen these ads for radar jammers (DAEMARK for one)?
>Do these things work? Also can a spark gap transmitter effectively
>jam either local high frequency transmissions (like 800 mhz); reception?
>Just curious (for informational purposes only).
>Thanks, mikkey.

a EE friend of mine was thinking about taking the microwave part of a broken oven and installing it in his grill (shielding rearward of course!). He figures that if the police are using a few watts of power, his 1500W transmitter would effectivly jam the police's radar. (Informational Purposes only)

2863. SPICE, MININEC, etc. etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: rleblanc@onr.com
Message-ID: <3td05j$27o@Sierra.onr.com>
Source record: 112022

Anyone wishing to chat about these cad/analysis programs please post.
I use them both quite a bit (heavy on the spice program).

Russ

2864. Re: Radar Jammers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3tdgas$obn@nuclear.microserve.net>
Source record: 112023

In article <3tcv12$9ld@azure.acsu.buffalo.edu>,
werner@acsu.buffalo.edu (Erik Werner) wrote:
>a EE friend of mine was thinking about taking the microwave part of a
>broken oven and installing it in his grill (shielding rearward of
>course!). He figures that if the police are using a few watts of power,
>his 1500W transmitter would effectivly jam the police's radar.

Considering that microwave ovens operate at approximately 2.4 GHz (and I do mean approximately), operating the oscillator mobile will likely wipe out MMDS and ITFS television broadcast for quite some distance. Not likely to be something the system engineers (or the FCC) would ignore for long. FWIW, a pirate MMDS station (2.5 GHz) in Alabama or Georgia was fined six figures about two years ago. They were *not* causing interference.

73,

Jack WB3U

2865. Re: Radar Jammers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <3ter2j$4uh@ixnews6.ix.netcom.com>
Source record: 112024

In <3tdgas$obn@nuclear.microserve.net> jackl@pinetree.microserve.com (WB3U) writes:
>
>In article <3tcv12$9ld@azure.acsu.buffalo.edu>,
> werner@acsu.buffalo.edu (Erik Werner) wrote:
>>a EE friend of mine was thinking about taking the microwave part of a

>>broken oven and installing it in his grill (shielding rearward of
>>course!). He figures that if the police are using a few watts of power,
>>his 1500W transmitter would effectivly jam the police's radar.
>
>Considering that microwave ovens operate at approximately 2.4 GHz (and I do
>mean approximately), operating the oscillator mobile will likely wipe out
>MMDS and ITFS television broadcast for quite some distance. Not likely to
>be something the system engineers (or the FCC) would ignore for long.

>FWIW, a pirate MMDS station (2.5 GHz) in Alabama or Georgia was fined six
>figures about two years ago. They were *not* causing interference.
>
>73,
>
>Jack WB3U

You guys trying to jam radar are looking a brute force methods, of which none are healthy or effective.

Take some time to learn how radar works, Radio and Electronics a few years ago had an article on how to "Calibrate" a radar gun, not that anyone used it for calibration. "hint : modulate an audio signal on the microwave carrier to make the gun read what you want to calibrate it."

But now most of the guns have a signiture they send out, and only receive that signal, kind of like tone squelch, so the method above is rendered useless, otherwise I wouldn't have printed it.

BTW, I drive 40,000 miles a year, and have no radar detector or any other device, and have not had a ticket for over 5 years.
It really isn't that difficult, it is called effective time management.

Sparky KI5GY

2866. Re: Pulling Freq. in 100 MHz Quartz Crystal Osc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3tdh3s$obn@nuclear.microserve.net>
Source record: 112025

In article <95183.164128IFF161@DJUKFA11.BITNET>,
Bob Mueller <IFF161@DJUKFA11.BITNET> wrote:

>I need a pair of quartz crystal oscillators at about 100 Mhz with
>their frequencies spaced by about 20 kHz. Is there a fair chance of
>pulling one or both (in opposite directions!) so I can take two standard
>crystals and reach this spacing. As a percentage it is not very much but
>I worry. I assume the standard crystals are AT-cut running on the 5th
>overtone (most likely choice), but I have the impression overtone crystals
>are not very cooperative, one reason for sometimes running on an overtone
>at frequencies as low as 5 MHz.

A better choice is to use a fundamental-cut crystal and run the output
through a multiplier. Not only will the crystal pull more easily, its
shift will be multiplied through the chain. You might try an inexpensive
20 MHz microprocessor crystal for initial tests.

73,

Jack WB3U

2867. 150 MHz Low-Pass

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: jwhac4ca@mindspring.com
Message-ID: <jwhac4ca.7.0027659A@mindspring.com>
Source record: 112026

I'm looking for a low-pass filter with a 150 MHz or so cut-off. A notch filter for 150 to 170 MHz would do the job, too. I need to attenuate 158-159 MHz into a BC-210 scanner I converted to use for 137 MHz weather satellite reception. I'm tuning the scanner 21.6 MHz above the desired frequency after having adjusted the VCO voltage. I need to filter out local 158 MHz pagers and pulbic service stuff. A schematic would do, but would prefer to pick up something I could use.

Thanks. -John (AC4CA)

2868. Re: AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: mikelder@aol.com
Message-ID: <3tfjgq$94a@newsbf02.news.aol.com>
Source record: 112027

go to radio shack and get a little cheap book called the engineers mini-notebook for communications projects. in there you will find simple easy to follow directions for transmitters (jammers). I have built one for the fm band to use at work, cool. if you build one without a microphone the person will think that the station is off the air. if you power it with a wall transformer it will generate a loud hum (probably). but if you power it from a battery it will be pure silence. Or you can call The Temple O' the Screaming Electron bbs at
1 510 935 5845 and download the file called (badassja.zip) and it will give you some more info. for fm only. Contrary to popular belief sometimes a jammer is very useful. With an room full of 35 people or so (all with radios) one rude person can ruin everyone's day. Guess the station is off the air today,,,funny I heard it on the way to work. no one knows.

2869. Re: 150 MHz Low-Pass

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-05 00:00:00 UTC
From: zlau@mgate.arrl.org
Message-ID: <3tflki$ce9@mgate.arrl.org>
Source record: 112028

AC4CA John Hueckstead (jwhac4ca@mindspring.com) wrote:
: I'm looking for a low-pass filter with a 150 MHz or so cut-off. A notch
: filter for 150 to 170 MHz would do the job, too. I need to attenuate 158-159
: MHz into a BC-210 scanner I converted to use for 137 MHz weather satellite
: reception. I'm tuning the scanner 21.6 MHz above the desired frequency after
: having adjusted the VCO voltage. I need to filter out local 158 MHz pagers and
: pulbic service stuff. A schematic would do, but would prefer to pick up
: something I could use.

You probably won't find a low pass filter that is close enough to ideal
to really be useful. In other words, a low pass filter with low loss
at 137 MHz won't reject much of the pager signal, unless you use a
ridiculous number of parts. Consider a narrow bandpass filter. I assume
you put in a 30 or 40 kHz wide IF filter as part of your modification.
--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2870. Re: Radar Jammers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: gtm@fore.com
Message-ID: <3tfdl3$qn5@shell.fore.com>
Source record: 112029

werner@acsu.buffalo.edu (Erik Werner) wrote:

:a EE friend of mine was thinking about taking the microwave part of a broken
:oven and installing it in his grill (shielding rearward of course!). He
:figures that if the police are using a few watts of power, his 1500W trans-
:mitter would effectivly jam the police's radar. (Informational Purposes only)
:
I like this idea! You'd be able to cook your road kill *before* you hit it!

2871. Re: Temp Comp of osc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jul6.091632.50363@ucl.ac.uk>
Source record: 112030

> Oxley Developments here in the UK make a device called a Tempatrimmer
> for temp. compensation of oscillators. They are *very* expensive,
> apparently.

I did not see the original post, but assume someone wants to temperature compensate an oscillator. One way would be to build a small temperature controller to hold the temp steady. I've never tried it for VFO use, but are aware of a number of controllers suppossed to be able to hold a temp withing +/- 0.001 deg C. One for 37 deg C, was claimed to be able to get to about 5 or 6 decimal places of a degree C.

davek G8WRB.

2872. Re: Low phase noise vco de

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <3tgd8g$k6m@cismsun.univ-lyon1.fr>
Source record: 112031

Hi

Well, I like to know how you design your VCO. I mean, you seem to use a
tapped coil, whereas I planned to use a Clapp oscillator, with a capacitive
feedback.
What is the best choice ?

Afterthought : Do you mean I can still use a Clapp design,
yet, instead of coupling one end of the coil to ground and the other
to the base, I must tap the base connection ?
Like this :

To varicap ------+
)
(----> To base
)
(
GND

And, what is the less noisy : a BJT or a FET ?

Thanks and 73s.

Vincent
--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

2873. Re: Low phase noise VCO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <3tgdhj$k6m@cismsun.univ-lyon1.fr>
Source record: 112032

Tom Bruhns (tomb@lsid.hp.com) wrote:
: Chao-Ren Chang, "Analysis and Optimization of Oscillators for Low Phase
: Noise and Low Power Consumption," _RF_Design_, March, 1995, pg 70-79.

Is there anyway for me to find that article ?
I'm lost here in Milan and my job has nothing to do with radio.
Is it findable anywhere on the Internet ?

Thanks, Vincent

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

2874. Q: AsGa FETs in 2m RX pre-amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: koch@demos.su
Message-ID: <3th009$i6f@news.demos.su>
Source record: 112033

Hi All,

Could any kind soul from experienced gurus give
some opinions about using AsGa FETs in 2m or 70cm
narrowband RX pre-amps? Does it make sence to do this.
Or it's just a waste of time?
The end task is the improvment of repeater sensitivity.

Thanks in advance,
Pls e-mail.

73, Alex RX3ARW.

2875. Re: Expanding RS HTX-202 freq range

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: marc_k@escape.com
Message-ID: <3tgfgf$art@beyond.escape.com>
Source record: 112034

majosi@escape.com wrote:
: Is there a way for expanding RS HTX-202 freq range?

: Have any successful modifications been made other than freq range?

: Any info is appreciated.

: KB2RVT
: Andrew
: majosi@escape.com

Forget about expanding the frequency range on a HTX-202..it can't be done!
There is one fake mod file floating around..the sheer number of cuts and
jumps make the bogus nature of the mod obvious.

2876. Re: Preamp T/R Switch?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: n7tcf@primenet.com
Message-ID: <3tgo5k$3l6@panic.primenet.com>
Source record: 112035

I>I want to do the same thing, but on 144 and 440 Mhz.
>Anybody with a spare antenna relay (or info on how to maybe construct such a device)
>that will handle high power (400 Watts minimum) on these bands (i.e. N-Connectors),
>please reply to this post.
>
>Thanks.
>
>Keith Laaks
>ZS6TW
>Pretoria, South Africa
The VHF/UHF Handbook from RSGB has some drawings to build a coax relay.
It looks like a machine shop or well-equipped home shop is needed.
I scrounge the swapmeets for coax relays and buy all that look good. South
Africa may not have the surplus market we do...
If I strike the motherlode of Dow-Key at the next hamfest I'll mail you.

Jim

2877. Looking for a data sheet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: juergen@mccoy
Message-ID: <3tgrhv$5e6@sulu.prodata.de>
Source record: 112036

Hi!

I'm looking for a data sheet for an LCD display:

SHARP LM 40001G N0016CH
162 0001

All this numbers I found on the display. If you know something about
it, please mail direct!

Thanks in advance!

73 de Juergen (DG7SFC)

--

Juergen Mueller Internet-Connectivity LAN-Konzeptionen
PRODATA Ing.-Buero GmbH fuer Ulm, Neu-Ulm, WAN-Anbindung
Bleichstr. 26, 89077 Ulm Laupheim, Biberach, Firewall-Loesungen
Tel. 0731/96723-0 F:-33 Heidenheim und Aalen Schulungen

2878. Re: 2m SSB kit or plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: zlau@mgate.arrl.org
Message-ID: <3tgtgd$lh1@mgate.arrl.org>
Source record: 112037

Russ KI7FL
RUSSELL B. ROSLEWSKI (ROSLEWSKIRB96%CS26@cadetmail.usafa.af.mil) wrote:
: Does anyone sell a simple 2m SSB kit, or sell plans to make my own? I would
: like to get started on 2m SSB, and this seems like it may be the cheapest
: way. All I need is a REAL basic rig.

You might consider looking at the one in the January/April/May 1993 QST
by Rick Campbell. An MAV-11 MMIC and a M57732 power module will boost
the few milliwatts to 5 watts or so. Boards and kits (but not for the
oscillator and RF amps/preamps) are available from

Kanga Kits n8et@delphi.com

I know the editors of QST would be interested in
an easily duplicatable companion 1-500 MHz oscillator
and 5 watt amplifier good enough for SSB use...

--
Zack Lau KH6CP/1 2 way QRP WAS
8 States on 10 GHz
Internet: zlau@arrl.org 10 grids on 2304 MHz

2879. Re: Modem --> Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: sdag <sdag@adg.dasgdsg>
Message-ID: <3th8cs$rsn@hearst.cac.psu.edu>
Source record: 112038

hartzeld@cc.sdstate.edu (Dave Hartzell) wrote:
>Does anyone have any plans or know-how to convert an old telephone modem
>into a packet unit? I have several old telephone modems (1200-2400bps)
>that might work.
>
>It seems to me that a surplus electronics company offered such a deal a
>while back, but wanted a few bucks for something really cheap.
>
>What software would I run? Baycom?
>
>Please let me know if you have any such plans or where I might be able to
>find them via the Internet.
>
>Thank You very much.
>
>PS Are there any Ham WWW sites?
>

Hi Dave,

Don't know too much about your quest, but I believe you need a Bell 202
or compatible modem. I think this is a 1200 baud FSK modem, and I
believe this is what the baycom people are doing with their kit, namely
using an AMD 7910 "world modem" chip configured to be a Bell 202
compatible. However, there may be more to it than this. A friend has
the baycom kit from A&A Engineering, and the modem pinout for the serial
connector seemed different than what you would see on a regular IBM pc
serial port. Hope this helps.

73

Doug, KA3TTQ

2880. Fox-Tango Still in Business??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: geoffs@onr.com
Message-ID: <3th8d0$rgd@Sierra.onr.com>
Source record: 112039

I've been searching for some ICOM XTAL filters for an R70 to no avail (ICOM just wants way too much for theirs!)

Someone told me that Fox-Tango, one of the few companies building after-market XTAL filters for various rigs, had been bought out. I obtained the name of the following company who was supposed to own Fox-Tango:

International Radio & Computer Inc.
3804 South U.S. 1, Fort Pierce, FL.34982,
phone: 407-489-5609

Their phone has been disconnected. Help! Any other sources of filters like FL-44's and FL-32's??

geoff NQ7A geoffs@onr.com

2881. Re: AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: peter@lsis.st.3com.com
Message-ID: <3739@bridge2.NSD.3Com.COM>
Source record: 112040

A hairdryer used to work wonders when my wife used it.

--
--

Peter Simpson, KA1AXY Linux! Peter_Simpson@3mail.3com.com
3Com Corporation The free Unix (508) 836-1719 voice
Northborough, MA 01532 for the 386 (508) 393-6934 fax

2882. Can't zero meter movement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <3thfqo$b0g@ixnews7.ix.netcom.com>
Source record: 112041

Hi, all,

I found a 500uA meter movement that I'd like to use, but I can't zero the pointer (it sits on the peg no matter what I do with the centering screw). The meter works, the pointer doesn't seem to be bent, and the centering adjustment works (about 10% range) if I pass some current through the meter to get the pointer off the peg. Any suggestions on fixing this thing? I'd probably just try to bend the spiral spring a touch more to add some tension, but I thought I'd give everyone a chance to tell me if that's a stupid approach. Thanks.

Mike, KK6GM

2883. Re: Modem --> Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: jkesling@shell.portal.com
Message-ID: <3thh8f$il3@news1.shell>
Source record: 112042

Dave Hartzell (hartzeld@cc.sdstate.edu) wrote:
>Does anyone have any plans or know-how to convert an old telephone modem
>into a packet unit? I have several old telephone modems (1200-2400bps)
>that might work.

>What software would I run? Baycom?

>Please let me know if you have any such plans or where I might be able to
>find them via the Internet.

There was an article in 73, CQ or QST recently about converting the
older 1200 baud modems for use with packet. I think it's been in the
last six months or so. I still have it here someplace, I'll try to dig
up the magazine and be more specific.

As far as I can remember the mods were simple and in most cases could
be accomplished external to the modem. Had something to do with P.T.T.
if I remember correctly.

Sorry, I don't remember the software they used. But I think it was
Baycom.

73 - John
--

John Kesling - jkesling@eng.utoledo.edu or jkesling@shell.portal.com
---
WA8ZGO - via AX.25 packet radio WA8ZGO@W8HHF.OH.USA

2884. Modem --> Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: hartzeld@cc.sdstate.edu
Message-ID: <3tgnuu$hhe@ganesh.sdstate.edu>
Source record: 112043

Does anyone have any plans or know-how to convert an old telephone modem into a packet unit? I have several old telephone modems (1200-2400bps) that might work.

It seems to me that a surplus electronics company offered such a deal a while back, but wanted a few bucks for something really cheap.

What software would I run? Baycom?

Please let me know if you have any such plans or where I might be able to find them via the Internet.

Thank You very much.

PS Are there any Ham WWW sites?

2885. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: marvin@rain.org
Message-ID: <3tgv0v$1hr@news.rain.org>
Source record: 112044
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

: > I want to erase EPROMs at home. I could spend $40 on an eraser
: > but I am looking for a cheap way out.

In my checking out garage sales, I found a small UV lamp that appears to have been used for looking at rocks complete with ballast and ready to operate. Total cost was about $3 and it takes about 5 minutes to erase the EPROMs.

2886. Re: TNC PLANS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: sdag <sdag@adg.dasgdsg>
Message-ID: <3th7fi$rsn@hearst.cac.psu.edu>
Source record: 112045

The Baycom modem kit is available from A&A Engineering for about $60. Comes with pc board, parts, and software, but no enclosure. (about $12 extra, if I remember.) A friend of mine has one, which he has used for about 2 years now. It doesn't have any fancy features, such as a local mailbox, but it works OK. Ramsey's modem seems like the Baycom, but is not in kit form, it is in a serial adapter case that plugs right on to the back of your computer serial port. Note that these are only modems, the software makes your pc do all the other TNC stuff. A$A's address is 2521 W. LaPalma, Unit K, Anaheim, CA 92801 ph:714 952-2114.

73,

Doug, KA3TTQ

>On 4 Jul 1995, Kevin Hurley wrote:
>
>> I was wondering if anyone had plans to build a terminal node
>> controller that would work on an IBM 8086 XT. And if so were i could
>> possibly get the soft were to run it. I have heard that BayComm and
>> Ramsey have somthing like this.
>>
>> Thanks
>>
>>
>>
>> -
>> KEVIN HURLEY LLBH80B@prodigy.com
>>
>>
>>
>>

2887. Re: TNC PLANS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: sdag <sdag@adg.dasgdsg>
Message-ID: <3th7hg$rsn@hearst.cac.psu.edu>
Source record: 112046

The Baycom modem kit is available from A&A Engineering for about $60. Comes with pc board, parts, and software, but no enclosure. (about $12 extra, if I remember.) A friend of mine has one, which he has used for about 2 years now. It doesn't have any fancy features, such as a local mailbox, but it works OK. Ramsey's modem seems like the Baycom, but is not in kit form, it is in a serial adapter case that plugs right on to the back of your computer serial port. Note that these are only modems, the software makes your pc do all the other TNC stuff. A$A's address is 2521 W. LaPalma, Unit K, Anaheim, CA 92801 ph:714 952-2114.

73,

Doug, KA3TTQ

>On 4 Jul 1995, Kevin Hurley wrote:
>
>> I was wondering if anyone had plans to build a terminal node
>> controller that would work on an IBM 8086 XT. And if so were i could
>> possibly get the soft were to run it. I have heard that BayComm and
>> Ramsey have somthing like this.
>>
>> Thanks
>>
>>
>>
>> -
>> KEVIN HURLEY LLBH80B@prodigy.com
>>
>>
>>
>>

2888. I Need a Ceramic Filter from Murata

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: geoffs@onr.com
Message-ID: <3thr85$6sg@Sierra.onr.com>
Source record: 112047

I'm slowly starting to piece together enough information to upgrade the ICOM R70 I bought recently. Thanks to everyone who's answered my inquiries about filters, etc. thus far.

I'm looking for a Murata CFS455I or CFK455I ceramic filter to replace the cheapie that ICOM stuck in the R70 as original equipment. I had a Murata catalog many years ago but I've heard that they pulled out of the US market and are now hard to get.

Some repair shops have them but they're quoting prices that are just way out of proportion to their value. I believe that the real value of these filters is around $10 a copy, OEM price.

Anybody got one in a "collection" that you'd want to part with or know if Murata-Erie still stocks these filters domestically? Are there any substitutes?

Thanks in advance.

Geoff NQ7A

2889. Circuit design/sim software?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: scott@seas.smu.edu
Message-ID: <3thbi8$nmi@giant.seas.smu.edu>
Source record: 112048

Would someone please e-mail me a list of freeware/shareware
programs to do circuit design/simulation of radio circuits?
My e-mail address is carp@gpspc_rsc.comsys.rockwell.com.

My preferred platforms are Linux or Macintosh, but DOS/Windows is
tolerable. Thanks.

2890. 2m SSB kit or plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: ROSLEWSKIRB96%CS26@cadetmail.usafa.af.mil
Message-ID: <ROSLEWSKIRB96%CS26.216@cadetmail.usafa.af.mil>
Source record: 112049

Does anyone sell a simple 2m SSB kit, or sell plans to make my own? I would like to get started on 2m SSB, and this seems like it may be the cheapest way. All I need is a REAL basic rig.

Thanks,
Russ KI7FL

---
roslewskirb96@cs26@usafa.af.mil Russ Roslewski __|__
PP-ASEL (AOPA #01215297) KI7FL CAP _______(*)_______
"Pick me up so high...where eagles fly!" - Sammy Hagar o/ \o

2891. Re: AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: drenze@icaen.uiowa.edu
Message-ID: <3tfq03$eg9@server05.icaen.uiowa.edu>
Source record: 112050

nowhere@erehwon.net (nobody) writes:

>Who said anything about the content of the broadcast??? I happen to like the
>station he's playing, just not the fact that it's coming though my windows and
>_floors_ at 110db!! And I already said that he's ignored by attempts at reason
>(most polite by the way...). That seems to leave me with only several
>alternatives:

> 1) Call the police. Not an option.
> 2) Move. Not an option.
> 3) Pay him a visit with a couple of my friends and a cattle prod. Not a
>serious option.
> 4) Find some other way to put an end to his outrageous conduct. A
>possibility.

5) Call your mutual landlord.
6) Break into his apartment with a baseball bat and smash his stereo.

>In any case, just forget the whole question. I should have realized what the
>tenor and makeup of a group like this would be <me: ducks>. Seeing the
>response which included a censored version of my post says it all...

Yup. Considering that most of us would take out the time to search out
a jamming signal, you've got the general idea.
--
Doug Renze, N0YVW * drenze@isca.uiowa.edu * N0YVW @ W0IUQ.ia.usa.na
DRenze@aol.com

Hitchhiking the Infobahn.

2892. Re: Modifying AM radio for SW

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: Jim Potter <jpawi@roadrunner.com>
Message-ID: <3tftnm$ggr@tierra.santafe.edu>
Source record: 112051

It is possible, but I'd recommend you get a radio that is already set up for short wave. If you are not good at electronics the results of such a conversion will likely not be very good
and if you're really good at electronics the results won't be worth the effort.

--
==========

James M. Potter, President Internet: jpawi@roadrunner.com
JP Accelerator Works, Inc. AOL: jpawi@aol.com
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

2893. Re: Preamp T/R Switch?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: "Keith Laaks (ZS6TW)" <laakswk@telkom04.telkom.co.za>
Message-ID: <3tg25o$hj9@grovel.iafrica.com>
Source record: 112052

mbrinkho@falcon.inetnebr.com (Matt C. Brinkhoff) wrote:
>
> Does anyone have a schematic/know where I get get one for a small T/R switch
> so I can have my preamp switched out of line when I xmit? It needs to
> switch around 100 watts on 10 Meters.
>
I want to do the same thing, but on 144 and 440 Mhz.
Anybody with a spare antenna relay (or info on how to maybe construct such a device)
that will handle high power (400 Watts minimum) on these bands (i.e. N-Connectors),
please reply to this post.

Thanks.

Keith Laaks
ZS6TW
Pretoria, South Africa

2894. Re: AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: a229aa@email.sps.mot.com
Message-ID: <a229aa-060795093331@hofbrau.sps.mot.com>
Source record: 112053

In article <DB7ELG.KCI@news.hawaii.edu>, jeffrey@math.hawaii.edu wrote:

> >Note: I don't plan on f****** with anyone but my neighbor, so a very limited
> Jeff

It's so nice of you to protect us from naughty words, Jeff...

--
Chris Terwilliger, AA7WD
zoom@willow.sps.mot.com
602-413-5362 (W)
602-820-2584 (H)

2895. Sniffer Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-06 00:00:00 UTC
From: bruce@sauron.martin.com.au
Message-ID: <3tft3v$a1h@sleipnir.iaccess.com.au>
Source record: 112054

We have available now a superb super-sniffer kit based around the MC3362 dual conversion receiver chip and the an HC05 family microprocessor.

I won't post full details here unless requested. The cost seems fairly high for a kit....but there's a lot to it and everything including the box and battery are provided. The kit is available for A$226 which is around US$170 ish.

For more details email me at
bruce@martin.com.au

--
/\ /\ /\ / / EMAIL: bruce@martin.com.au
/ \/ \/ \/ / MARTIN COMMUNICATIONS OR: merry!bruce@hparc0.aus.hp.com
/ /\ /\ /\ / Bruce Paterson
/ / \/ \/ \/ Electronics Design Engineer Callsign: VK3TJN

--

2896. Re: I Need a Ceramic Filter from Murata

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <3ti5us$cd@usenet.interramp.com>
Source record: 112055

geoffs@onr.com wrote:
>

>I'm looking for a Murata CFS455I or CFK455I ceramic filter to replace the
>cheapie that ICOM stuck in the R70 as original equipment. I had a Murata
>catalog many years ago but I've heard that they pulled out of the US market
>and are now hard to get.
>

Assuming they still sell the things, you can get a very good crystal
filter (455KHz) for the R-70 from International Radio and Computers.

Don't have they're number handy, but you can get it from Information
by calling Port St. Lucie, FL (ac 407 I think).

They had these filters in both 2.1 and 2.4 KHz bandwidth (1.6 shape
factor). Might be a "wire-in", but ought to work quite a bit better
than a ceramic.

Grant/NQ5T

2897. Re: Can't zero meter movement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3tiaac$7mi@parsifal.nando.net>
Source record: 112056

mjsilva@ix.netcom.com (michael silva) wrote:
>
> Hi, all,
>
> I found a 500uA meter movement that I'd like to use, but I can't zero
> the pointer (it sits on the peg no matter what I do with the centering
> screw). The meter works, the pointer doesn't seem to be bent, and the
> centering adjustment works (about 10% range) if I pass some current
> through the meter to get the pointer off the peg. Any suggestions on
> fixing this thing? I'd probably just try to bend the spiral spring a
> touch more to add some tension, but I thought I'd give everyone a
> chance to tell me if that's a stupid approach. Thanks.
>
> Mike, KK6GM
>
Look for a second zeroing adjustment mechanism on the other side of
the coil (inside the meter case). It may not look exactly like the
zero adjust on the front side, but it will be cconnected to the end
of the coil spring on that end of the coil. Adjust this one to
zero the meter with the front adjust set to its mid-point.

Unless the spiral spring is obviously bent, I wouldn't touch it -
bending it may cause the meter to become non-linear.

73,
Don W3FPR

2898. Re: I Need a Ceramic Filter from Murata

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3tifue$dto@dump.primenet.com>
Source record: 112057

geoffs@onr.com wrote:

>: I'm looking for a Murata CFS455I or CFK455I ceramic filter to replace the
>: cheapie that ICOM stuck in the R70 as original equipment. I had a Murata
>: catalog many years ago but I've heard that they pulled out of the US
>: market and are now hard to get.

>: Some repair shops have them but they're quoting prices that are just way
>: out of proportion to their value. I believe that the real value of these
>: filters is around $10 a copy, OEM price.

Geoff,
I hate to tell you this, but the Murata filters that you're asking
about are quite expensive. The last time that I priced a CFS455_, the
price was in the vicinity of $45 for quantities of less than 10. These
filters have 9 elements or thereabouts, and the "I" model is 4 KHz wide
at the -6 dB points. And the CFK455_ is a 7-element filter, if I'm not
mistaken.
Murata is still very much alive and well in Smyrna, Georgia. You
cal call them at (404) 436-1300. You might be able to purchase one from
them direct, but they will charge you the full retail price plus shipping.
Even at $45, these are a lot cheaper than crystal filters, which
can cost over $100. But they have the advantage of flatter passband rip-
ple and steeper skirt selectivity.

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------oo0~(_)~Ooo----------

2899. Looking for 10.245MHz Crystal in Australia

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: ian.mitchell@research.utas.edu.au
Message-ID: <3til9g$q1e@franklin.cc.utas.edu.au>
Source record: 112058

Could anyone help me with locating a source of these
crystals in Australia? I thought they would be easy to
find since they produce a difference frequency of 455KHz
for 10.7MHz! Oh well...

Thanks

Ian

2900. Double-matching problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <3tj9h6$8a1@cismsun.univ-lyon1.fr>
Source record: 112059

Hi
I've got another question.

I have to design the first RF stages of my RXver. For that purpose,
I'd like to use the XXXX (a transistor whose name I can't remember).
I'd like to use it with a source Z of 50 ohms, and a load Z of 50
ohms also, since this scheme does insure stability and low-noise.
But, although I encounter no problem for the first device, how
can I design a network that would transform the Zin of the second
stageinto a collector load of 50 ohms, and at the same time
transform the first stage output Z into 50 ohms .
That is to say a network which, when loaded by the Zout of the
first transistor would transform it into the 50 ohms needed by the
input stage of the second, while at the same time transforming
the Zin of the second stage into the 50 ohms needed by the first stage ?

Thanks,
Vince

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

2901. Re: I Need a Ceramic Filter from Murata

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: Chuck KD9JQ <reichert>
Message-ID: <3tjdua$kvo@newdelph.cig.mot.com>
Source record: 112060

geoffs@onr.com wrote:
>
>I'm slowly starting to piece together enough information to upgrade the
>ICOM R70 I bought recently. Thanks to everyone who's answered my inquiries
>about filters, etc. thus far.
>
>I'm looking for a Murata CFS455I or CFK455I ceramic filter to replace the
>cheapie that ICOM stuck in the R70 as original equipment. I had a Murata
>catalog many years ago but I've heard that they pulled out of the US market
>and are now hard to get.
>
>Some repair shops have them but they're quoting prices that are just way
>out of proportion to their value. I believe that the real value of these
>filters is around $10 a copy, OEM price.
>
>Anybody got one in a "collection" that you'd want to part with or know if
>Murata-Erie still stocks these filters domestically? Are there any
>substitutes?
>
>Thanks in advance.
>
>Geoff NQ7A
>

I believe I still have some Murata 455khz IF, 10khz BW ceramic filters.
Zin, Zout ~ 1000 ohms.

These are small black plastic cases with thre leads for PC Board mounting.

If these sound like what you are looking for contact by E-Mail.

Chuck
--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

2902. Re: Q: AsGa FETs in 2m RX pre-amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: Chuck KD9JQ <reichert>
Message-ID: <3tjeh5$kvo@newdelph.cig.mot.com>
Source record: 112061

I have designed and used a number of 10,6,2 Meter Dual Gate GaAsFET preamps
with excellent results. With inexpensive devices got 24dB of Gain with
6dB Noise Figure and +13dBm compression point. These will also work on 70cm
just fine.

If you like building your own I have put out a FreeWare (yes free!) for Hams.
Used to sell it commercially but don't have the time for the side business.
You can download it from any Simtel site. You can try the oak.oakland.edu
(ftp)
or www.acs.oakland.edu/oak/oak.html under the msdos/hamradio directory. File
name is KD9JQ_95.ZIP and contains the preamp program ASP 4.0 as well as a
Triode Tube GG Amp program (TAP 2.0) and 4 utilities.

73 Chuck

\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==========

2903. Re: Fox-Tango Still in Business??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: affrunti@orion.oac.uci.edu
Message-ID: <affrunti.805127237@orion.oac.uci.edu>
Source record: 112062

The number I use for IRCI is 407-489-0956. The address you posted matches what I have. They answered the phone as recently as 7/5/95.

Bob, AA9MI

2904. Aviation Headset to Ham Radio Conversioin

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: n8tjg@aol.com
Message-ID: <3tjgmq$nd2@newsbf02.news.aol.com>
Source record: 112063

Hi all --
Having a nice David Clark headset (the H20-10) used much too infrequently for aviation purposes, I've been pondering the idea of making a "black box" for hooking them up to my ham radio equipment.

Specifically, I've got Yaesu FT-415 and 416 HTs, a FT-2400 mobile, and an FT-890 HF rig, each of which has a different mic connector, but that is a problem I can solve.

My question is impedance matching and supplying between 8 and 16 volts to the elcectret mic of the headset. The headset earphones are 150 ohm impedance (two 300 ohm wired in parallel), while the radios go with 8 ohms. What sort of coil should I wind to convert the low power audio output, or should I even be concerned???

Second, the microphone impedence is 2,000 ohms on the radios, and the headset is speced as "DC Supply Voltage and Source Resistence: 8 - 16 Volts, 220 - 2,200 Ohms, not polarity sensitive" The headset has separate mic and headphone plugs. So how do I get the voltage to the mic (just stick 12 volts on the plug??), and do I need to reduce the output of the mic before feeding it to the radio, which uses a 2,000 ohm condenser mic??

I know this is asking a lot, but any help will be appreciated. Kindly respond here or by E-mail to N8TJG@aol.com. Thanks -- Alan Williams, N8TJG
Alan Williams
N8TJG@AOL.COM

2905. Eggbeater Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: dsantoro@pipeline.com
Message-ID: <3tjf8d$gdm@news.nyc.pipeline.com>
Source record: 112064

Hi All

I recieved plans on building an Eggbeater Antenna which called for a phasing section of oddball coax. Couldn't I simply Move one of the loops 1/4 wavelength up the mast to get the same effect?

Please pardon my ignorance!

73
Dave N2VYP

2906. Re: Q: AsGa FETs in 2m RX pre-amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3tjlq0$19ra@info4.rus.uni-stuttgart.de>
Source record: 112065

>With inexpensive devices got 24dB of Gain with
>6dB Noise Figure and +13dBm compression point. These will also work on 70cm
^^^
It can't be real, it has to be a typo! (or a noise source?)

>just fine.

73, Moritz DL5UH

2907. Re: Radar Jammers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: paulz@sc.hp.com
Message-ID: <3tk73l$ogm@hpscit.sc.hp.com>
Source record: 112066

Erik Werner (werner@acsu.buffalo.edu) wrote:
: mikkey (mikkey@azstarnet.com) wrote:
: >Anyone seen these ads for radar jammers (DAEMARK for one)?
: >Do these things work? Also can a spark gap transmitter effectively
: >jam either local high frequency transmissions (like 800 mhz); reception?
: >Just curious (for informational purposes only).
: >Thanks, mikkey.

: a EE friend of mine was thinking about taking the microwave part of a broken
: oven and installing it in his grill (shielding rearward of course!). He
: figures that if the police are using a few watts of power, his 1500W trans-
: mitter would effectivly jam the police's radar. (Informational Purposes only)

In addition to being on the wrong frequency, as pointed out by several others,
the thing that breaks probably is in the microwave chain.

I spent quite a bit of time trying to repair a microwave oven that
just quit one day. My first diagnosis was the DC rectifiers were bad.
A replacement cost $40 and had to be ordered. It only lasted a few days.
Turns out that the penny-pinching design causes this to be expected.
When the magnetron ages, it draws less current. The power supply peak output
voltage will go way up under no load. To something like 8KV. This in
turn does in the rectifiers.

My suggestion is to not be the fastest car on the road. Let someone else
trip the radar while you continue on. :-)

2908. Re: I Need a Ceramic Filter from Murata

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-07 00:00:00 UTC
From: Art Greenberg <agreenberg@sarnoff.com>
Message-ID: <DBD3M7.Hn2@nova.sarnoff.com>
Source record: 112067

ctrask@primenet.com (Christopher Trask) wrote:
> Murata is still very much alive and well in Smyrna, Georgia. You
> cal call them at (404) 436-1300. You might be able to purchase one
> from them direct, but they will charge you the full retail price plus

A few years ago I spec'ed a Murata ceramic filter for a design I was doing as a freelance engineer. It turned out to be one of the biggest mistakes I ever made. I needed four pieces for my prototypes. Murata would only sell through distributors, and NO distributor I talked to stocked the parts, which meant that I would have to order a jillion of them in order for it to be worth their while. I finally got samples from Murata by begging them once a day for five or six days running.

Art Greenberg / WA2LLN

2909. Re: 2m SSB kit or plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDBEM7w.59u@netcom.com>
Source record: 111922

zlau@mgate.arrl.org (Zack Lau) writes:

>Russ KI7FL
>RUSSELL B. ROSLEWSKI (ROSLEWSKIRB96%CS26@cadetmail.usafa.af.mil) wrote:
>: Does anyone sell a simple 2m SSB kit, or sell plans to make my own? I would

>You might consider looking at the one in the January/April/May 1993 QST
>by Rick Campbell. An MAV-11 MMIC and a M57732 power module will boost
>the few milliwatts to 5 watts or so. Boards and kits (but not for the
>oscillator and RF amps/preamps) are available from

>Kanga Kits n8et@delphi.com

Nice suggestion... I use the R2 on HF, with the T2 waiting to be hooked up...

*** However, the NEW ADDRESS is kanga@bright.net ***

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di dah, di dah, di dah...
: Minneapolis / (sorry, Duke!)

2910. Re: Comm. Concepts Amp Kit Experience?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDBEMow.5v5@netcom.com>
Source record: 111923

msadams@netcom.com (Michael Adams) writes:

>Communication Concepts sells some HF broadband solid state amplifier kits
>all the way to 1000 watts. They are based on Motorola application notes.
>Does anyone have experience with these kits? I would be interested in
>hearing about performance, reliability, and what parts were used to
>complete them for filtering and power supply.

>Michael Adams
>KE6BOO

I have the 140 watt amp kit waiting to be built... looks good, no shoddy parts, good PC board.... that's all I can say for now... those designs are pretty solid, so should be few problems.

Got their giant hunk of heat sink, which I will cut down to about 3/4 size... they have schematics and parts values included for 5 element lowpass filters -- 3 L's and 2 C's, wound on T106 cores. I imagine the usual filters with 2 L's and 3 C's would work as well (ARRL Handbook), and take up less space.

Any good power supply should be fine, though you never know if more filtering of the supply lead could help until you fire it up :-). You'll also need a TR switch... I'm looking at PIN diode setups, and of course switching the bias supply off on receive will keep things cool. No need to switch the whole DC supply off; with the bias removed, it's in Class C and has much lower gain, so it should stay pretty dead (as have lower-power amplifiers I have built.).

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di dah, di dah, di dah..
: Minneapolis / (sorry, Duke!)

2911. For Sale: "Radio Amateur's Handbook (1959)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: ghg3@aol.com
Message-ID: <3tmjn3$ijb@newsbf02.news.aol.com>
Source record: 111924

"The Radio Amateur's Handbook"
By The Headquarters Staff
Of the American Radio Relay League
Illustrated
Condition: Intact. Front cover: poor, wear at spine, right bottom corner torn off
Softcover, 584 pages, plus Section 25, Vacuum Tubes and Semiconductors, 106pp
36th Edition, 1959
$9.50 ppd

Please contact me if you are interested in this book, or have any questions.

George Gifford
ANCESTRY CONNECTION

ac023@osfn.rhilinet.gov (preferred)
ghg3@aol.com (alternate)

36 Alton Avenue
Cumberland, RI 02864

2912. Wanted: MRF-652 Transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: JNND84A@prodigy.com
Message-ID: <3tmpbn$fuc@usenetp1.news.prodigy.com>
Source record: 111925

I am looking for a quantity of MRF-652 RF transistors. Please reply via email.

Thanks,

Dave Frey
jnnd84a

2913. Sources for beginner homebrew kits wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: "kilgo002@gold.tc.umn.edu" <kilgo002@gold.tc.umn.edu>
Message-ID: <69594.kilgo002@gold.tc.umn.edu>
Source record: 111926

I don't have any experience building electronic kits, but find the stuff facinating. I can build a PC, but that's a bit more basic than what I'd like to learn. A year ago I bought an old Heathkit SB-200 amp that works great for me. I know that Heathkit stopped producing Amateur Radio equipment kits, but is there any other place that has taken over the market? Is there any company that has a catalog of amateur radio related kits that are "skill rated" for difficulty? I'm really interested in learning how to build this stuff, but have no idea where to start. Any pointers to help me get started would be appreciated. Thanks in advance!

Marc Kilgore - VP Information Systems kilgo002@gold.tc.umn.edu
City & County Employees Credit Union marc3623@aol.com
144 11th Street East Amateur Radio: N0XIC
St. Paul, MN 55101

http:\\www.delivery.com\ccecu\kilgore\kilgore.htm

2914. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: fapeters@interramp.com
Message-ID: <3tmuki$hp9@usenet.interramp.com>
Source record: 111927
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

In article <3t8lgd$l20@buffnet2.buffnet.net>, krieder@buffnet.net says...
>
>Bruce Schurmann (bruces@bga.com) wrote:
>: I want to erase EPROMs at home. I could spend $40 on an eraser
>: but I am looking for a cheap way out.
>: EPROMs typically need UV at 2537 angstroms with an integrated
>: dose of 40W/cm**2. Is there a consumer type of product (read cheap)
>: that is capable of this? I have seen UV(?) lamps for plants, will
>: this do it? How about sunlight? I don't really care if it takes a
>: day to erase the thing.
>
>Bruce... the UV light energy needed for erasing EPROMs exactly matches
>one of the strongest emision lines of the mercury vapor spectra. The
>erasing devices available on the market use mercury vapor lamps for
>that reason.
>
>Some years back I found that mercury vapor germacidal lamps also work
>very well. The ones I have were made by GE and Sylvania (discontinued),
>are about the size of auto turn signal/tail light bulbs and will work
>just fine on 115 VAC with a 40 W light bulb in series. I had to hunt
>for these and when I finally found some... bought all the store had.
>As it turned out... the first one is still going strong and the spares
>were never needed. The plant GROW-LIGHTS won't work any better than
>ordinary flourecent lights... they just drop a bit here and there.
>Sunlight could work... think in terms of days... weather permitting.
>
>I can erase up to five EPROMs in one 15 minute cycle by putting a square
>cardboard sleeve over the bulb (one hole on each face) holding them on
>with a rubber band, the last one goes on top. You need to be aware that
>the UV light can zap your eyes (actually it's like getting a sunburn on
>the inside of the eyeball). I flip the switch and walk out of the room
>never looking directly at the bulb.
>
>Since I have never needed all the spares... would be happy to let them
>go for a reasonable sum. Far, far less than you would pay for a ready
>made unit. If you or anyone else is interested, email.
>
>Kurt n2tte krieder@buffnet.net
>
>
The germ bulbs from old Maytag dryers work great, if you can find
them (appliance parts store) are about $6. You MUST put a 40W bulb
in series with them. Kurt I would pay $10 for one.

Fred

2915. Re: SPICE, MININEC, etc. etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: rleblanc@onr.com
Message-ID: <3tn3kd$133@Sierra.onr.com>
Source record: 111928

In article <3teckt$dsj@detroit.freenet.org>, rburgan@detroit.freenet.org (Roland B. Burgan) says:
>
>
>I would be interested in what recomendations you have for an
>ecconomical version to run on my 386/387 w/8 Meg RAM?
>--

Affordable versions which take advantage of 32-bit operation (386 and new) are:

Intusoft IS-SPICE/386 was $386 years ago; postprocessor (waveform viewer) extra $$
Penzar Development TopSPICE
RCG Research RCG SPICE (cheapest, around $60)

The middle choice sells for a few hundred and also includes digital simulation, while the others are straight 2G6 ports (can do digital in a slow, roundabout fashion).

I believe Microsim (Pspice) and Intusoft both offer "scaled down" versions of their professional grade programs in the sub-thousand price range.

There may be others, but I haven't used them so can't comment on them.

If you really want to go cheap, there are shareware versions on the net that have been compiled for 32-bit operation. I tried one offering and couldn't get it to run.

Russ

2916. Re: Oscillator that doesn't.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3tn55f$b1f@hpscit.sc.hp.com>
Source record: 111929

>acl@ultranet.com (Jon Goguen) wrote:
>>
>>
>>I recently built a simple two-transistor crystal oscillator from plans in
>>the '94 ARRL Handbook (pg.26-5, Fig. 7). It refuses to oscillate. I've
>>tried more than one crystal, replaced both transistors, and carefully

Sometimes, the reason a crystal oscillator "doesn't oscillate" is because
the transistor is oscillating at a UHF frequency due to base lead inductance,
but you don't know that because you are looking at the output with a scope
that can't detect 800 MHz. UHF oscillations may either "crowd out" the
normal crystal oscillations entirely, or happen concurrently with them,
resulting in erratic operation. The dead give away for this case is that
the circuit is abnormally sensitive to nearby objects. Another test is
to probe the DC base emitter voltage by connecting 1 Meg resistors from
voltmeter leads to the base and emitter. UHF oscillations will lower the
base voltage below the usual .6 V. If oscillations are the problem,
try that old standard band-aid: put a ferrite bead on the base lead.
If you have a spectrum analyzer with a 0-2 GHz. band, you can sniff
for UHF oscillations, but you may not have access to that.

Besides that, you should check for correct DC bias on the transistors,
and then break the feedback loop and drive the circuit with a signal
generator and see if the fed back voltage exceeds the drive voltage
(which is necessary for oscillation). Also, try replacing the xtal with
an inductor and see if you get free running oscillations. If not,
you have a problem in the feedback loop.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2917. Re: PC Soundcard as an 'scope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: dbotkin@probe.net
Message-ID: <3tmij5$kg@jake.probe.net>
Source record: 111930
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In article <DB7zw9.G6s@utnetw.utoledo.edu>, cscon0151@uoft02.utoledo.edu (Brad Steinman, N8ZRP) says:
>
>I am looking for software that will allow a 8-bit Soundblaster card to function
>as a crude oscilloscope. I was told by a fellow ham that a UK magazine
>(Wireless or Shortwave?) had a short review of it about 2 yrs ago. I can FTP
>or search via Archie or Veronica if someone can provide me with a filename.
>
>I'd like to get a hold of it before my foray in 9600 baud packet, so I can
>monitor my deviation.
>
I'm too lazy to use Email today...

There's a program called FFTMORSE or similar, available from a lot of ham-oriented BBS's and probably some of the ham web sites. It uses a serial port with about $5 worth of hardware for use as a crude but effective audio spectrum analyzer... is this what you need? If so I could dig it up and Email you or put it on my FTP machine Monday when I'm not feeling so lazy. 8-)

Dale

2918. I need these:....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: multifreq0@aol.com
Message-ID: <3tnfcq$q3d@newsbf02.news.aol.com>
Source record: 111931

Greetings,

My name is Tim Jordan. And I am looking for the following at a
resonable/cheap price:

I need 1 of these:

E.F. Johnson Company's Viking Ranger or Viking Valiant

or any ham transmitter that has the following features:
1: 160 meter capability
2: amplitude modulation
3: plate modulation
4: operational....

Thanks, if you have any of these please e-mail me at: multifreq0@aol.com

thanks in advance....

-Tim Jordan
Encryption key for: Dr. Martin Freeman
-----BEGIN PGP PUBLIC KEY BLOCK-----
Version: 2.6

mQCNAi+dbW0AAAEEAKVzHahb1LeEefna5X6cvHTBYHftcTg3VHtQbfteyS6BABmp
RzY8jBVbKCT4hHK35e8gxOzQX96Mt+8gidxp5ilLiaXnlrLULeaR9kFnoZEA7Ax5
6IIVag7Rz4ryO2c1hpo+SkEMm5mwDL6/ZTq5yvDf/r2w58NzP0jLRSCrB+zBAAUR
tBJEci4gTWFydGluIEZyZWVtYW4=
=tCJK
-----END PGP PUBLIC KEY BLOCK-----

2919. Re: Oscillator that doesn't.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <3tks60$b5e@news.azstarnet.com>
Source record: 111932

acl@ultranet.com (Jon Goguen) wrote:
>
>
>I recently built a simple two-transistor crystal oscillator from plans in
>the ï¿½94 ARRL Handbook (pg.26-5, Fig. 7). It refuses to oscillate. Iï¿½ve
>tried more than one crystal, replaced both transistors, and carefully
>checked the circuit. I also consulted Horwitz and Hill. They note that
>oscillators sometimes do this, that their own experience is ï¿½well,
>checkeredï¿½, and suggest commercial oscillators are a good idea because
>theyï¿½re guaranteed to oscillate. If anyone has any suggestions that might
>activate my proto-oscillator (why call it an oscillator if it doesnï¿½t?)
>Iï¿½ll try them before I trash it.

Jon:

You could call it an amplifier, then it would oscillate. Seriously, why don't you describe it
more fully for those who don't have a '94 Handbook around. Maybe someone can help. As to the
commercial stuff, I can tell you from my work in a failure analysis department for a large aerospace company, nothing is guaranteed to work:(We spend megabucks helping our suppliers redesign their products to meet the specifications they certified they meet.

Regards -- Wes Stewart, N7WS

2920. Comm. Concepts Amp Kit Experience?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: msadams@netcom.com
Message-ID: <msadamsDBDzJB.BAv@netcom.com>
Source record: 111933

Communication Concepts sells some HF broadband solid state amplifier kits all the way to 1000 watts. They are based on Motorola application notes. Does anyone have experience with these kits? I would be interested in hearing about performance, reliability, and what parts were used to complete them for filtering and power supply.

Thanks for any help,

Michael Adams
KE6BOO
--
msadams@netcom.com

2921. Re: Double-matching problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: Scott Townley <nx7u@primenet.com>
Message-ID: <3tled4$l44@dump.primenet.com>
Source record: 111934

elendir@enst.fr (Elendir) wrote:
>Hi
>I've got another question.
>
>I have to design the first RF stages of my RXver. For that purpose,
>I'd like to use the XXXX (a transistor whose name I can't remember).
>I'd like to use it with a source Z of 50 ohms, and a load Z of 50
>ohms also, since this scheme does insure stability and low-noise.

well, no it doesn't. 50 ohms is merely a convenient reference impedance (actually
with a logical origin which doesn't concern this question); it is not magic. There
is no *guarantee* that a transistor is unconditionally stable with Zs=Zl=50 ohms.

regarding noise, almost always the noise performance is improved if the source
driving impedance *isn't* 50 ohms. this is typically referred to as Ropt or
GammaOpt (depending on the type of device you use and its intended application).
Again, 50 ohms is not a magic number.

Generally for a two-stage RF preamp: input match the first stage to Ropt or
GammaOpt.
How to handle the second stage depends on a lot of things.
>Does the first stage provide a sufficiently low noise figure, by itself, for your desired
receive sensitivity?
--> if so, is power output sufficient to drive your intended mixer at its impedance?
---->if so, probably don't need a second stage
---->if not, design second stage for maximum power gain
--> if not, design second stage for noise as well, using similar process as above.

all the while considering stability of each stage.
also note that maximizing intermodulation performance isn't considered here, it
makes it 1000 times more complicated.

>But, although I encounter no problem for the first device, how
>can I design a network that would transform the Zin of the second
>stageinto a collector load of 50 ohms, and at the same time
>transform the first stage output Z into 50 ohms .
>That is to say a network which, when loaded by the Zout of the
>first transistor would transform it into the 50 ohms needed by the
>input stage of the second, while at the same time transforming
>the Zin of the second stage into the 50 ohms needed by the first stage ?
>

now for the interstage matching network (if you determine that you need two stages).

if second stage is a noise stage, the interstage will transform the conjugate of
(outputZ1) to (Ropt or GammaOpt) of stage 2.

if the second stage is a power stage, the interstage will transform the conjugate of (outputZ1) to the conjugate of (inputZ2) when (outputZ2) is matched for maximum power gain.

But your question...how do you design the thing? it can be done but it's kinda complicated. I wrote a computer program a million years ago (it seems!) to do just that. The particular case you mention (the double match) is pretty darn complex.

if the two stages are reasonably unilateral (that is, the load impedance on a stage doesn't greatly affect the input impedance of that stage) then you don't need to do a double match. the design technique i've described above is pretty straightforward. It's a simple Smith-chart type circuit synthesis to do either of the two cases mentioned above.

If you would like some good references, I can supply a bibliography. However, I don't know how available these books would be in France.

Good Luck!
scott nx7u@primenet.com

2922. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: dbraun@ichips.intel.com
Message-ID: <laQ$lmvRnff0076yn@ichips.intel.com>
Source record: 111935
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

In article <3tgv0v$1hr@news.rain.org>,
marvin@rain.org (Marvin Johnston) wrote:
> : > I want to erase EPROMs at home. I could spend $40 on an eraser
> : > but I am looking for a cheap way out.
>
> In my checking out garage sales, I found a small UV lamp that appears to
> have been used for looking at rocks complete with ballast and ready to
> operate. Total cost was about $3 and it takes about 5 minutes to erase
> the EPROMs.

At garage sales and/or flea markets, yuo will often find UV sunlamps.
These work fine, especially the older ones that generate lots
of harmful short-wavelength UV...

Doug Braun N1OWU

2923. GaAsFET<-----

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: danny.barker@wem.org
Message-ID: <950711162205720@wem.org>
Source record: 111936

-> From: koch@demos.su (Alexey Kochnov)
-> Subject: Q: AsGa FETs in 2m RX pre-amp?
->
-> Hi All,
->
-> Could any kind soul from experienced gurus give
-> some opinions about using AsGa FETs in 2m or 70cm
-> narrowband RX pre-amps? Does it make sence to do this.
-> Or it's just a waste of time?
-> The end task is the improvment of repeater sensitivity.
->
-> Thanks in advance,
-> Pls e-mail.
->
-> 73, Alex RX3ARW.

Advanced Receiver Research has Preamplifiers for your needs. The 2 meter repeater we have, have one of these and it works great! Get the "VDG" suffix it provides the lowest noise figures and highest immunity to overload of any preamplifier types. They make many different types of amps.

Enjoy!!
Danny Barker - KC6VMG
So. Cal. Communications Services
310-572-8278
---
* THE BAD BOY BBS! 310.378.3081 310.915.5862

2924. Oscillator that doesn't.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: acl@ultranet.com
Message-ID: <acl-0707952020230001@amber1.ultranet.com>
Source record: 112068

I recently built a simple two-transistor crystal oscillator from plans in the '94 ARRL Handbook (pg.26-5, Fig. 7). It refuses to oscillate. I've tried more than one crystal, replaced both transistors, and carefully checked the circuit. I also consulted Horwitz and Hill. They note that oscillators sometimes do this, that their own experience is 'well, checkered', and suggest commercial oscillators are a good idea because they're guaranteed to oscillate. If anyone has any suggestions that might activate my proto-oscillator (why call it an oscillator if it doesn't?) I'll try them before I trash it.

Thanks in advance for all replies.

Jon

--
Jon Goguen

"Nothing worth knowing can be understood by the human mind."

2925. Re: Looking for 10.245MHz Crystal in Australia

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: romank@glas.apc.org
Message-ID: <3tlpu4$69s@igc.apc.org>
Source record: 112069

ian.mitchell@research.utas.edu.au (Ian Mitchell) wrote:

>Could anyone help me with locating a source of these
>crystals in Australia? I thought they would be easy to
>find since they produce a difference frequency of 455KHz
>for 10.7MHz! Oh well...

You probably can find a lot of 10.245 crystals in some old/broken
49MHz cordless phones. Also you can pick up the whole IF/demodulator
circuit and filterts.

Roman
Moscow, Russia

2926. Re: Kenwood Microphone Plug

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: andrewd@ozemail.com.au
Message-ID: <3tm1l5$k00@oznet03.ozemail.com.au>
Source record: 112070

sem2r@galen.med.Virginia.EDU (Stacey E. Mills) wrote:

>I'm looking for the "male" portion of a Kenwood, standard eight
>pin microphone connector. This is the portion which mounts in
>the rig, rather than on the microphone cord.
>Anyone know of a good source??

They are sold by both Tandy (aka Radio Shack) and Dick Smith stores in
Australia, so are readily available to electronics retailers.

>BTW: I'm also looking for a source for the male 13 pin DIN
>connector for one of the accessory jacks on the back of many
>current Kenwood rigs.

Have you tried Kenwood?

2927. RF relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-08 00:00:00 UTC
From: tmedin@che2.che.umn.edu
Message-ID: <17076.tmedin@che2.che.umn.edu>
Source record: 112071
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

i need 4 RF relays to switch in the different elements of a 5 band quad, fed with ladder line. anyone know where i can purchase such, and an idea of what they cost. it may not be worth it, as feeding all driven elements at the same time gives a reasonably close approximation, according to mininec anyway.

2928. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: vhadley@ee.utah.edu
Message-ID: <3to4p4$bps_001@slc59.xmission.com>
Source record: 111937

Here is an idea if you don't need to erase something very often,
and I am not sure if it would be effective...someone say something
and tell us if it'd work. Some people like to go to these tanning
salons to get a sun tan. They lay in these UV beds for 15 or more
minutes at a time. If you have a friend that goes occasionally,
give them your chips in a static pad in a box. When they get into
the bed, just have them take the top of the box off and lay it in
a corner that their body won't occupy (like up by their head).
you get the idea...and it is free!...at least they were going anyhow
and there is no extra cost...question is, would it work? Any comments?
This really could be a possiblity for the occasional hobbiest who has
these kind of friends!

-Vince

2929. Re: Ignorant question about envelope detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDBFvrJ.9sF@netcom.com>
Source record: 111938

Stephen William Simpson (misc200@csc.canterbury.ac.nz) wrote:
: It seems to me that a standard envelope detector as used in the
: detection of an AM signal would perform better if the standard fixed value
: capacitor was replaced by a circuit which had a capacitance which varied
: with changes in frequency.

Another way of viewing this type of detector is as a type of mixer. The output is the square of the input, i.e. the signal is mixed with itself. For sinusoidal input, the math works out such that you end up with a signal at twice the carrier frequency plus the original modulation signal plus noise. The capacitor is basically a low pass filter which removes the 2f component. Instead of a capacitor you could follow this detector with many suitable low-pass filters depending on what your aim is.

Perhaps the most interesting AM detector is the synchronous detector which uses a regenerated local carrier. Its design manipulates the math so that the noise component is cancelled for noise components not in phase with the carrier. Again a low-pass filter follows the detector.

73,

Thomas -- KI4N

2930. Personal Service 1-800-559-6557

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: jjhhggff <102372.3065@CompuServe.COM>
Message-ID: <3tp7qp$4rk$5@mhadf.production.compuserve.com>
Source record: 111939
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

```
Personal Service for Adults Only
Blonde Girls 1-800-559-6557
Black Girls 1-800-559-6558
Two Girls Together 1-800-559-6554
```

2931. Dead Drake R4B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: butch@maestro.maestro.com
Message-ID: <DBG0rE.8AJ@maestro.maestro.com>
Source record: 111940

After many years my trusty drake receiver has given up to the ghost and
is now blowing fuses, does anyone out there have experience repairing
these oldies but goodies and also suggestions for analyzing what is wrong.

yours,

allan
WA2RZQ

2932. look for DDS chipset

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: ee_thy@uxmail.ust.hk
Message-ID: <1995Jul9.163300.26734@uxmail.ust.hk>
Source record: 111941

I am looking for Direct Digital Frequency Synthesizer(DDS) chipsets for my final year project. I know Plessey Semiconductors make such chips(SP2001 and SP2002) but I can't find his address.

Do anyone know the address of this company or agent in HK? Any other company also make such chips? Thanks.

Louis Tsui
ee_thy@stu.ust.hk

2933. Re: AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: mulveyr@vivanet.vivanet.com
Message-ID: <3tpija$1jf@vivanews.vivanet.com>
Source record: 111942

: In article <3tbqnk$93a@cc.iu.net>, wnewkirk@iu.net (Bill Newkirk) wrote:
: >In <3tbnt0$p4r@park.interport.net>, nowhere@erehwon.net (nobody) writes:
: >>Howdy. I don't know anything about radio, but I need plans for a device
: >>capable of jamming one particular AM frequency favored by the asshole below
: >>me. If anyone can point me in the right direction (I've already looked
: though
: >>Phrack without success), please do.
: >>
: >>Note: I don't plan on fucking with anyone but my neighbor, so a very limited
: >>range is fine.
: >
: >yeah, yeah. how about buying him a set of headphones and just making a point
: >about general noise (without getting into the content of the broadcast).
: >
: >he's got a right to listen to the broadcast. maybe you should buy some head
: >phones and when the offending program comes on, cover your ears, turn up the
: >favorite program running on your receiver and enjoy.

: Who said anything about the content of the broadcast??? I happen to like the
: station he's playing, just not the fact that it's coming though my windows and
: _floors_ at 110db!! And I already said that he's ignored by attempts at reason
: (most polite by the way...). That seems to leave me with only several
: alternatives:

: 1) Call the police. Not an option.

Since when? Your taxes are paying for them, so use them.

2934. Re: Sniffer Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: jimk5qq@aol.com
Message-ID: <3tpsug$ep6@newsbf02.news.aol.com>
Source record: 111943

Bruce
I am very interested in learning more. Capabilities and how to order it
etc

Thanks

Jim Baremore
JimK5QQ@aol.com

2935. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: helling@uwindsor.ca
Message-ID: <DBH072.7v6@news.uwindsor.ca>
Source record: 111944
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

Those bulbs can be found in old HAND DRYERS.... you know, bang button,
wipe hands on pants, etc...
That's the incandescent ones, ballasted... appx xmas-tree bulb size..
Guaranteed free eye damage...
Cheers... B/H.

2936. Wanted LP Output Filter Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: bcdlr@aol.com
Message-ID: <3tq3d2$gug@newsbf02.news.aol.com>
Source record: 111945

Is there out there somewhere, software to calculate LP output filters,
like for QRP transmitters amps, (i.e. 7 element filters)?
Is there any software to calculate torrid winding data?
Is there any software to calculate winding data for beads to make chokes?
Seems like it would be a whole lot easier just winding a choke on a bead
for occasional radio work.
I'm a ham newcomer wanting some help. I'm learning but still not "all"
there yet, (ha). The Amidon literature for me is confusing....
Thanks!
Dan Reynolds, bcdlr@aol.com, KB9JLO

2937. FM (3 Meter) AMP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: blair@mail.ramlink.net
Message-ID: <3tq51j$2ao@ram.ramlink.net>
Source record: 111946

Anyone here know of any place I can get hold of an amp
for FM use, (like say, that a FM10A can drive)? Something that
will put out around 2-3 Watts?

Thanks,

Mike

2938. Re: AM Jammer plans needed by total lamer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: jeffrey@math.hawaii.edu
Message-ID: <DBFAJq.B4I@news.hawaii.edu>
Source record: 111947

a229aa@email.sps.mot.com (Chris Terwilliger) writes:
>jeffrey@math.hawaii.edu wrote:
>>someone@somewhere wrote:

>> >Note: I don't plan on f****** with anyone but my neighbor, so a very limited
>> Jeff

>It's so nice of you to protect us from naughty words, Jeff...

Glad to help out, Chris. We've got some kids in our radio club who love
to read these groups - they're sort of using the amateur groups as an
Elmer, so if I followup to an article that contains one of these
`naughty' words I'll do a bit of editing.

Of course, if you desire to see the original unedited article it's
sitting in the archives. Feel free to peruse!

Take care, Chris - glad to know you appreciate my efforts!

Jeff NH6IL
>
>--
>Chris Terwilliger, AA7WD
>zoom@willow.sps.mot.com
>602-413-5362 (W)
>602-820-2584 (H)

2939. Announce: SCALC - a new RF/microwave analyser and optimizer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <71201867wnr@ifwtech.demon.co.uk>
Source record: 111948

Announce: SCALC - a new RF/microwave analyser and optimizer

NEW RF/MICROWAVE ANALYSER AND OPTIMIZER IS LOW-COST SHAREWARE

S-CALC is a powerful microwave S-parameter analysis and optimization program that doesn't cost thousands of dollars. Developed by Roger Blackwell, G4PMK and Ian White, G3SEK, the SCALC program can analyse the performance of almost any RF network based on standard components and building blocks. Unusually for a low-cost RF design program, SCALC has an optimizer: starting from your initial design, it can automatically improve the performance of the network towards your chosen goals.

As well as having a built-in circuit editor and its own large library of active device data, SCALC can import your own device data in industry-standard file formats. Output from SCALC's performance analyser can be in several formats including colour graphs, Smith charts and tables of gain, impedance etc.

SCALC is easy to understand and use. When G4PMK and G3SEK developed SCALC from the original program ALMOND by Chris Trask N7ZWY, they paid close attention to the user interface and have also produced a comprehensive manual with lots of explanation and tutorial examples. If you already know a little about S-parameters, you can start to use SCALC very quickly because the Shareware release includes the full tutorials and example files. If you're still learning about RF design, SCALC and its tutorials will help you on the way.

SCALC is Shareware with a specially low registration fee for radio amateurs. The registered version also includes a printed manual, libraries of device data and datafile conversion utilities, and technical support.

Requires VGA, 640k, DOS 3.2 or higher.

SCALC.ZIP (152505 bytes) is available by ftp from:

scitsc.wlv.ac.uk /pub/hamradio/programs/g3sek+g4pmk

demon.co.uk /pub/ham/circuit-design

oak.oakland.edu /pub/hamradio/pc/ham-utils

and also from the CompuServe HamNet library.

On disk, SCALC is available from the following UK shareware libraries:

Venus Electronics

Public Domain & Shareware Library.

73 from
Roger Blackwell, G4PMK
Ian White, G3SEK

2940. Re: Spice, mininec, etc. e

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-09 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <805330833.AA02815@hamlink.mn.org>
Source record: 111949

RR>From: rleblanc@onr.com (Russ Leblanc)
RR>Newsgroups: rec.radio.amateur.homebrew
RR>Subject: SPICE, MININEC, etc. etc.
RR>Organization: Onramp Access, Inc.
RR>Message-ID: <3td05j$27o@Sierra.onr.com>
RR>Date: 5 Jul 1995 03:16:03 GMT
RR>
RR>Anyone wishing to chat about these cad/analysis programs please
RR>post. I use them both quite a bit (heavy on the spice program).
RR>
RR>Russ
RR>
RR>
RR>---
RR> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
RR>(1:282/100.0)Hi Russ,
I use the ARRL Radio Designer program. I have seen some of the Spice
products, and think that RD stacks up pretty well.
72 Bob Liesenfeld

Technology is OUT of control.....

2941. Power Supply plans/kit/info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: danb@acme.csusb.edu
Message-ID: <3tpvt3$d8n@news.csus.edu>
Source record: 111950

At least as much for the sake of doing it as for any actual need,
I'm interested in building a 13.8v, 10-15A power supply, but I'm having
some trouble locating information about how to go about it. The closest
I've found is the 5A project in the 1995 ARRL handbook, but I'm not sure
how adaptable it is to higher current operation. I'd like to find plans
or a kit, or at least some information on how to proceed. Thanks for any
input!

--
Dan Brown, KE6MKS
danb@acme.csusb.edu
Don't Tread on Me

2942. Re: Power Supply plans/kit/info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3tq1f8$2ic@parsifal.nando.net>
Source record: 111951

danb@acme.csusb.edu (Dan Brown) wrote:
>
> At least as much for the sake of doing it as for any actual need,
> I'm interested in building a 13.8v, 10-15A power supply, but I'm having
> some trouble locating information about how to go about it. The closest
> I've found is the 5A project in the 1995 ARRL handbook, but I'm not sure
> how adaptable it is to higher current operation. I'd like to find plans
> or a kit, or at least some information on how to proceed. Thanks for any
> input!
>
> --
> Dan Brown, KE6MKS
> danb@acme.csusb.edu
> Don't Tread on Me
You might try the 12v 15 amp power supply featured in QST Nov 1992.
I'm certain it could be tweaked to 13.8v with little trouble.

73,
Don W3FPR

2943. Help with relay specs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: af104@detroit.freenet.org
Message-ID: <3tq2s1$t7j@detroit.freenet.org>
Source record: 111952

Can someone tell me the vitals on the following C.P. Clare & Co.
relays? These are old (guess '50's - 60's vintage) telephone-type
relays.

Interested in -

1) Relay type? Current actuated?

2) Coil Voltage Rating (AC or DC)?

3) Cut-in current?

4) Drop-out current?

This should help me get my HT-32A on the air!

Relays are: #B-103485
#39EC
#D-102643

Fax: (810) 855-7834
Thanks!!!

Jeff
--
Jeff
WB5KZW
(810)-855-9209 (Near Detroit)

2944. DDS/PLL Hybrid theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: osbdivgp@yarrow.wt.uwa.edu.au
Message-ID: <3tq7jh$1ir@styx.uwa.edu.au>
Source record: 111953

I have been reading with interest the discussion on this topic.
Have already tried this idea using a PIC 16C57 micro as the DDS .
The controller reads a keypad to get the frequency data and then goes
into a software loop which acts as the digital adder. Using a 16 bit word
the controller can produce 2^16 /2 steps ie 32768 up to a frequency of
about 250 KHz at a max clock of 20 MHz. In practice I used a 11 MHz
(because I had the crystal!) clock. The MSB of the adder was used to
drive PLL loop with a VCO running on 14 MHz. A CMOS divider and a 4046
phase detector and a loop amp completed the PLL. With a loop bandwidth of
about 50 Hz (2nd order loop) I got 400 Hz steps at 14 MHz.
Using a spec analyser to look at the output it was almost acceptable for
amateur use with 400 Hz sidebands down about 35-40 dB.

This could probabaly be improved by better loop design (it was preety rough)
or a higher order filter.
I tried a 24 bit version with approx 1 Hz resolution but this was noisy
due to the close in sidebands (ie about 1 Hz) and the signal was
unusable.
Hope this gets posted as I am a newbie - havent worked out all the
Internet conventions yet

Richard VK6BRO

2945. WTB: or info on HF QRP amplifier kits (5W in - 20 to 30W out)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: bad@ee.WPI.EDU
Message-ID: <3trvgd$8jb@bigboote.WPI.EDU>
Source record: 111954
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

I built the A&A Engineering 30 meter 5W QRP rig. There is plenty of room left inside, so I would like to try to add a small switcheable amplifier for 20-30W output (with 5W in from the rig).

Only problem is that all the kits that I have seen have a maximum of 2W in before they get overdriven. Does anyone know of a company that markets compact kits of HF amplifiers that are capable being driven by 5W on 10.1 Mhz. and deliver 20 to 30W of output (must be a 12W capable amplifier, preferably class C since it's CW only and efficiency is important).

Thanks for your info/help.

Bernie Doehner nu1s

2946. Re: Double-matching problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jul10.085336.30438@ucl.ac.uk>
Source record: 111955

In article 8a1@cismsun.univ-lyon1.fr, elendir@enst.fr (Elendir) writes:
> Hi
> I've got another question.
>
> I have to design the first RF stages of my RXver. For that purpose,
> I'd like to use the XXXX (a transistor whose name I can't remember).
> I'd like to use it with a source Z of 50 ohms, and a load Z of 50
> ohms also, since this scheme does insure stability and low-noise.
> But, although I encounter no problem for the first device, how
> can I design a network that would transform the Zin of the second
> stageinto a collector load of 50 ohms, and at the same time
> transform the first stage output Z into 50 ohms .
> That is to say a network which, when loaded by the Zout of the
> first transistor would transform it into the 50 ohms needed by the
> input stage of the second, while at the same time transforming
> the Zin of the second stage into the 50 ohms needed by the first stage ?
>
> Thanks,
> Vince
>
> --
> F5RCS - Worldwide Friendship through Amateur Radio
> ENST, Ecole Nationale Superieure des Telecommunications, Paris

You have lost me a bit there, but I'll do the best I can.

Desiging a network to match any complex impedance to any other is simple. All you need is an L-network. I have a program (PC) I wrote to do it, which I would share if you wanted. The other way is to make the impedance real (add series L or C) then transform the one real impedance to another. There are lots of ways to do it. Eg Pi, L, T networks. There should be a program published in EDNs 'Design Ideas' soon to do it. I wrote the code, but cant give it to you (as they paid me). All networks can do the job, its just some are more practical.

The problem I've had in the past is that S-parameters assume the device has 50 Ohm loads on all ports. Since S12!= 0, matching the o/p to its conjugate for maximum power transfer means the input Z will change. Even if you calculate its new value, and match the input, the output matching gets screwed up. So you re-match the output, but then the input match becomes poor. In other words, it becomes an iterative process. I've never found a definitative way to do it quickly. (I posted a request recently for a decent way, but got no replies).

If you have two stages, there is no need to go via 50 Ohms, although I admit it makes testing easier.

You imply the devies are stable and low-noise at 50 Ohms. Most devices have an optimum input Z for lowest noise. You cant assume its 50 Ohms. Its usually put on the device data sheet as TOR_opt (Greek Tor). You should try to make sure you input device sees this reflection coefficient, rather than 50 Ohms. Its easy to convert from tor to Z.

If the device
is not unconditionally stable, then you have to be careful what load it see's. Again assuming 50 Ohms is okay is not really on. You need to calculate a couple of stability factors. One will tell you if its unconditionally stable, in whcih case your okay. If not, you have to be careful. See 'Microwave Mesfets' By Pengelly, for how to do that.

Hope this is of some help. If you want the program to convert one arbitrary complex impedance to another, please let me know. I'll put it on our ftp site. I should add there are a number of Application notes by Mototola and HP on this sort of thing. I'm no expert, but have managed, with a bit of fiddling/luck/insight etc to design a few amps to be stable and have good return losses.

davek G8WRB

2947. Re: look for DDS chipset

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: Martin Farrell <Martin@hobbit.demon.co.uk>
Message-ID: <397152489wnr@hobbit.demon.co.uk>
Source record: 111956

In article: <1995Jul9.163300.26734@uxmail.ust.hk> ee_thy@uxmail.ust.hk (Tsui Hau Yiu Louis) writes:
> Newsgroups: rec.radio.amateur.homebrew
> Path: hobbit.demon.co.uk!news.demon.co.uk!demon!plug.news.pipex.net!pipex!dish.news.pipex.net!pipex!news.s printlink.net!howland.reston.ans.net!news-e1a.megaweb.com!newstf01.news.aol.com!uunet!in1.uu.net!nntp.hk.super.net!news.ust.hk!eesu47.ee.ust.hk!ee_thy
> From: ee_thy@uxmail.ust.hk (Tsui Hau Yiu Louis)
> Subject: look for DDS chipset
> Message-ID: <1995Jul9.163300.26734@uxmail.ust.hk>
> Sender: usenet@uxmail.ust.hk
> Nntp-Posting-Host: eesu47.ee.ust.hk
> Organization: Hong Kong University of Science and Technology
> X-Newsreader: TIN [version 1.2 PL2]
> Date: Sun, 9 Jul 1995 16:33:00 GMT
> Lines: 12
>
>
> I am looking for Direct Digital Frequency Synthesizer(DDS) chipsets for my
> final year project. I know Plessey Semiconductors make such chips(SP2001
> and SP2002) but I can't find his address.
>
> Do anyone know the address of this company or agent in HK? Any other
> company also make such chips? Thanks.
>
>
> Louis Tsui
> ee_thy@stu.ust.hk
>
>
>
--
Try this GEC Plessey Semiconductors agent:
GainTune Ltd, Room 809, 8th Floor,Hungham Commercial Cenre, Tower B,
37-39 Ma Tau Road, Hunghom, Kowloon, Hong Kong
Tel. 852-3654860 Fax. 852 7641129

73's from G8ASG / G0PFT Martin

2948. Re: 150 MHz Low-Pass

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: bart@wb6hqk.ampr.org
Message-ID: <DBI2v1.HBx@wb6hqk.ampr.org>
Source record: 111957

In article <jwhac4ca.7.0027659A@mindspring.com>,
John Hueckstead <jwhac4ca@mindspring.com> wrote:
>I'm looking for a low-pass filter with a 150 MHz or so cut-off. A notch
>filter for 150 to 170 MHz would do the job, too. I need to attenuate 158-159
>MHz into a BC-210 scanner I converted to use for 137 MHz weather satellite
>reception. I'm tuning the scanner 21.6 MHz above the desired frequency after
>having adjusted the VCO voltage. I need to filter out local 158 MHz pagers and
>pulbic service stuff. A schematic would do, but would prefer to pick up
>something I could use.
>

I've had pretty good luck with a single shorted halfwave notch filter. It
was a halfwavelength of coax inserted into the receiver antenna transmission
line via a T connecter and shorted on the end. Tuneup was performed on
the bench by inserting a shorting pin in the coax to find correct the length
and then cutting the cable and soldering. It was pretty dirty but took
care of the problem with only one trip to the store!

In your case you may need one resonator per offending transmitter which can
get out of hand in a hurry. In that case, you will probably want either
a bandpass filter for the desired frequency or a better designed band
reject filter.

bart wb6hqk

bart@wb6hqk.ampr.org

2949. Re: look for DDS chipset

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <805383202snz@lfheller.demon.co.uk>
Source record: 111958

In article <1995Jul9.163300.26734@uxmail.ust.hk>
ee_thy@uxmail.ust.hk "Tsui Hau Yiu Louis" writes:

> I am looking for Direct Digital Frequency Synthesizer(DDS) chipsets for my
> final year project. I know Plessey Semiconductors make such chips(SP2001
> and SP2002) but I can't find his address.
>
> Do anyone know the address of this company or agent in HK? Any other
> company also make such chips? Thanks.

GEC-Plessey's agent in Hong Kong is YES Products Ltd. on 4144241-6.

Harris make a range of NCOs. Their HK number is (852) 723-6339.

Analog Devices make the AD7008 DDS. One of their distributors is Tektron
Electronics (HK) Ltd. on 388-0629.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

2950. Re: ARRL 2Mb/s 10GHz Data Link Any updates ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: Ralph Stirling <stirra>
Message-ID: <3trpc2$8tp@krason.wwc.edu>
Source record: 111959

We had some students working on a 10GHz data link project a few years back, using the Handbook design as a starting place. They were trying to make it be a 10 Mbps ethernet link rather than 2Mbps, and ran into real problems dealing with the ethernet collision sense signal. I don't recall what problems they might have had with the MC13055 receiver chip, but they probably had some. Our experience with the one-chip receivers has been that they all *inevitably* have problems! If you send email to my colleague Rob Frohne (frohro@wwc.edu), who supervised the project, he might be able to give you some tips (after he gets back from his honeymoon in Thailand in a couple of weeks).

I would like to get some students going again on the ethernet link project, so I
would be interested in keeping in touch with you on your attempts.

Good luck,

-- Ralph Stirling Project Engineer
stirra@wwc.edu Walla Walla College
509/527-2071 School of Engineering
FAX: 509/527-2867 204 S.College Ave
College Place, WA 99324

2951. Icom 735 PC Interface details please

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: davlat@cix.compulink.co.uk
Message-ID: <DBIM0t.LJ9@cix.compulink.co.uk>
Source record: 111960

A friend has a IC 735 which he wishes to interface with his PC. He has the software but not the interface nor any detail about it. He does not want to buy the genuine Icom one and believes that it only needs a level convertor. Any help or information would be appreciated. If there is a mod file somewhere can you provide the FTP address.
Thanks..Dave G3VUS

2952. Re: Double-matching problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <3ts231$dlb@cismsun.univ-lyon1.fr>
Source record: 111961

Dave Kirkby (davek@medphys.ucl.ac.uk) wrote:
[...]
I think I have been a bit confusing. Let me put it this way :

The choice of 50 ohms source and load is not innocent. For this
particular device, 50 ohms real impedance produces stability, since
|s11| and |s22| are both < 1.
Then I have no clue about Gamma OPT for this transistor at 150 Mhz. All I
have is a curve that shows NF in a 50 ohms system, and I can read a NF < 0.8 dB.
Therefore, I selected 50 ohms both Zs and Zl.
Since this is the first stage of a RX, it allieviates all need for a matching
network between the antenna and the base (I use 50 ohms elliptic filtering
though).
But now, I'd like to add another RF stage, based on the same device, and also
with a 50 ohms Zs and Zl, since it seems a reasonable course (as would say
Spock).
Now, the problem is this :
Not only must I transform the s11 of the second transistor in order that it
appears being 1 (This ensures Zl of the first stage as being 50 ohms), but
I must also adapt the s22 of the first stage into 1, as to have a Zs of the
second stage being also 50 ohms.

A sketch :

ANTENNA ---- STAGE 1 ---- NETWORK---- << APPEARS AS 50 OHMS
APPEARS AS 50 OHMS >> --- SAME NETWORK ---- STAGE 2 (IDENTICAL TO STAGE 1)

Therefore through the same network :
s22 of the first device should be 1
s11 of the second device should be 1 also.

I know how to make a unilateral match, but this is a bilateral matching
problem.

Any clue ?

Vince, F5RCS

2953. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: siva@bond.bocaraton.ibm.com
Message-ID: <DBIMLK.2o6D@austin.ibm.com>
Source record: 111962
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

Fred Peters (fapeters@interramp.com) wrote:
: The germ bulbs from old Maytag dryers work great, if you can find
: them (appliance parts store) are about $6. You MUST put a 40W bulb
: in series with them. Kurt I would pay $10 for one.

How about the black light bulbs available at Home Depot?

Sivasankar Chander
"I speak for myself, not for my employer(s)"

2954. Beginers kits and books wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: yhanafy@duke.edu
Message-ID: <3ts2e3$ckj@news.duke.edu>
Source record: 111963

Hi,

I noticed that there was a previous posting asking for info. about a starter kit for somebody who developped an interest in the field recently. I second his request, and i add another, which is a good starting points for hanbooks and manuals for circuits as well. Appreciate any help in that matter.

--
==========
Yasser Y. Hanafy |
4th year graduate student | Duke University
1321 New Castle rd, Apt. A-10 | Electrical Eng. Dept.

2955. Re: Aviation Headset to Ham Radio Conversioin

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: Pierre Thomson <mmommsen@mhv.net>
Message-ID: <3tr756$sef@over.mhv.net>
Source record: 111964

n8tjg@aol.com (N8TJG) wrote:
> Having a nice David Clark headset (the H20-10) used much too
> infrequently for aviation purposes, I've been pondering the idea of making
> a "black box" for hooking them up to my ham radio equipment.
>
> My question is impedance matching and supplying between 8 and 16 volts
> to the elcectret mic of the headset. The headset earphones are 150 ohm
> impedance (two 300 ohm wired in parallel), while the radios go with 8
> ohms. What sort of coil should I wind to convert the low power audio
> output, or should I even be concerned???
>

I would say, forget the impedance difference on the headsets. I use
600 ohm headsets on "8-ohm" outputs quite frequently, and the only
problem is that it's sometimes a bit faint.

> Second, the microphone impedence is 2,000 ohms on the radios, and the
> headset is speced as "DC Supply Voltage and Source Resistence: 8 - 16
> Volts, 220 - 2,200 Ohms, not polarity sensitive" The headset has
> separate mic and headphone plugs. So how do I get the voltage to the mic
> (just stick 12 volts on the plug??), and do I need to reduce the output of
> the mic before feeding it to the radio, which uses a 2,000 ohm condenser
> mic??
>

If your radios don't provide condenser mic current, you can put about
a 1K resistor from the headset mic hot side to +12V, and a 1 uF cap
from there to the radio input to decouple the DC. Connect the ground
side of the mic to the radio ground, of course.

I've made an interface for my D-C headset (I'm also a pilot) to connect
it to my IC-2GAT handheld. In this case, the radio provides DC feed
for the mic, so all I needed was a PTT switch in series with the hot
lead of the mic. It works like a dream. (Ever try 2m simplex from
10,500 feet???)

Regards,

Pierre Thomson

2956. Quad Feeding (Was: RF relays)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: Xinex_Labs@mindlink.bc.ca
Message-ID: <3tsd7i$218@fountain.mindlink.net>
Source record: 111965

"" <tmedin@che2.che.umn.edu> wrote:

>i need 4 RF relays to switch in the different elements of a 5 band quad,
>fed with ladder line. anyone know where i can purchase such, and an idea
>of what they cost. it may not be worth it, as feeding all driven elements
>at the same time gives a reasonably close approximation, according to
>mininec anyway.

I don't know about the relays, but my new 5-band quad should be
arriving any day now...
Here's what I plan for feeding: bought an Amidon 2:1 balun,
connect all 5 bands in parallel through this balun. I believe that
this should match very well (my belief may become modified in a
month's time by actual experience, though <bg>).

Incidentally, the Amidon lineup of baluns appear really crappy
from a mechanical/weatherproof viewpoint. I'm sure the innards are
well engineered, construction seemed average, but the folded aluminum
box with open seams everywhere really sucks.

Gord Pritchard, VE7AGW
(gpritcha@vanieee.wimsey.bc.ca)

2957. HW-9 Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: crscasio@sirius.pixi.com
Message-ID: <3tsedl$pmb@rigel.pixi.com>
Source record: 111966

To the Ham in England:

There was a Ham in England looking for HW-9 Mods. This operator traveled
to the Czech republic.

I have the mods but I lost your address, and I did not save you messages.

Please e-mail your address, and I will send the mods via mail.

Sorry again for losing your address.

Aloha, Lawrence crscasio@pixi.com

2958. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: cusick@dstos3.dsto.defence.gov.au
Message-ID: <1995Jul10.084043.1@dstos3.dsto.defence.gov.au>
Source record: 111967

Hi folks,

Several years ago I built a homebrew EPROM eraser based on a 40W germicidal tube, and it works a treat. I can erase a whole batch of chips in 5 minutes. I have found though, using these higher power tubes a high failure rate of EPROMS. The devices are erased but will not program correctly. These chips may have been cycled only a few times before failure.

I put this down to the high exposure rate. Commercial erasers here take the best part of an hour to completely erase, and you do not see "5 min erasers" on the market.

SoI hope my experiences may help those who are building an eraser to be aware of some of these tubes.

73's

Greg
VK3BRQ

(who has not lost his sight...)

2959. Re: Modifying am radio for

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <805417269.AA02841@hamlink.mn.org>
Source record: 111968

SS>From: ss6349@ux1.cso.uiuc.edu (Steven H. Schimmrich)
SS>Newsgroups: rec.radio.amateur.homebrew
SS>Subject: Modifying AM radio for SW
SS>Organization: Department of Geology, University of Illinois
SS>Message-ID: <3tf4no$21m@vixen.cso.uiuc.edu>
SS>Date: 5 Jul 1995 22:46:16 GMT
SS>
SS> I've heard that it's possible to modify a regular AM radio to
SS>receive shortwave transmissions. Anyone know more about this who
SS>can steer me toward references on how to do this. Thanks.
SS>
SS>--
SS> Steven H. Schimmrich
SS>schimmri@hercules.geology.uiuc.edu
SS> Department of Geology, University of Illinois at
SS>Urbana-Champaign
SS> 245 Natural History Building, Urbana, IL 61801 (217)
SS>244-1246
SS> http://hercules.geology.uiuc.edu/~schimmri/
SS>
SS>
SS>
SS>
SS>---
SS> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
SS>(1:282/100.0)
Hi Steven,
Weellllll... Seems like this is a old story. I can remember hearing the
same thing as a young novice back in the 60's. The only application I
know of is to wind a few turns of insulated wire around the loopstick
antenna in the BC radio, and rely on the harmonics of the local
oscillator to bring in *lots* of stuff from 1-? MHz. No selectivity to
speak of, but kind of a fun experiment.
Why not try your hand at a simple regenerative SW RX?
Let me know if you have any luck!
73 Bob L. WB0POQ

Technology is OUT of control ....

2960. Re: Low phase noise vco de

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <805417269.AA02842@hamlink.mn.org>
Source record: 111969

RR>From: rkarlqu@scd.hp.com (Richard Karlquist)
RR>Newsgroups: rec.radio.amateur.homebrew
RR>Subject: Low phase noise vco de
RR>Organization: Hewlett-Packard
RR>Message-ID: <3tf6s0$5jn@hpscit.sc.hp.com>
RR>Date: 5 Jul 1995 23:22:40 GMT
RR>
RR>In article <804822189.AA02770@hamlink.mn.org>,
RR>Bob Liesenfeld <Bob.Liesenfeld@f100.n282.z1.fidonet.org> wrote:
RR>
RR>>Hi Rick,
RR>> This touches on a long standing question regarding loaded tank Q
RR>> for e. I get the part about the Z of the tank with a parallel load
RR>> being pprox = to the load and Q=R/X, thereby to get a higher Q,
RR>> use a big cap nd a small coil. However, an UNloaded tank is Q=X/R,
RR>> R in this case eing the RF losses the coil and to a lesser extent
RR>> in the cap, thereby or high Q use a big coil and a small cap.
RR>> Now take the high Q tank, ie, big coil, small cap and tap a load
RR>> into t. (light coupling). The Q (now a loaded Q) goes down. To
RR>> boost the Q p, would one use yet a larger coil, with a matching
RR>> lower value cap, hereby raising the effective UNloaded Q of the
RR>> tank, and in effect ecreasing the effect of the loading? Or would
RR>> one swtch to using a maller coil and bigger cap in accordance with
RR>> the Q=R/X formula above? Another way to put this question I
RR>> suppose would be, at what degree of oading does one put aside the
RR>> formula for an UNloaded tank, ie, Q=X/R, nd use the loaded formula
RR>> Q=R/X? Hope all this makes some sense!
RR>
RR>Let's bottom line this. If you want high unloaded Q and also high
RR>loaded Q, put 20 or 30 turns around a toroid and resonate it with a
RR>capacitor or tuning diode to your desired frequency. Now use a 1, 2
RR>or 3 turn secondary winding on the toroid as your connection to the
RR>rest of the oscillator. It's always worked like a charm for me.
RR>
RR>Rick Karlquist N6RK
RR>rkarlqu@scd.hp.com
RR>
RR>---
RR> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
RR>(1:282/100.0)
Wellllllll.....I agree that this is an equitable solution, but I guess
I was hoping to get some feedback on the theory aspects of this. Do you
have any ideas?
72 Bob WB0POQ

Technology is OUT of control .....

2961. Re: 150 mhz low-pass

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <805417269.AA02843@hamlink.mn.org>
Source record: 111970

JJ>From: jwhac4ca@mindspring.com (John Hueckstead)
JJ>Newsgroups: rec.radio.amateur.homebrew
JJ>Subject: 150 MHz Low-Pass
JJ>Organization: MindSpring Enterprises, Inc.
JJ>Message-ID: <jwhac4ca.7.0027659A@mindspring.com>
JJ>Date: Wed, 5 Jul 1995 20:32:02 -0400
JJ>
JJ>I'm looking for a low-pass filter with a 150 MHz or so cut-off. A
JJ>notch filter for 150 to 170 MHz would do the job, too. I need to
JJ>attenuate 158-159
JJ>MHz into a BC-210 scanner I converted to use for 137 MHz weather
JJ>satellite reception. I'm tuning the scanner 21.6 MHz above the
JJ>desired frequency after
JJ>having adjusted the VCO voltage. I need to filter out local 158 MHz
JJ>pagers and
JJ>pulbic service stuff. A schematic would do, but would prefer to
JJ>pick up something I could use.
JJ>
JJ>Thanks. -John (AC4CA)
JJ>
JJ>---
JJ> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
JJ>(1:282/100.0)Hi John,
I have modified Radio Shack FM BC traps to take out these VHF signals.
A heat gun will melt the pitch(?) they use to seal them up, and then you
will find some tiny coils and small value caps inside. I have "pealed"
off a few turns and with the aid of a sig gen and spec anal., made them
move up. You could do the same by listening to the rig as you take turns
off.
Good luck.
72 Bob WB0POQ

Technology is OUT of control ....

2962. 9watt 900mHz transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-10 00:00:00 UTC
From: Bill.Hommel@f53.n121.z1.fidonet.org
Message-ID: <108_9507122338@woodybbs.com>
Source record: 111971

Greetings All!

In the Winter '95 issue of ATVQ, there is a small blurb about a transistor that does 9- ? watts from 800-1000mHz. The unit is a surface mount NPN model PTB20093. Has anyone used this or know anything about it? I'd appreciate hearing anything you could pass along...

Thanks,

Bill KA9QFJ
***
* OLX 2.1 TD * It's only a hobby ... only a hobby ... only a...
--
|Fidonet: Bill Hommel 1:121/53
|Internet: Bill.Hommel@f53.n121.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

2963. Software Authors Read

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <NEWTNews.805526223.10417.amsoft@amsoft.epix.net>
Source record: 111872
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

ATTENTION AUTHORS OF AMATEUR RADIO, SWL, AND ELECTRONIC SOFTWARE!

If your software is shareware, freeware or public domain, AmSoft would like to include your software in our publication of The World of Ham Radio CD-ROM. If you only have a commercial version you may want to think about a shareware version with registration. Most authors have had good returns on registrations from the first year of publishing thier software on this CD-ROM. If 50 users registered your program from our CD-ROM publication, what would that convert to in income for you? Please give this some thought and let us here at AmSoft know if you would like to publish your works on the AmSoft CD-ROM. If you decide to publish on our CD please upload your software to our FTP site and send me an E-Mail letter of authorization to publish your software on the AmSoft CD-ROM.

The FTP site is HAMSTER.BUSINESS.UWO.CA directory /PUB/AMSOFT

We are working on the September 95 issue at this time. Deadline for insertion of your new software is August 7, 1995

Thank You, Pete, KC3TL

Send E-mail to: amsoft@epix.net ,(Pete deVolpi, KC3TL)
Publisher of "The World of Ham Radio", Callsign CD-ROM
@date@ AD, @time@ EST, Hams do it with FREQUENCY
WWW SITE: http://hamster.business.uwo.ca:80/~amsoft/

2964. ** FLEA at MIT ** Sunday 16 July Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: w1gsl@ATHENA.MIT.EDU
Message-ID: <3tsrvs$98q@senator-bedfellow.MIT.EDU>
Source record: 111873
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics,ne.forsale,ne.general,rec.radio.amateur.homebrew

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Harvard Wireless Club (W1AF)

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****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

2965. Re: WTB: or info on HF QRP amplifier kits (5W in - 20 to 30W out)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: fitr%mimi@magic.itg.ti.com
Message-ID: <3tt8v8$6qq@tilde.csc.ti.com>
Source record: 111874
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

Hi Bernie,

3 options come to mind of the top of my head. The first is to contact Ten Tec in Tennessee. They recently released a line of kits and I seem to remember that one of the kits was a Power Amplifier stage from their now-discontinued Argosy2 HF rig. It is a 50-watt PA, and input drive is about 5 watts. Perhaps you can drop your drive down to 3 or 4 watts to get your needed 30W out.

Another option is to use a CB-radio "mosquito" amplifier. These amplifiers typically were designed to "nudge up" the power of a CB (illegal in USA) beyond the 4 watt output. Typically, the "mosquito" amplifiers ran in the 30 to 35 watt output range and would operate all-mode (ssb/am/cw/fm). I'm sure they are available but cant advise where. Though designed for 27 Mc, I know of guys using these with their TenTec Argonaut 509 and 515 QRPp rigs with fine results. It requires changing components but that's all. Price should be under 50 US$ for one of these units. This is NOT a high power, 500 watt super QRO thingamajob. just a mild boost.

The third option is to consider a commerical amplifier. In Japan, Tokyo Hi Power was marketing a 3 band QRP digital transceiver operating on 7/21/50 Mhz. The rig ran 3.5 watts PEP, and, you can purchase a 20-watt tri-band amplifier already made.

I know of no pre-manufactured solid-state amplifier kits in the 20 to 30 watt range that can safely be driven with 5 watts of input power.

73, BV/N0IAT Joe in Taiwan. QRV 18.090 CW

2966. Re: MF-HF preamps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <3tu7od$c90@crl10.crl.com>
Source record: 111875

Biomathematician (kevinm@mail.utexas.edu) wrote:
: In years past, I built HF preamps using a Siliconix VMP4 in a
: single-ended configuration described by Ed Oxner in _QST_.

: I'd appreciate any references, schematics, etc. anyone might have. If
: the VMP4 is still available (I heard Siliconix got sold to MaCom),
: where can I get them?

Siliconix is now owned by Temic semiconductor (Telefunkin).

Their phone number in Santa Clara is (408) 988-8000.

They have a rep in Texas: Ion Associates

Arlington: (817) 695-8000
Austin: (512) 794-9006
Houston: (713) 537-7717

I could not find the VMP4 in any of my Siliconix catalogs, but it may
be that they have a separate VMOS catalog that I do not have.

Good Luck,

--

Don Miller My opinions are my own!
dmiller@crl.com

2967. Re: Modifying am radio for

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <3ttvdk$s8i@ixnews5.ix.netcom.com>
Source record: 111876

In <805417269.AA02841@hamlink.mn.org>
Bob.Liesenfeld@f100.n282.z1.fidonet.org (Bob Liesenfeld) writes:
>
>SS>From: ss6349@ux1.cso.uiuc.edu (Steven H. Schimmrich)
>SS>Newsgroups: rec.radio.amateur.homebrew
>SS>Subject: Modifying AM radio for SW
>SS>Organization: Department of Geology, University of Illinois
>SS>Message-ID: <3tf4no$21m@vixen.cso.uiuc.edu>
>SS>Date: 5 Jul 1995 22:46:16 GMT
>SS>
>SS> I've heard that it's possible to modify a regular AM radio to
>SS>receive shortwave transmissions. Anyone know more about this who
>SS>can steer me toward references on how to do this. Thanks.
>SS>
>SS>--
>SS> Steven H. Schimmrich
>SS>schimmri@hercules.geology.uiuc.edu
>SS> Department of Geology, University of Illinois at
>SS>Urbana-Champaign
>SS> 245 Natural History Building, Urbana, IL 61801 (217)
>SS>244-1246
>SS> http://hercules.geology.uiuc.edu/~schimmri/
>SS>
>SS>
>SS>
>SS>
>SS>---
>SS> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
>SS>(1:282/100.0)
>Hi Steven,
> Weellllll... Seems like this is a old story. I can remember hearing
the
>same thing as a young novice back in the 60's. The only application I
>know of is to wind a few turns of insulated wire around the loopstick
>antenna in the BC radio, and rely on the harmonics of the local
>oscillator to bring in *lots* of stuff from 1-? MHz. No selectivity to

>speak of, but kind of a fun experiment.
> Why not try your hand at a simple regenerative SW RX?
> Let me know if you have any luck!
>73 Bob L. WB0POQ
>
> Technology is OUT of control ....
>

>
Is your objective to listen to shortwave, modify the radio or a little or both.

The latest issue of Popular Electronics has plans for a SW converter, to listen to shortwave on an AM radio. This one has it's own tuner so the 10 Kz steps on digital radio's doesn't matter, ideal for a car radio.

If you want to build or modify something, then use it yourself this may be just the ticket.

If you just want to listen, but still want to use the AM radio there are several commercial converters available. The first that comes to mind is one by MFJ.

Glenn Sparks who is not associated with Popular Electronics or MFJ.

2968. Re: Modem --> Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: Eric Weaver <eweaver@nando.net>
Message-ID: <Pine.SUN.3.91.950711101812.9143B-100000@parsifal.nando.net>
Source record: 111877

On 6 Jul 1995, Dave Hartzell wrote:

> Does anyone have any plans or know-how to convert an old telephone modem
> into a packet unit? I have several old telephone modems (1200-2400bps)
> that might work.

The trouble is, 1200 baud packet uses the Bell 202 statndard, while 1200
baud telephone modems used the Bell 212 standard.

But then maybe somebody knows some tricks that I don't!

---
73 de ke4zer / eweaver@nando.net / eric_weaver@northstate.win.net
---
Eric Weaver - Data/FAX 919-220-0291 - PO BOX 12741 RTP, NC 27709-2741

2969. RE: PC Soundcard as an 'scope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: cscon0151@uoft02.utoledo.edu
Message-ID: <DBJzrw.Ly8@utnetw.utoledo.edu>
Source record: 111878
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

To those interested: FFTSCOPE.ARJ is available at vk2djg.une.au.edu. It runs fine on my 286 and SB 1.0. (Thanks to VK2YQA for info and putting it on the net)

I'm still looking for more software... I'm gonna check out FFTMORSE if I can find it!

Brad Steinman, N8ZRP
The University of Toledo
Internet: cscon0151@uoft02.utoledo.edu
AMPRNet : n8zrp@n8pdk.ampr.org
AX25 : n8zrp@w2xo.#swpa.pa.usa.noam (AX25 > Internet)

2970. MF-HF preamps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: kevinm@mail.utexas.edu
Message-ID: <3tu2r7$9f4@geraldo.cc.utexas.edu>
Source record: 111879

In years past, I built HF preamps using a Siliconix VMP4 in a single-ended configuration described by Ed Oxner in _QST_.

These were wonderful amps -- the third order input intercept was around +40-50 dBm, and the noise figure was about 4 dB. The only drawback I ever found with this design lay in the extremely heavy doping of the VMOS FET itself which made the VMP4 subject to gate puncture. Practical designs thus required some care to minimize this possibility.

Siliconix exists no more, so my question is: is there a similar device on the market now that will in some configuration give IMD and noise figure similar to those above?

I'd appreciate any references, schematics, etc. anyone might have. If the VMP4 is still available (I heard Siliconix got sold to MaCom), where can I get them?

Thanks in advance.

KW5Q

2971. Re: Modifying am radio for

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3tu6fq$18e7@info4.rus.uni-stuttgart.de>
Source record: 111880

> I've heard that it's possible to modify a regular AM radio to
> receive shortwave transmissions. Anyone know more about this who
> can steer me toward references on how to do this. Thanks.
>
>
> Steven H. Schimmrich

May be it would be a good idea first to clarify the question.

The majority of AM radios are *designed* to receive short wave
broadcast transmissions. So may be the question was about receiving
SSB transmissions? (build a 455 kHz oscillator and operate it near the
set...)

If the question is on receiving short wave transmissions on a medium wave
radio, the answer is: the use of a frequency converter is only possible
with a well shielded car radio type set, with *no* ferrite antenna.

good Luck, Moritz DL5UH

2972. Re: MF-HF preamps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3tube0$sg0@abyss.West.Sun.COM>
Source record: 111881

In article <3tu7od$c90@crl10.crl.com>,
Donald J. Miller <dmiller@crl.com> wrote:
>Biomathematician (kevinm@mail.utexas.edu) wrote:
>: In years past, I built HF preamps using a Siliconix VMP4 in a
>: single-ended configuration described by Ed Oxner in _QST_.
>
>: I'd appreciate any references, schematics, etc. anyone might have. If
>: the VMP4 is still available (I heard Siliconix got sold to MaCom),
>: where can I get them?
>
>Siliconix is now owned by Temic semiconductor (Telefunkin).
>
>Their phone number in Santa Clara is (408) 988-8000.
>
>They have a rep in Texas: Ion Associates
>
>Arlington: (817) 695-8000
>Austin: (512) 794-9006
>Houston: (713) 537-7717
>
>I could not find the VMP4 in any of my Siliconix catalogs, but it may
>be that they have a separate VMOS catalog that I do not have.

The 1994 ARRL Handbook for Radio Amateurs lists the VMP4 as a M/A-COM
device. I don't have M/A-COM's number but one could try 800 directory
assistance for starters.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

2973. Re: Modifying AM radio for SW

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: andymul@aol.com
Message-ID: <3tuefs$jti@newsbf02.news.aol.com>
Source record: 111882

Well, yes. I did it once, and it worked pretty good until I took it apart and ventured on more :) OK, what you do is, take the AM coil, inside the radio. Unhook it, and replce it with 7 turns of #28 (I think) enameled wire. Attach an anteena to the tuning know legs, just hold it up to one until you can hear a difference in the signal on AM. Now, you can solder it all, and you should have a half-decent SW radio...Make sure the radio's somehow grounded...It dosn't matter, but it REALLY helps. I'm not guareenteeing this will work, it's been a long time, but it should. Have fun, KB0MMU, Andy.

2974. Re: Power Supply plans/kit/info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DBKAtM.6Cu@sunsrvr6.cci.com>
Source record: 111883

In article <3tpvt3$d8n@news.csus.edu>, Dan Brown <danb@acme.csusb.edu> wrote:
> At least as much for the sake of doing it as for any actual need,
>I'm interested in building a 13.8v, 10-15A power supply, but I'm having
>some trouble locating information about how to go about it. The closest
>I've found is the 5A project in the 1995 ARRL handbook, but I'm not sure
>how adaptable it is to higher current operation. I'd like to find plans
>or a kit, or at least some information on how to proceed. Thanks for any
>input!
>
> --
> Dan Brown, KE6MKS
> danb@acme.csusb.edu
> Don't Tread on Me

Dan,

The tough part is finding a suitable transformer. 12-volt supplies are
popular, so power transformers in the 16-18 volt range are in demand.
You could also use something with a 32 to 36 volt center-tapped secondary.
Rectifiers, filter caps, etc. are easy to get and reasonably priced.

For a regulator, a bunch of 2N3055's in parallel are cheap and effective.
I used a 7812 IC regulator to drive them. The 1994 Handbook has a
28-volt 10-amp project writeup using 2N3055's in parallel. Make sure
you have 3 caps on the 7812's output lead; one good size electrolytic, one
tantalum and one disk. Without them the power supply becomes an oscillator.

If you have any other questions, just email. Power supplies are great
projects.

73...Jim N2VNO

2975. Xmit ID Finger Printing program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: 71644.1233@compuserve.com
Message-ID: <3ttepv$mjf@dub-news-svc-2.compuserve.com>
Source record: 111884

Xmit_ID version 1.60 shareware

Due to the interference problems that plague larger and even smaller repeater systems. Finding those people responsible can be very difficult. Yes you can DF them. Now you need to be able to prove it. The answer, "Finger Print" the radio. The price of this equipment can be out of reach for the average ham. Now with a modified radio, a used 386 computer, VGA monitor, 1 meg of memory and a Dos compatible sound card you can get "Finger Prints" of radios. This program with store them and compare them. It can be download on the internet from ftp:oak.oakland.edu /pub/hamradio/pc/ham-util/xmit160.zip or on Compuserve in the ham net form Software & Pictures directory XMIT160.ZIP. The cost to register this program is only $15.

Programmer Richard Rager (KB8RLN)
INTERNET: 71644.1233@compuserve.com

2976. crystal source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: spearce@ccu1.auckland.ac.nz
Message-ID: <3tss3q$104l@thebes.waikato.ac.nz>
Source record: 111885

I am looking for a source for 1.8432MHz crystals (for the sigma delta
digital spectral display in the arrl handbook) I would like to try coherent cw.

Any information appreciated.

Thanks

2977. Feedback capacitor in oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: ian.mitchell@research.utas.edu.au
Message-ID: <3tt2j5$4f5@franklin.cc.utas.edu.au>
Source record: 111886

Hello all,

Does anyone know if there is a way of calculating the feedback capacitor in an emitter follower oscillator with a crystal from base to ground? That is with the capacitor from emitter to base.

Also, is there a way of calculating the expected amplitude at the emitter?

Any help is much appreciated.

Ian

2978. Re: Dead Drake R4B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: jbls@aol.com
Message-ID: <3tt5nl$dth@newsbf02.news.aol.com>
Source record: 111887

A friend of mine is a radio tech and hs been in business many years. His name is Dave Martin. His business name is Martronics and is located in Paso Robles, CA. He has repaired radios for people all over the nation. He specialize in Collins equipment but yours should be no big prob. He can be reached at (805) 239-1932.

John
KE6TGN

***BTW: Dave is just a friend of mine and I have no financial or other selfish interest in promoting his business.

2979. Re: Modifying am radio for

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: thora@telepost.no
Message-ID: <3tv2o4$1cl@nms.telepost.no>
Source record: 111888

>The latest issue of Popular Electronics has plans for a SW converter,
>to listen to shortwave on an AM radio. This one has it's own tuner so
>the 10 Kz steps on digital radio's doesn't matter, ideal for a car
>radio.
>
Could anyone tell me how to subscribe to Popular Electronics?

I can't buy it here in Norway, and it seems to be a interesting magazine.

Thor.

thunder@ibm.net

2980. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: jeff.sumberg@sailboard.com
Message-ID: <8AD026E.012E000851.uuout@sailboard.com>
Source record: 111889

siva@bond.bocaraton.ibm.com (Chander) asked, on erasing Eproms:

CR> How about the black light bulbs available at Home Depot?

No good. These are LONG WAVE UV lamps. They will not erase the chip.
You need SHORT WAVE UV for that.

You can also look at long wave UV without hurting you eyes, but when
you do, they feel strange. You know you are looking into something that
appears to be quite dim, but your eyes tell you (by the way they feel)
that you are staring into something very bright. Quite odd.

--
73 de N2VYU
Jeff

* 1st 2.00d #32s * .

2981. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-11 00:00:00 UTC
From: jeff.sumberg@sailboard.com
Message-ID: <8AD0276.012E000852.uuout@sailboard.com>
Source record: 111890

cusick@dstos3.dsto.defence.gov.au said:

CK>Several years ago I built a home brew EPROM eraser based on a 40W germicidal
>tube, and it works a treat. I can erase a whole batch of chips in 5 minutes.

CK>I have found though, using these higher power tubes a high failure rate
>of EPROMS. The devices are erased but will not program correctly. These

CK>I put this down to the high exposure rate. Commercial erasers here take
>the best part of an hour to completely erase,

Correct. There is a rate at which these chips must be discharged. If
you use too high an intensity of UV, you will damage the chip. There
was a high speed eraser available several years ago, which looked like
a camera flash. The strobe tube was made of quartz instead of glass to
allow the short wave UV to pass. You placed this device over the chip
window, and only flashed 2 or 3 times to erase the chip. Blank in
seconds. We never bought one because we though the intensity would
damage the chip. We later heard it did, and even chips which had been
erased several times, and reprogrammed OK, were failing in the field
after several months. Apparently the cells were somehow damaged and the
charge was leaking out, and the contents of the chips were changing
(call it self erase).

--
****
* 73 de N2VYU, Jeff, in New Jersey (Fn21) *
* Email: jeff.sumberg@sailboard.com *
* Packet: N2VYU @ WA2SNA.NJ.USA.NA *
* Advanced class - WAC on RTTY *
* Ramapo Mountain Amatuer Radio Club *
****

* 1st 2.00d #32s * .

2982. Re: Announce: SCALC - a new RF/microwave analyser and optimizer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3tva9g$ipg@dump.primenet.com>
Source record: 111891

Ian G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:
: Announce: SCALC - a new RF/microwave analyser and optimizer

: NEW RF/MICROWAVE ANALYSER AND OPTIMIZER IS LOW-COST SHAREWARE

: S-CALC is a powerful microwave S-parameter analysis and optimization
: program that doesn't cost thousands of dollars. Developed by Roger
: Blackwell, G4PMK and Ian White, G3SEK, the SCALC program can analyse the
: performance of almost any RF network based on standard components and
: building blocks. Unusually for a low-cost RF design program, SCALC has an
: optimizer: starting from your initial design, it can automatically improve
: the performance of the network towards your chosen goals.

: As well as having a built-in circuit editor and its own large library of
: active device data, SCALC can import your own device data in industry-
: standard file formats. Output from SCALC's performance analyser can be in
: several formats including colour graphs, Smith charts and tables of gain,
: impedance etc.

: SCALC is easy to understand and use. When G4PMK and G3SEK developed SCALC
: from the original program ALMOND by Chris Trask N7ZWY, they paid close
: attention to the user interface and have also produced a comprehensive
: manual with lots of explanation and tutorial examples. If you already know
: a little about S-parameters, you can start to use SCALC very quickly
: because the Shareware release includes the full tutorials and example files.
: If you're still learning about RF design, SCALC and its tutorials will help
: you on the way.

: SCALC is Shareware with a specially low registration fee for radio
: amateurs. The registered version also includes a printed manual, libraries
: of device data and datafile conversion utilities, and technical support.

: Requires VGA, 640k, DOS 3.2 or higher.

: SCALC.ZIP (152505 bytes) is available by ftp from:

: scitsc.wlv.ac.uk /pub/hamradio/programs/g3sek+g4pmk

: demon.co.uk /pub/ham/circuit-design

: oak.oakland.edu /pub/hamradio/pc/ham-utils

: and also from the CompuServe HamNet library.

: On disk, SCALC is available from the following UK shareware
: libraries:

: Venus Electronics

: Public Domain & Shareware Library.

: 73 from
: Roger Blackwell, G4PMK
: Ian White, G3SEK

--

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /

----------oo0~(_)~0oo----------

2983. Re: Feedback capacitor in oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3tvatf$ipg@dump.primenet.com>
Source record: 111892

Ian Mitchell (ian.mitchell@research.utas.edu.au) wrote:

: Does anyone know if there is a way of calculating the feedback
: capacitor in an emitter follower oscillator with a crystal from
: base to ground? That is with the capacitor from emitter to base.

: Also, is there a way of calculating the expected amplitude at
: the emitter?

Ian,
From a practical standpoint, the tank circuit in a Colpitts or
Hartley oscillator (yours sounds like a Colpitts), the capacitors and
tank inductor roughly form a matching metwork between the emitter and
the base. This is why a Hartley is a better choice for a wide band-
width oscillator, as you essentially have a tuned autotransformer for
a tank circuit.
To derive these values, you need to know the crystal impedance
as well as the impedances of the transistor, assuming that you want to
be exact. Otherwise, you can take a stab at the emitter to ground cap-
acitor being approximately twice that of the base to emitter capacitor.
This, of course, is just a rough rule of thumb.

I won't hazard a guess as to the output amplitude. I'm usually
thrilled to get anything at all (Hah!).

--

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------oo0~(_)~0oo----------

2984. Re: crystal source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3tvdd4$m8q@parsifal.nando.net>
Source record: 111893

spearce@ccu1.auckland.ac.nz wrote:
>
> I am looking for a source for 1.8432MHz crystals (for the sigma delta
> digital spectral display in the arrl handbook) I would like to try coherent cw.
>
> Any information appreciated.
>
JDR Microdevices, 1850 South 10th St, San Jose, CA 915112-4108
has them in an HC-33 case for 1.49 each. their part# is 1.8432MHZ.
Sales phone 1-800-538-5000 or fax orders 1-800-538-5005
They have no minimum order.

73 de W3FPR (Don)

2985. how does one design/make a swr meter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: mlyon@walrus.mvhs.edu
Message-ID: <3tvljo$k99@news.arc.nasa.gov>
Source record: 111894

I am wondering how one would attempt to make a 1.2gig SWR meter. Any help would be appreciated. thank you.
-Mike

--
////////////////////////
| Mike Lyon |
|Amateur Radio Callsign|
| KE6MRE |
| E-Mail Address |
|mlyon@walrus.mvhs.edu |
\\\\\\\\\\\\\\\\\\\\\\\\

2986. Here are plans for the Eggbeater

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: dsantoro@pipeline.com
Message-ID: <3u0he6$hp1@news.nyc.pipeline.com>
Source record: 111895
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Hi Folks
I got these plans from someone via E-Mail. I haven't built this antenna yet, so I have no idea how well it will perform. (Please note that when the plans refer to rg-93 coax, I believe they mean RG-62.)

Please, If you build this antenna I would love a quick E-Mail to see how you made out!

Begin Pasted Text:

Date sent: Wed, 14 Jun 95 12:53:10 CDT
From: harper@huntsville.sparta.com (Christie Harper)
To: dsantoro@pipeline.com
Subject: eggbeater

For a more omnidirectional antenna you might try what is known as an "eggbeater" there are commercial versions available for $110 or you can
make one for about $5. the eggbeater is comprised of two full wave loops
placed perpendicular to each other and driven 90 degrees out of phase. this gives the antenna a horizontal component along the horizon and a circular component overhead.

looking at the antenna from the top it would look like;

```
|
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```

Use a piece of pvc pipe as the mast.

Make two full wave loops (length = 299.8/F (Mhz) Meters) using #12 or heavier wire.

A full wave loop has a "resistance" of about 100 ohms so resonate the loop
at the desired frequency by doing the following;

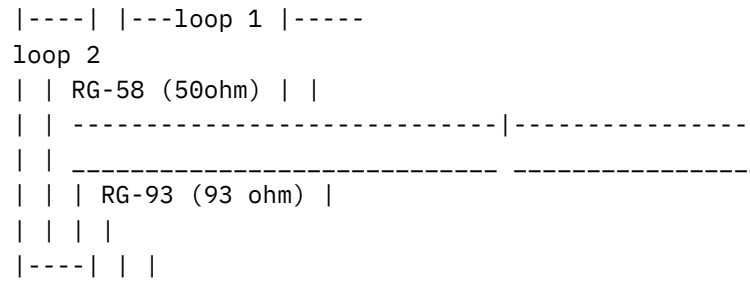
use a quarter wave 75 ohm matching line (50-100 ohms). Cut the loop one or two inches longer than calculated and keep pruning to resonance.

drill holes in the pvc to pass the loop (NOTE insure that the loops DO NOT touch at the top or bottom.

Phasing harness..... need a 1/4 wavelength piece of 93 ohm coax

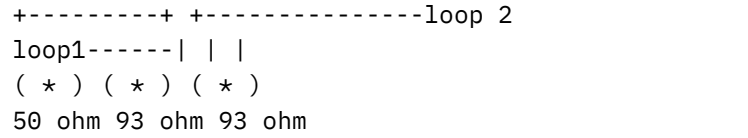
length = 0.25*(velocity factor)*299.8/Freq (Mhz). Velocity factor is available in most handbooks (coax is RG-93).

---- braid
____ center conductor



favorite
connector

An easy to mount the phasing line is to take a small piece of circuit board (radio shack) and drill three holes in it and attach cable as follows.



solder all shields to the circuit board. connect short jumpers from the circuit board to the other sides of the loops.

Based on homebrew work of W3PM (Gene Marcus)

end
the views expressed here are the author's

C. Harper
SPARTA Inc (205) 837-5282 x1216 voicemail
4901 Corporate Drive (205) 830-0287 FAX
Huntsville AL 35805

Amateur Call: KD4QIO

Internet: harper@huntsville.sparta.com
kd4qio@amsat.org

Home QTH: Huntsville, AL 35802
EM64rp

34.651 -86.543

"we have met the enemy and he is us." W. Kelly
"Goin' nuclear fishin' ...except it ain't so new and it ain't so clear" ... W. Kelly :-)

End Paste Text

2987. Re: GaAsFET<-----

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: n7tcf@primenet.com
Message-ID: <3u0isl$no0@dump.primenet.com>
Source record: 111896

In <950711162205720@wem.org>, danny.barker@wem.org (Danny Barker) writes:
>-> From: koch@demos.su (Alexey Kochnov)
>-> Subject: Q: AsGa FETs in 2m RX pre-amp?
>->
>-> Hi All,
>->
>-> Could any kind soul from experienced gurus give
>-> some opinions about using AsGa FETs in 2m or 70cm
>-> narrowband RX pre-amps? Does it make sence to do this.
>-> Or it's just a waste of time?
>-> The end task is the improvment of repeater sensitivity.
>->
>-> Thanks in advance,
>-> Pls e-mail.
>->
>-> 73, Alex RX3ARW.

I've built a couple of the ARRL Handbook GaAsFET preamps.
The device is static sensitive and I've lost some on the bench, I now buy several at a time.
The tuning caps need to be high-quality, as drifting values will change gain, and matching.
A fully closed, rf-tight box is needed if you live in an urban area with lots of mobile radio traffic. These make construction easier, you build the circut on copper sheet attached to the lid. Mount connectors through the board, easy access.
Make sure you use some interlock or sequencer to avoid destroying the active device. I got lots of practice building these until I built the sequencer appearing in the handbook.

Jim N7TCF

2988. Regen. rec. in 95 ARRL hndbk

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: ss6349@ux1.cso.uiuc.edu
Message-ID: <3u0l9e$on@vixen.cso.uiuc.edu>
Source record: 111897

I was thinking of building the regenerative receiver on page 17.68 of the 1995 ARRL handbook. Has anyone else built this? Any comments or construction hints? Thanks.

--
Steven H. Schimmrich schimmri@hercules.geology.uiuc.edu

Department of Geology, University of Illinois at Urbana-Champaign
245 Natural History Building, Urbana, IL 61801 (217) 244-1246

http://hercules.geology.uiuc.edu/~schimmri/

2989. Looking for oddball parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: Pete Goudreau <pgoudrea@lsi.dsccc.com>
Message-ID: <3u0qki$rfd@tpd.dsccc.com>
Source record: 111898

I've an old National NC-57 that uses a peculiar pulley and string arrangement to couple the tuning knob and dial to the variable cap. The string is anchored to one of the pulleys through a small spring, wraps out and over the pulley to the other pulley and back where it drops through the slot and is anchored to the face at a tab. I need to use this arrangement on another project and have no idea who to call to find these types of parts. Any help will be > appreciated.

Thanks,
Pete G.

2990. RE: PC Soundcard as an 'scope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: cscon0151@uoft02.utoledo.edu
Message-ID: <DBM80D.LGn@utnetw.utoledo.edu>
Source record: 111899
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In Article <DBJzrw.Ly8@utnetw.utoledo.edu>
cscon0151@uoft02.utoledo.edu (Brad Steinman, N8ZRP) writes:
>To those interested: FFTSCOPE.ARJ is available at vk2djg.une.au.edu. It runs
>fine on my 286 and SB 1.0. (Thanks to VK2YQA for info and putting it on the
>net)
>
>I'm still looking for more software... I'm gonna check out FFTMORSE if I can
>find it!

Sorry 'bout the addr mixup....here's the text I got...

Subject: Re: Re: Soundblaster CRO

I have posted it in the public directory of the gateway here in town.
You can log in as anything to download it.

The filename is fftscope.arj and it is about 100K long.

You can FTP connect to either une.vk2djg.ampr.org (44.136.32.1) within
Amprnet or vk2djg.une.edu.au from Internet (the same machine)

I just had another look at it and am impressed once again. You can do
accurate measurements and I especially like the spectrum analyzer
functions.

Have fun!

73's from Bob in Armidale NSW Australia.
- Amprnet vk2yqa@vk2yqa.ampr.org (44.136.33.8)
- Internet vk2yqa@vk2djg.une.edu.au (UNE Armidale)
- AX25 VK2YQA@VK2DOQ.NSW.AUS.OC (Glen Innes)

Brad Steinman, N8ZRP
The University of Toledo
Internet: cscon0151@uoft02.utoledo.edu
AMPRNet : n8zrp@n8pdk.ampr.org
AX25 : n8zrp@w2xo.#swpa.pa.usa.noam (AX25 > Internet)

2991. Need reference for VHF/UHF yagi book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: willmore@MCS.COM
Message-ID: <3u15qu$dd@Venus.mcs.com>
Source record: 111900
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

I'm looking for a good book on yagi antenna design that doesn't spend the whole book talking about HF tri-banders. I'm interested in 2m and up. I live in an appartment and space limitations and the landlord don't allow for HF operation. Living on the ground floor, an omni doesn't work too well. I need gain and I need it in a reasonable size.

I have been looking for a decent book (w/software would be nice) on Yagi design considerations for the upper bands. I'm a Computer Engineer, so I don't like field equations, but they don't scare me. :) Theory is fine as is practicality. I'm supprised that there isn't more available on the topic as 1/2" copper pipe is relatively cheap--$3.50(US) for 10". That's three 1/2 wave elements on 2 meters.

BTW, is there a good FTP site for antenna design programs. I keep hearing about NEC and the like, but I have no idea if these are commercial or PD nor how about getting them. If anyone could help me out, I would appreciate it. I'd really like to whip up a 6 element Yagi for 2M using 1/2" copper this weekend, but all of the 'construction' articles I can find sound like:

"build it this way, cut everything to the nearest 1/10th mm and file it to tune it--oh, and don't forget to do this in free space wearing teflon underware!"

Can anyone suggest anything for me to try--a place to look, a book to find, a new degree to get, anything?

Cheers,
David

2992. Re: Modifying am radio for

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: raiar@vulcan.inlink.com
Message-ID: <3u14ca$7rk@news.inlink.com>
Source record: 111901

Hmmmmmmmmmmmm, if that's so, then why did the little crystal (cats whisker) radio my son built, only pick up SW instead of the broadcast stations.

Gary

2993. Re: Xmit ID Finger Printing program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <3u1atl$fhb@cnn.exu.ericsson.se>
Source record: 111902

Thanks for the neat reference. The correct URL however is:

ftp://oak.oakland.edu/pub/hamradio/pc/ham-utils/xmit160.zip

Again many thanks for the info. Will give it a try.

Mike KD6PKJ

2994. hallicrafters S40A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: dbosch@freenet.columbus.oh.us
Message-ID: <3u1e49$3t2@acme.freenet.columbus.oh.us>
Source record: 111903

information needed... I'm looking for a copy of a schematic for a
Hallicrafters S40A. Antique Radio in Arizona couldn't help.

thanks in advance.

doug

2995. PIC Programmers starting at only $29!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: itutec@aol.com
Message-ID: <3u1duu$fpl@newsbf02.news.aol.com>
Source record: 111904

ITU Technologies is proud to introduce the ITU PIC Programmer, the first truly low-cost and versatile programmer for the Microchip Family of PIC microcontrollers. This programmer is designed for programming Microchip's PIC16C6x/7x/8x microcontrollers. An 18-pin socket is provided on board and 28/40 pin adapters will also be available. An expansion header is provided for adapters and in-system programming of EEPROM-based chips.

SPECIAL INTRODUCTORY PRICING FOR INTERNET CUSTOMERS
For a limited time, this special introductory pricing is available:

ITU PIC Programmer (Model PIC-1) KIT $29
This kit includes:
* an easy to read instruction manual for building your programmer
* a high quality printed circuit board with silkscreen
* all components needed to build the programmer
* PIC Programming Software for IBM PC-compatible Computers
* a cable to connect the programmer to a PC's parallel port
* a power supply for the programmer
* a User's manual introducing PIC programming to the beginner

ITU PIC Programmer (Model PIC-1) Assembled/Tested $49
As above, but assembled and tested.

ALSO AVAILABLE PIC-N-GO PACKAGES:

PIC-N-GO packages are designed for the microcontroller novice. They include the ITU PIC Programmer (Model PIC-1) as above plus a PIC16C84-04/P microcontroller. This EEPROM-based microcontroller is ideal for the novice and the PIC-N-GO packages are the most attractive programmers available for the beginner. These packages are great for students and hobbyists looking to acquaint themselves with microcontrollers.

PIC-N-GO KIT only $39
* includes PIC-1 programmer kit and PIC16C84-04/P microcontroller

PIC-N-GO Assembled/Tested only $59
* includes assembled and tested PIC-1 programmer and PIC16C84-04/P

All products include a 30-day money back guarantee and a 90-day warranty. Due to the nature of kit building, kits must be returned unassembled to qualify for a full refund.

We are currently unable to process credit card orders, but pre-paid and COD orders can be handled. Quantity and student discounts are also available. Please e-mail us at ITUTec@aol.com for ordering information.

Questions? Please e-mail us at ITUTec@aol.com!

ITU Technologies
e-mail: ITUTec@aol.com
PIC programmers starting at $29!

2996. Aug. CQ - Antenna projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: cq@ix.netcom.com
Message-ID: <3u1e4h$dai@ixnews3.ix.netcom.com>
Source record: 111905

The August, 1995, issue of CQ is dedicated almost entirely to antennas, including several projects for "rolling your own." A complete description of the issue has been posted to rec.radio.amateur.misc.

73,
Rich Moseson, NW2L
CQ Online

2997. Re: Oscillator that doesn't.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-1207951542530001@k4dii.ksc.nasa.gov>
Source record: 111906

In article <acl-0707952020230001@amber1.ultranet.com>, acl@ultranet.com
(Jon Goguen) wrote:
> I recently built a simple two-transistor crystal oscillator from plans in
> the '94 ARRL Handbook (pg.26-5, Fig. 7). It refuses to oscillate.

Jon-

I'm not familiar with your specific oscillator. In general, oscillation requires a circuit loop gain greater than one. Some kind of voltage divider is often used to feedback a sample of the output, to reinforce the oscillation. It may be in the form of two capacitors, or it may use a tapped inductor.

By changing the ratio of capacitors, or moving the tap on the coil, you should be able to find a point where the circuit oscillates. (Excessive feedback may distort the waveform, causing most of the output energy to exist at harmonic frequencies!)

Fred

2998. Re: how does one design/make a swr meter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: dlarson@UWYO.EDU
Message-ID: <1995Jul12.145855.12793@roper.uwyo.edu>
Source record: 111907

In article <3tvljo$k99@news.arc.nasa.gov>, mlyon@walrus.mvhs.edu (Michael Lyon) writes:
>I am wondering how one would attempt to make a 1.2gig SWR meter. Any help
>would be appreciated. thank you.
>-Mike

While were on this topic, I am also looking for plans for a SWR meter
but for 2m. Thanks if anyone has any ideas.

73
KC7EGB
---Donald Larson---
---Laramie Wyoming---

2999. 1948 Amateur radio handbook for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: mikael.landing@teknikum.uu.se
Message-ID: <mikael.landing.14.00077AA6@teknikum.uu.se>
Source record: 111908

Anyone wants to buy 1948 handbook.
If so, give me a mail with suggested price.

73 Micke

3000. how does one design/make a swr meter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: hduff@humnet.westonia.com
Message-ID: <7916279419002@humnet.westonia.com>
Source record: 111909

>
> I am wondering how one would attempt to make a 1.2gig SWR meter. Any help
> would be appreciated. thank you.
> -Mike
>
> --
> ////////////////////////
> | Mike Lyon |
> |Amateur Radio Callsign|
> | KE6MRE |
> | E-Mail Address |
> |mlyon@walrus.mvhs.edu |
> \\\\\\\\\\\\\\\\\\\\\\\\
>

Hi Mike...there is some construction details on a 1296 Power/SWR
indicator in the new ARRL UHF/Microwave projects manual, originally
an article from Nov. 1980 QST. Other than the Pc board microstips used
for the sensing, the rest looks straightforward.

Regards..Hugh VA3TO Toronto

• NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/

3001. Re: Feedback capacitor in oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDBLMKw.65r@netcom.com>
Source record: 111910

Ian Mitchell (ian.mitchell@research.utas.edu.au) wrote:
: Does anyone know if there is a way of calculating the feedback
: capacitor in an emitter follower oscillator with a crystal from
: base to ground? That is with the capacitor from emitter to base.
:
: Also, is there a way of calculating the expected amplitude at
: the emitter?

The answer to your questions is "yes".

However, there are very many variables to consider: desired stability, frequency, aging, cut of the crystal, transistor gain, etc.

Your best bet is to refer to the book "Crystal Oscillator Design and Temperature Compensation" by Marvin E. Frerking. The book is published by Von Nostrand Reinhold, ISBN 0-442-22459-1. This book is a "must read" for anyone who wishes to build a high-performance crystal oscillator.

Thomas -- KI4N
tgm@netcom.com

3002. Re: Modem --> Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: Geoff Webster <100413.3373@compuserve.com>
Message-ID: <3u111i$el5@dub-news-svc-6.compuserve.com>
Source record: 111911

Hi John,

Don't know about the modem, but if you can get hold of JVFax, Hamcomm, or something, the modulator for this software (with a very small modification) will run packet. The trouble is
it requires 2 com ports, and then you run Baycom with EMBAYCOM, a little addition that's around. This will run packet and I use it myself.
One complain, though, Baycom is not only written in German (and Embaycom by a Russian guy!!)
but I seem to be having a bit of trouble with the software (every-so-often it sends a disconnect request for me!!!!). Apparently others do OK though.

73 de Andrew Webster G7UHN

3003. VALUE OF OLD EQUIPMENT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: cgs@asl.hitachi.com
Message-ID: <3u0jah$2gm@sol.asl.hitachi.com>
Source record: 111912

Can anybody out there tell me what an old, but fully functional
Viking Challenger cw/am transmitter (with VCO) and lafayette HA800
receiver are worth? Are there any companies out there that buy retired
HAM radio equipment.

Any suggestions, please E-mail me back at

cgs@asl.hitachi.com

thanks
Carl

3004. Whither Dan's mySmall Parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-12 00:00:00 UTC
From: dbeach@kean.ucs.mun.ca
Message-ID: <1995Jul12.210515.1@noah>
Source record: 111913

Whither Dan's Small Parts?
Does anybody know where Dan (of Dan's Small Parts, Missoula MT) has
gone? The phone has been disconnected. If nobody knows where
he has gone, any other good ideas (besides Ocean State) for those
little 'ham bits and pieces'?

David BeVO2BD

3005. Icom 728 mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: CJKM92A@prodigy.com
Message-ID: <3u3tas$t3e@usenetw1.news.prodigy.com>
Source record: 111822

Anyone have any mods for the Icom IC-728?
I found one that says to remove d8 on the PLL unit, but it does not say
what the result is.

LEE WAY CJKM92A@prodigy.com
KE4QMP

3006. Re: FM receiver module

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <3u3vba$1av@nntp.Stanford.EDU>
Source record: 111823

In article <3u1v7d$r6u@gazette.engr.sgi.com> shabtai@rendezvous.engr.sgi.com (Shabtai Evan) writes:
>
>Does anyone know of a company that manufactures a reciever module for
>the FM radio band(88.5 thru 108)? The module must have good demodulation
>linearity upto approx 75kHz. I want to recover a 9600 baud data stream
>that is modulated on the SCA carrier.
>Please email me.
>
>Thanks in advance
>SE
>
>--
>____
>Shabtai Evan evan@netcom.com or shabtai@sgi.com 415-390-1033

Most FM stereo receivers can be tapped right at the output of the
FM demod (before the stereo decoder IC and de-emphasis network)
to get the broadband baseband you need for your SCA decoder.
You sometimes need to render the stereo decoder IC non functional
so that the harmonics of its own 19 or 38KHz oscillators don't
interfere with your SCA signal.

I have done this with good results on a number of receivers. You
might try one of those cheap walkman style units. Access to good
IC data books will help you find the right point to tap.

Steve Muther

stevem@w6yx.stanford.edu

3007. Squelch circuit - wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: janovetz@glhpx12
Message-ID: <3u4175$2i3@vixen.cso.uiuc.edu>
Source record: 111824

Hi,

I'm in need of a simple squelch detection circuit if anyone has
one. It just needs a level and an output (hi/low) from the comparator
to turn on/off the amplifier. If anyone has hints or circuits, please
let me know!

Thanks,

Jake

--
janovetz@coewl.cen.uiuc.edu| Once you have flown, you will walk the earth with
University of Illinois | your eyes turned skyward, for there you have been,
I want a PowerPC | there you long to return.
*** Team OS/2 *** | da Vinci

3008. Re: 9watt 900mHz transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <3u43s6$65o@cnn.exu.ericsson.se>
Source record: 111825

Bill.Hommel@f53.n121.z1.fidonet.org (Bill Hommel) wrote:

>Greetings All!
>
>In the Winter '95 issue of ATVQ, there is a small blurb about a
>transistor that does 9- ? watts from 800-1000mHz. The unit is a surface
>mount NPN model PTB20093. Has anyone used this or know anything about
>it? I'd appreciate hearing anything you could pass along...
>

I think I can help. It was designed here at Ericsson Inc. in Morgan Hill, Ca by Jeff who works with me in the Engineering Dept. It's manufactured here too. We have transistors in that band delivering from 1W to over 150W CW. The 20093 will do an easy 9W with 10dB gain and min. 50% efficiency. It will handle an infinate VSWR too. It is not a 50 ohm matched transistor, so some impedance matching will need to be done on the PC Board to get it to play. Circuit diagrams are readily available and the circuit is not complex.

Drop me a line I'll send or fax you a data sheet. I would also like to know a little more about the publication ATVQ if you don't mind. I've been involved with ATV here for only about a year or so and am looking for some good publications. Thanks.

Mike Groves (KD6PKJ)
RF Engineer

Ericsson Inc.
675 Jarvis Dr.
Morgan Hill, Ca 95037
408-778-9434

3009. RE: PC Soundcard as an 'scope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: ppiercey@nlnet.nf.ca
Message-ID: <3u1vbk$lb1@coranto.ucs.mun.ca>
Source record: 111826
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

cscon0151@uoft02.utoledo.edu (Brad Steinman, N8ZRP) wrote:
>To those interested: FFTSCOPE.ARJ is available at vk2djg.une.au.edu. It runs
>fine on my 286 and SB 1.0. (Thanks to VK2YQA for info and putting it on the
>net)
>
>I'm still looking for more software... I'm gonna check out FFTMORSE if I can
>find it!
>
>Brad Steinman, N8ZRP
>The University of Toledo
>Internet: cscon0151@uoft02.utoledo.edu
>AMPRNet : n8zrp@n8pdk.ampr.org
>AX25 : n8zrp@w2xo.#swpa.pa.usa.noam (AX25 > Internet)
>

Hi again, Brad,

I found that one at oak.oakland.edu archives. There are a bunch of others there.
Later...

==========
Paul J. Piercey

VO1HE
[44.135.16.3]

Packet Address VO1HE@VO1AAA.#ENF.NF.CAN.NA
Internet Address ppiercey@nlnet.nf.ca
==========

3010. Re: Wanted LP Output Filter Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: blombard@iu.net
Message-ID: <3u1smj$sou@cc.iu.net>
Source record: 111827

In article <3tq3d2$gug@newsbf02.news.aol.com>, bcdlr@aol.com says...
>
>Is there out there somewhere, software to calculate LP output filters,
>like for QRP transmitters amps, (i.e. 7 element filters)?
>Is there any software to calculate torrid winding data?
>Is there any software to calculate winding data for beads to make chokes?
>Seems like it would be a whole lot easier just winding a choke on a bead
>for occasional radio work.
>I'm a ham newcomer wanting some help. I'm learning but still not "all"
>there yet, (ha). The Amidon literature for me is confusing....
>Thanks!
>Dan Reynolds, bcdlr@aol.com, KB9JLO

I've written a program that will do the first part, calculate LP filters (along with HP, BP, narrow BP (Top-C coupled resonators) BR, elliptic HP and elliptic LP). I've placed the program in the public domain. I won an honorable mention in the RF Design magazine annual contest back in '91 with a really rough version of this program, and have continued to work on it and update it. The program is called FilDes, or FDS.

It is available via ftp from ftp.netcom.com in /pub/rander. The last time I checked was a few months ago, so let me know if it isn't there. IF you find it elsewhere, the current rev. is 1.24.

If you run an ftp site, and would like it, let me know your address.

As for winding Toroids, I've always just used the Amidon data. There is a different Al for every size core in every mix, which is a big lookup table. Once you get used to it, it takes a few seconds with a calculator. Ferrite beads? Most of the time you just run one or two turns through a bead. It is usually not critical. If it is critical, the construction project should tell you.

BTW, if you are using ARRL Radio Designer software, my program will write a Touchstone format circuit file of the filter you design. I'm told (by the ARRL) that a translator is (will be?) coming with Radio Designer that will allow you to read the files my program writes into Designer.

73,
Bob

--
Bob Lombardi WB4EHS in Melbourne, FL (>))))|||| blombard@iu.net
Microsoft just notified me that they are sueing me for using the name
"Bob", which is their registered trademark. You'll have to call me
by my new name, "Windows"

3011. FM receiver module

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: shabtai@rendezvous.engr.sgi.com
Message-ID: <3u1v7d$r6u@gazette.engr.sgi.com>
Source record: 111828

Does anyone know of a company that manufactures a reciever module for
the FM radio band(88.5 thru 108)? The module must have good demodulation
linearity upto approx 75kHz. I want to recover a 9600 baud data stream
that is modulated on the SCA carrier.
Please email me.

Thanks in advance
SE

--

Shabtai Evan evan@netcom.com or shabtai@sgi.com 415-390-1033

3012. MTS decoder info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: jdubin@wanna.letts.american.edu
Message-ID: <3u29ti$7ga@paladin.american.edu>
Source record: 111829

I've recently picked up a used MTS TV Stereo deocder... it's a RECOTON model which has features such as 'synth' and 'spatial' buttons, as well as DNR and dbx.

The inputs are the problem... it has two RCA jacks labeled MPX and Probe. I'm assuming that MPX is for a dedicated output from a TV or tuner and that probe is meant to be some sort of... ummm... probe.

So far, I haven't heard a peep out of it, but I'm pretty sure it's working okay.

I'd appreciate any info that anyone could send. Thanks!

Jeff
jdubin@american.edu

3013. Re: Icom 735 PC Interface details please

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: blombard@iu.net
Message-ID: <3u1sve$sou@cc.iu.net>
Source record: 111830

In article <DBIM0t.LJ9@cix.compulink.co.uk>, davlat@cix.compulink.co.uk says...
>
>A friend has a IC 735 which he wishes to interface with his PC. He has
>the software but not the interface nor any detail about it. He does not
>want to buy the genuine Icom one and believes that it only needs a level
>convertor. Any help or information would be appreciated. If there is a
>mod file somewhere can you provide the FTP address.
>Thanks..Dave G3VUS

It does indeed only need a TTL to RS-232 converter. The send and receive take place on the same line, so I used a simple pair of old, low tech chips (hey, I had them on hand) MC1488 and MC1489. A newer part like a MAX232 will work just as well.

Sorry, don't know of an ftp site, but it's pretty easy. Your PC has a Tx and Rx pin, you hook those to a line driver and receiver, respectively. The outputs are tied together, and to the wire to the rig. (Use shielded wire, or RG-174 style coax to keep the RF out of your computer - and the computer out of your receiver.)

Hope this helps.

73,
Bob

--
Bob Lombardi WB4EHS in Melbourne, FL (>))))|||| blombard@iu.net
Microsoft just notified me that they are sueing me for using the name "Bob", which is their registered trademark. You'll have to call me by my new name, "Windows"

3014. Re: MTS decoder info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3u2bqu$jer@solaris.cc.vt.edu>
Source record: 111831

In article <3u29ti$7ga@paladin.american.edu>,
jdubin@wanna.letts.american.edu (Jeff Dubin) wrote:
>I've recently picked up a used MTS TV Stereo deocder... it's a RECOTON
>model which has features such as 'synth' and 'spatial' buttons, as well
>as DNR and dbx.
>
>The inputs are the problem... it has two RCA jacks labeled MPX and
>Probe. I'm assuming that MPX is for a dedicated output from a TV or
>tuner and that probe is meant to be some sort of... ummm... probe.
>
>So far, I haven't heard a peep out of it, but I'm pretty sure it's
>working okay.

The "probe" picked up the 4.5 MHz sound IF signal from outside the TV. It was a small plastic box that probably contained a ferrite resonant antenna tuned to 4.5 MHz. The customer was instructed to move the probe around the outside (usually underside) of the TV until it picked up a good signal, then plant it there with the provided double-sticky tape. Don't laugh. It actually worked quite well. The Recotron box then processed the signal thru a TRF receiver with FM demodulator.

The MPX input, as you guessed, is for a full composite audio signal. Some TVs in the early stereo era had an RCA jack on the back outputting this signal. Do not try and tap this signal out of the TV unless you are *certain* it is isolated from the AC line. Most TV's, especially, low-end models rectify the power directly from the AC line without a transformer, so the entire TV circuit is at line potential. VCR's are much safer for such hacking as they are almost all powered internally by low, isolated DC voltage.

-Mike KD4QDM

3015. Re: MTS decoder info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: Jeff Dubin <jdubin@american.edu>
Message-ID: <Pine.LNX.3.91.950713020026.658A-100000@wanna.letts.american.edu>
Source record: 111832

On Thu, 13 Jul 1995, Mike Keitz wrote:

> >I've recently picked up a used MTS TV Stereo deocder... it's a RECOTON
...
> >The inputs are the problem... it has two RCA jacks labeled MPX and Probe.
> The "probe" picked up the 4.5 MHz sound IF signal from outside the TV.
...
> The MPX input, as you guessed, is for a full composite audio signal. Some
> TVs in the early stereo era had an RCA jack on the back outputting this
> signal.

Mike,

Thanks for the (quick!) response. Another question: If I were to use a
demodulator to step down from, say, channel 3, would that provide me with
either that 4.5MHz or a way to get the full composite audio signal?

Thanks,
Jeff

3016. Re: Software Authors Read

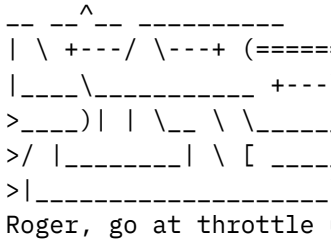
Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: Philip Chien <Pchien@ids.net>
Message-ID: <3u1obe$it8@paperboy.ids.net>
Source record: 111914
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <NEWTNews.805526223.10417.amsoft@amsoft.epix.net> ,
amsoft@epix.net writes:
>ATTENTION AUTHORS OF AMATEUR RADIO, SWL, AND ELECTRONIC SOFTWARE!
>
>If your software is shareware, freeware or public domain, AmSoft
>would like to include your software in our publication of The
>World of Ham Radio CD-ROM.

Why would any reputable software author want to have their programs
associated with a company which spams the rec.amateur.radio Usenet groups
with:

a) unsolicited comemrcial advertisements
b) unwanted junk E-mail
c) posts cross-posted to the entire rec.amateur.radio hirearchy when
they only belong in one - or at most two of the subgroups
d) a complete lack of netediquitte?

Feel feel to flame me for trying to be a net cop - But I think I speak
for the majority of the folks here who are rather pissed off at all of
Amsoft's commercial advertisements.

Philip Chien, Earth News - space writer and consultant PCHIEN@IDS.NET

Roger, go at throttle up CHR$(32) the final frontier

3017. quick-release harness for mobile rigs ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: sheppard@ruby.decatl.UUCP
Message-ID: <SHEPPARD.95Jul13101935@ruby.decatl.UUCP>
Source record: 111915
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Can anyone point me to:
(1) a commercially made product
or (2) useful homebrew hints
for a quick-disconnect harness for a mobile 2M or dual-band rig ?
(The rig in question is a Yaesu FT-2400).

I remember hearing of such a beast once but don't remember the source.

My intention is to ease the transfer of the rig between two vehicles
and a fixed base station. I envision identical pre-wired docking bays
permanently installed at each location to provide power, ground,
antenna (and control ?) connections, and a corresponding low-profile
harness permanently mounted on the rig itself.
Mods to the rig are probably inevitable (sigh).

The prime issue here is speed and ease of connect/disconnect, not security.

Thanks in advance for any pointers, information or suggestions !

Steve Sheppard
KC4ZTY

--
---
steve sheppard digital equipment corporation
sheppard@decatl.alf.dec.com http://www.alf.dec.com/~sheppard/home.html

3018. S-paramater problem. Am I going mad???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jul13.111409.31930@ucl.ac.uk>
Source record: 111916

I've designed and build a small amp using an MRF136 (power device, but I'm using at low power) using S parameters. The theoretical S parameters of the completed circuit (not the device) at my frequency of interest (82MHz) are:

S11=-24.4dB @ 116.1 deg
S21= 16.07dB @ 29.4 deg.
S12=-28.8dB @ -50.3 deg
S22 = -21.51 dB at 172 deg.

The built circuit is not quite as good, but shows 15.3 dB gain and reflection coefficients of about -13 and -22 dB. Since I dont have an S-parameters test set (I'm using spectrum analyser and a directional coupler) its a bit tedious to tune up to maximise gain, minimise S11 and minimise S22. A decent S12 would be nice too!

When analysed theoreticaly the completed amp is unconditionally stable, so I thought I could probably make S11=S22=0 at my design frequency. This was my thory, but it dont work. Can anyone see where I've gone wrong??

------------------Theory--------------

According to a book (Microwave MESFETS by Pengelly):

The input and output reflection coefficients of the circuit vary depending on the source and load relection coefficients as:

Tor_in=S11+(S21 S12 Tor_l)/(1-S22 Tor_l)

where Tor_in = is the reflection coefficient seen at the input.
Tor_l is reflection coefficient of the output load.

(ie when you load in a perfect match, you see just S11).

also:

Tor_out= S22 + (S21 S12 Tor_s)/(1- S11 Tor_s)

where Tor_out is the reflection coefficient that would be measured on the output.
and Tor_s = is the reflection coefficient of the load at the input.

I then tried solving two simultaneous equations:

Tor_in=0 and Tor_out = 0 for Tor_s and Tor_l.

I get (according to my Maths program):

Tor_s=S22/(S11 S22 - S12 S21) and Tor_l=S11/(S11 S22 - S12 S21)

I assumed that if I built networks to transfer the 50 Ohms to Tor_s and Tor_l.
I would be able to simultaeously match both input and output. Unfortunately, after

simulating them, it just does not work! I can match input or output, but cant do the two together. Since I solved a set of simultaneous equations, I cant see whats gone wrong. Any ideas?

Dave Kirkby G8WRB.

PS

3019. Re: MF-HF preamps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jul13.112311.51339@ucl.ac.uk>
Source record: 111917

In article 9f4@geraldo.cc.utexas.edu, kevinm@mail.utexas.edu (Biomathematician) writes:
> In years past, I built HF preamps using a Siliconix VMP4 in a
> single-ended configuration described by Ed Oxner in _QST_.
>
> These were wonderful amps -- the third order input intercept was
> around +40-50 dBm, and the noise figure was about 4 dB. The only
> drawback I ever found with this design lay in the extremely heavy
> doping of the VMOS FET itself which made the VMP4 subject to
> gate puncture. Practical designs thus required some care to minimize
> this possibility.
>
> Siliconix exists no more, so my question is: is there a similar device on
> the market now that will in some configuration give IMD and noise
> figure similar to those above?
>
> I'd appreciate any references, schematics, etc. anyone might have. If
> the VMP4 is still available (I heard Siliconix got sold to MaCom),
> where can I get them?
>
> Thanks in advance.
>
> KW5Q
>

I dont suppose you need the low noise figure for HF, but I've recenly investigated the MRF-136 from Mototola. Its a 15W output FET, which would indicate to me the output intercept should be >50dBm. The typical noise figure is 1dB. Be aware, I dont think the 150MHz test circuit given in the data sheet will give 1db NF, as it uses resistive loading for stabilisation. However, you should be able to use it with care. I managed to at 82MHz. It coss #14 in the UK, so you might consider it overkill. It needs 28V @ upto 500mA. I'm thinking of using one for a lowish noise 2m preamp.

davek G8WRB.

3020. Re: Need reference for VHF/UHF yagi book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3u2hvg$1b0g@info4.rus.uni-stuttgart.de>
Source record: 111918
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <3u15qu$dd@Venus.mcs.com>, David Willmore <willmore@MCS.COM> wrote:
>I'm looking for a good book on yagi antenna design that doesn't spend the
>whole book talking about HF tri-banders. I'm interested in 2m and up. I
>live in an appartment and space limitations and the landlord don't allow
>for HF operation.

Hi David,

Well there are good and not so good designs around. Before thinking about
a yagi, you shold be sure you have a place *in the clear* to put it up.
If it sits between houses, only a very short antenna (three element
or cubidal quad) will not suffer excessive degradation of its radiation
pattern.

I can't see that 1/2 " copper pipe is particularly suited for yagi
construction, you have to varnish it (and maintain the varnish
in good shape) and use a fairly beefy boom to carry the weight.

If you design a yagi, a good idea is to go for a feed point
impedance of 50 Ohms and use a folded dipole with cable balun.
Its a sure-fire no-tune method. (see K1FO)

73, Moritz DL5UH

3021. MiniSport Laptop Hacker #28

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: bmork@comtch.iea.com
Message-ID: <3u3pig$9kj@krel.iea.com>
Source record: 111919
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

```
MiniSport Laptop Hacker (TM) - Vol #28. July 1995
To discourage pecuniary interests, Copyright (c) 1995 Brian Mork

>>> ADMIN
A compendium of all issues are available from ftp.cs.buffalo.edu
(198.17.249.2) as mlhackXX.zip in the ~\pub\ham-radio directory. Login
with the name "anonymous" and use your email address as the password.
The compendium is also available on SimTel archives (eg.
oak.oakland.edu) as \SimTel\msdos\packet\mlhackXX.zip. The XX in the
filename indicates the last issue number, and replaces the previous
convention of using mlhacker.zip for all compendiums.

>>> INDEX
The issues add up! Once I passed 24 issues, I knew I'd have to spend
the time to go back and index them. Here it is.

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--- end of index for MLHacker #1-#28 ---

>>> AN ERA PASSING
The first issue of MLH was distributed in January of 1993. Two and a half years later, I expect this to be the last MLHacker. I still use my minisports regularly, but the seasons change, time moves on, and other facets of life become dominant. I also picked up two broken laptops (a '386 and a '486), and, by mixing and matching parts, I have a '386 that is capable of taking over much of the Minisport functions. Prices are falling such that it's become reasonable for me to begin using a more modern laptop. The two minisports are getting attention from the kids. They have favorite CGA games, and they're beginning to call the Minisports "their" computers.

MLH has been coincident with me learning a lot about the Internet and Amateur Radio networks. After swelling my activities to the point where net surfing was all I was doing, I've shrunk back to a level where net access is a tool rather than a teacher. I need to get some work done in other areas!

Since making the MLH compendium available on Internet archives, I receive queries from around the world. Nonetheless, most of the questions are discussed in previous issues, giving further impetus to wrap up this project while it's alive and well, rather than fill more issues of MLH with fluff just to keep it going. If anybody has questions about the minisport, by all means contact me. Just because I'm not sourcing more newsletters doesn't mean I don't want to talk about them any more. I'm sure my contact information will change over the next 6 months, so you'll have to be creative tracking me down. The most reliable method will probably be to contact a local Amateur Radio operator and ask them to find QSL information or a packet address for KA9SNF.

I'll continue to publish in the electronics/radio magazines. I'll be moving to Colorado in August to attend a "prestigious" Space Tactics School put on by Headquarters Space Command. After that, I'll probably be permanently moving to Colorado Springs to teach at the Air Force Academy. God willing, I'll begin training as an astronaut sometime in 1996. Selection will be this Fall.

Please provide feedback! * Internet bmork@comtch.iea.com
* ARO Net KA9SNF@ka7fvv.#ewa.wa.usa

73, Brian * 6006-B Eaker, Fairchild, WA 99011

--
Brian J. Mork, InCrea (TM) - Pacific Northwest, Voice 509-244-3764
bmork@comtch.iea.com / ARO ka9snf@ka7fvv.#ewa.wa.usa
USMail 6006-B Eaker, Fairchild, WA 99011

3022. Re: hallicrafters S40A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <3u3r3s$7ns@news.vcd.hp.com>
Source record: 111920

Suggest HI Manuals, advertised in QST. They carry manuals for just about ALL RX and Rigs.

73, Don W6JL

3023. OptoSCC card fabrication help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-13 00:00:00 UTC
From: negaard@draagen.graceland.edu
Message-ID: <NEGAARD.95Jul13151434@draagen.graceland.edu>
Source record: 111921

Thanks to the assistance of a reader of the r.r.a. newsgroups (thanks, jesus!), I have schematics and component-placement diagrams of the OptoSCC packet-interface card for PCs, designed by Henk Z. Peek, PA0HZP. The board looks simple enough, and will certainly meet my present and projected future needs (operating packet from Linux), but...

In the archive file that jesus (EB1DIX) sent me there are no etch patterns or layouts, and the e-mail address listed in the documentation for PA0HZP appears to be dated. Therefore what I'm looking for is a source for either:

a) patterns that would allow me to etch the board myself
b) a source for the board (at a low, _low_ price, please! ;->=)
c) a layout program that would allow me to design my own from the schematics (this had probably better be free)

and...a source or complete description for the 20L10 component (I _think_ it's a PAL, or something programmable). If I'm right about what it is, I'll also need some help programming it.

This is the answer, I can feel it...if only I can get a _little_bit_ more help. ;->=

Thanks.
--
o David Negaard o negaard@graceland.edu
o Help Desk Technician o http://www.graceland.edu/~negaard
o 700 College Avenue o linux-phile
o Lamoni, IA 50140 o 73 de KB0PXK

3024. Re: Software Authors Read

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: hanko@wv.mentorg.com
Message-ID: <3u6jg5$fhn@hpbab.wv>
Source record: 111833
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <3u1obe$it8@paperboy.ids.net>, Philip Chien <Pchien@ids.net> writes:
|> In article <NEWTNews.805526223.10417.amsoft@amsoft.epix.net> ,
|> amsoft@epix.net writes:
|> >ATTENTION AUTHORS OF AMATEUR RADIO, SWL, AND ELECTRONIC SOFTWARE!
|> >
|> >If your software is shareware, freeware or public domain, AmSoft
|> >would like to include your software in our publication of The
|> >World of Ham Radio CD-ROM.
|>
|> Why would any reputable software author want to have their programs
|> associated with a company which spams the rec.amateur.radio Usenet groups
|> with:
|>
|> a) unsolicited comemrcial advertisements
|> b) unwanted junk E-mail
|> c) posts cross-posted to the entire rec.amateur.radio hirearchy when
|> they only belong in one - or at most two of the subgroups
|> d) a complete lack of netediquitte?
|>
|> Feel feel to flame me for trying to be a net cop - But I think I speak
|> for the majority of the folks here who are rather pissed off at all of
|> Amsoft's commercial advertisements.

Ok. Stop playing net cop, idiot.

You do not speak for me, and your spam was worse than the posting
you complain about. Stuff a rag in it.

|>
|> Philip Chien, Earth News - space writer and consultant PCHIEN@IDS.NET
|> __ __^__ __________
|> | \ +---/ \---+ (=========
|> |______________ +---_____/---+ //
|> >____)| | __ \ ______//___
|> >/ |________| \ [_____\
|> >|_____________________\ _______/
|> Roger, go at throttle up CHR$(32) the final frontier

3025. Re: Software Authors Read

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: mbramwel@ashley.business.uwo.ca
Message-ID: <mbramwel.1604.3006965A@ashley.business.uwo.ca>
Source record: 111834
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <3u4h35$bo7@indy-backup.indy.net> andyb@indy.net (Andy Birkhead) writes:
>From: andyb@indy.net (Andy Birkhead)
>Subject: Re: Software Authors Read
>Date: 14 Jul 1995 01:25:57 GMT

>Philip Chien (Pchien@ids.net) wrote:

>: Why would any reputable software author want to have their programs
>: associated with a company which spams the rec.amateur.radio Usenet groups
>: with:

>: a) unsolicited comemrcial advertisements
>: b) unwanted junk E-mail
>: c) posts cross-posted to the entire rec.amateur.radio hirearchy when
>: they only belong in one - or at most two of the subgroups
>: d) a complete lack of netediquitte?

>As a shareware author, let me answer you!

>I plan to upload to them because they can help to distribute my program.
>It would certainlly help with Sarah's college education fund.

>Andy
>KB9CAT

I also upload to them because of my shareware program.

ps: The subject said 'Software Authors Read' I don't consider that spamming
at all and being an author, they are doing me an important service (free CD
distribution of my ham software).

3026. Re: Software Authors Read

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: andyb@indy.net
Message-ID: <3u4h35$bo7@indy-backup.indy.net>
Source record: 111835
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Philip Chien (Pchien@ids.net) wrote:

: Why would any reputable software author want to have their programs
: associated with a company which spams the rec.amateur.radio Usenet groups
: with:

: a) unsolicited comemrcial advertisements
: b) unwanted junk E-mail
: c) posts cross-posted to the entire rec.amateur.radio hirearchy when
: they only belong in one - or at most two of the subgroups
: d) a complete lack of netediquitte?

As a shareware author, let me answer you!

I plan to upload to them because they can help to distribute my program.
It would certainlly help with Sarah's college education fund.

Andy
KB9CAT

3027. Re: quick-release harness for mobile rigs ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: fitr%mimi@magic.itg.ti.com
Message-ID: <3u4j0p$dib@tilde.csc.ti.com>
Source record: 111836
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article sheppard@ruby.decatl.UUCP says...
>Can anyone point me to:
> (1) a commercially made product
> or (2) useful homebrew hints
>for a quick-disconnect harness for a mobile 2M or
dual-band rig ?
>(The rig in question is a Yaesu FT-2400).
>
>steve sheppard

Hi Steve, You might want to try a roadside truckstop
that has a CB-shop. They sell all kinds of quick
disconnect mounts for CB radio's, scanner, and other
mobile/portable equipment. I would suggest NOT using
any kind of quick disconnect antenna connection, as
these inevitably fail and damage to the rig could
occcur. However, "male" and "female" slide/lockable
mounting brackets are vy common. Mounting it to your
2400 would likely require using a combination of the
standard Yaesu bracket and the male or female quick
disconnect bracket. Typically, power (13.8vdc) and
speaker (external speaker) are quick disconnected with
these mounts.73 good luck bv2/n0iat Joe in Taiwan

3028. Re: hallicrafters S40A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: robb@scd.hp.com
Message-ID: <3u5uj5$62p@hpscit.sc.hp.com>
Source record: 111837

Doug Bosch (dbosch@freenet.columbus.oh.us) wrote:

: information needed... I'm looking for a copy of a schematic for a
: Hallicrafters S40A. Antique Radio in Arizona couldn't help.

Doug,

Try the libraries in your area. Some libraries have collections of old
Sam's Photofacts. Good luck.

--
Rob Burgoon, AB6NZ robb@scd.hp.com

3029. Re: Small Mobile antenna for 7 MHz. Anyone built one?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: cmoore@sedona.intel.com
Message-ID: <3u65bg$798@chnews.ch.intel.com>
Source record: 111838

In article <3u4jf6$crh@dingo.cc.uq.oz.au>,
Warren Bates <waboo@cltr.uq.oz.au> wrote:

>I have mounted it on my tow bar and brought a section of water pipe up to
>clear the boot then I place the whip on top of that. So the sp[ace I have
>left is about 1 metre. Any ideas.

Hi Warren, I have modeled such a configuration and guess what? The water pipe is part of the radiator and the feed point is something like an off-center-fed gamma match unless you actually short the *top* of the pipe to the auto chassis. IMO, best thing to do is go to a bumper mounted 2 metre long antenna with a centerish hi-Q loading coil and a large tophat.

73, Cecil, KG7BK, OOTC (not speaking for my employer)

3030. Re: High reverse isolation amp - how to design??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: Chuck KD9JQ <reichert>
Message-ID: <3u6l4b$rrf@newdelph.cig.mot.com>
Source record: 111839

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:
>Does anyone know the best method to design an amplifier to have a large reverse
>isolation? I've built a 82MHz amp using an MRF136. The reverse isolation is about
>28dB. Does anyone know how to achieve better than this? Three possible methods that
>spring to my mind are:
>
>1) Isolator - not practical at 82MHz
>2) Attenuator on output - reduces gain.
>3) Resonate feedback capacitance of device with an inductor. Unfortunately, this
>seems almost certain to make an oscillator at some frequency.
>
>Any ideas???
>
>davek G8WRB.
>
>

You might look into adding a ground gate jfet at the output with a 6dB
pad between the devices. The jfet gain/isolation plus the pad los should
increase your reverse by at least 16dB.

--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |
==

3031. Re: Mini-Circuits VCO's -- Good for VHF VFO's??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: Chuck KD9JQ <reichert>
Message-ID: <3u6le9$rrf@newdelph.cig.mot.com>
Source record: 111840

cromwell@rvl2.ecn.purdue.edu (Bob Cromwell) wrote:
>
>I noticed an ad for Mini-Circuits' POS series VCO's. Small metal cans,
>they look like their DBM's. The advertised ranges are:
> 25- 50 MHz
> 38- 75 MHz
> 50- 100 MHz
> 75- 150 MHz
> 100- 200 MHz
> 150- 280 MHz
> 200- 380 MHz
> 300- 525 MHz
> 485- 765 MHz
> 685-1025 MHz
>All with +7 dBm out. About US $12, at least for the half at lower
>frequencies.
>
>My question is -- would one of these be suitable for something like
>the Rick Campbell T2/R2 phasing SSB designs? I assume you'd need a
>good multi-turn pot, and the pot would probably need to have good
>temperature stability, but could one's VCO be be as simple as that?
>
> Bob Cromwell KC9RG
> cromwell@ecn.purdue.edu
> http://rvl4.ecn.purdue.edu/~cromwell
>

I've made a quick review of the spec's on these devices about a month ago while
looking for a VCO for a homebrew xcv'r. These look generally ok but the
Phase Noise spec left me somewhat in doubt for weak signal work. The 200-380
had only -98 or so spec @ 10khz if I remember correctly. I would like
> -120dBm VCO. Will probably have to build one up. Oh well!

Chuck KD9JQ
--
\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ ex KA7IXS,WA8NBD 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 reichert@cig.mot.com |

==========

3032. Re: Looking for oddball parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3u58mj$s84@nuclear.microserve.net>
Source record: 111841

In article <3u0qki$rfd@tpd.dsccc.com>,
Pete Goudreau <pgoudrea@lsi.dsccc.com> wrote:
>I've an old National NC-57 that uses a peculiar pulley and string ...

>I need to use this arrangement on another project and have no idea who to
call to find these types of parts. Any help will be appreciated.

Unless you need brand new parts, I would try a large stereo repair shop.
Older stereos had pulleys, dial cord and springs for their tuning
mechanisms. Cheap ones sometimes had the main pulley pressed onto the
capacitor, but better units used a heavy pulley with a set screw (1/4"
shaft). If you cannabilize a few, you'll probably find what you need.

73,

Jack WB3U

3033. High reverse isolation amp - how to design??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jul14.140903.51676@ucl.ac.uk>
Source record: 111842

Does anyone know the best method to design an amplifier to have a large reverse isolation? I've built a 82MHz amp using an MRF136. The reverse isolation is about 28dB. Does anyone know how to achieve better than this? Three possible methods that spring to my mind are:

1) Isolator - not practical at 82MHz
2) Attenuator on output - reduces gain.
3) Resonate feedback capacitance of device with an inductor. Unfortunately, this seems almost certain to make an oscillator at some frequency.

Any ideas???

davek G8WRB.

3034. re: crystal source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3u6uki$3o5@solaris.cc.vt.edu>
Source record: 111843

In article <52b_9507141714@mba.mba.org>,
Michael.Black@juxta.mba.org (Michael Black) wrote:
>spearce@ccu1.auckland.ac.nz was looking for a source of
>1.8432MHz crystal to build the spectral display in the ARRL
>Handbook.
>
>This should be a very easy to get crystal. Properly divided,
>the frquency supplies the common baud rates for serial
>communications, which means the crystals are everywhere. It's
>also why it's used in that spectral display; ata quick glance,
>it's being used to supply the clock to get the signal out of
>there in a serial format. The fact that the crystal is cheap
>and easy to get probably determined that it was used too; other
>frequencies can supply the proper clock rates, but this might
>be the most common choice.
>
These crystals are common. The frequency tolerance is quite
imprecise though, +-30 to +-100 parts per million, compared to 5
or 2 ppm for a communication-type crystal. Not a problem for
asynchronous communication. They are cheap and easy to get
because a huge number of identical ones are being made for the
computer market. Microprocessor crystals below 4 MHz or so cost
more, presumably because they're harder to make. About $2 to $3
is typical. Those above 4 MHz are real cheap, $0.80 or less.
That's probably why the cheap serial cards use a 18.432 MHz one
and divide it by 10, total cost for the crystal and divider is
less than for a 1.8432 MHz crystal.

-Mike KD4QDM

3035. Re: HOW DO YOU CHANGE A RADIOS FINGERPRINT?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: cweddle@astro.as.arizona.edu
Message-ID: <3u6t7f$g9e@news.ccit.arizona.edu>
Source record: 111844

BEWARE OF REPEATER JAMMER SEEKING INFO ON "FINGERPRINTING"

There's recently been a thread on rec.radio.amateur.equipment from someone claiming to be a new ham who has been mistaken for a jammer. This person reports to have been confused for the jammer by virtue of having bought a "Fingerprinted" radio off the jammer.

At different times in posts and private emails this person claimed:
To be using a girlfriends email account maryjohn@pipeline.com, but claimed not to be "Mary Johnson" whose account this appears to be.
To be Mary Johnson.
To be KB2UXI - which doesn't fit!
To be a 15 year old male.
To be a married female.
To be a male named Larry Markson.
To have no technical knowledge - desperate for help.
To have some technical knowledge and has displayed same in some emails.

I have no earthly idea if this person is legit or not. But considering the inconsistencies, caution does seem reasonable.

Chris, N7RME

3036. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: krieder@buffnet.net
Message-ID: <3u6gfh$e8n@buffnet2.buffnet.net>
Source record: 111845

JEFF SUMBERG (jeff.sumberg@sailboard.com) wrote:
: You can also look at long wave UV without hurting you eyes, but when
: you do, they feel strange. You know you are looking into something that
: appears to be quite dim, but your eyes tell you (by the way they feel)
: that you are staring into something very bright. Quite odd.

This is bad, bad advice ! Throughout my carreer, I was in an industry
that operates arc generating devices with power inputs of 10 to 60 MW.
Yes that's megawatts ! We measured AC current in kiloamperes ! The
unschielded output of light could do serious damage to eyes in less
than a minute. Lower powered devices might take a little longer... but
do you want to do the test on your own eyes ? The first symptom of
excessive exposure, "called arc eyes", does not appear until several
hours after exposure. Its a feeling that someone has poured a hand full
of sand in you eyes, and the rubbing only makes thing worse. Just like
a sunburn... the retina gets blisters on it. Maybe... after two days
you can recover... maybe just partly. You want to try it ? The light
level required to erase EPROMS is in the hazard range.

kr... n2tte

3037. Help solid state digital switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: ted3@ix.netcom.com
Message-ID: <3u58v3$ilr@ixnews4.ix.netcom.com>
Source record: 111846

Hello, I am trying to put together a solidstate switching device
that operates directly from a remote control airplane reciever.
I know I will have probably have to use logic devices to achive
this after looking at the signals with my scope. Here is a basic
rundown on the digital proportional control signals.

This is the servo control signal coming from the reciever and
going to the servos at minimum deflection..

This is the control signal with the controls in the neutral position.

This is the control signal with the controls in the maximum
position.

I have only ever seen one of these devices advertised.
Looking at the add I can see the following parts.

1 CD4013BE duel D flip flop
1 Optocoupler
3 Small signal transistors
1 Potiometer
1 Power switching device (SCR, Transistor) cant read the
numbers
1 capacitor
1 diode
and assorted resistors

It doesnt look like it would be hard to build one but I need somewhere to start from. If I did use a flip flop what would I use for a clock signal? I was thinking of using a non resetable monostable multivibrator to generate the clock from the existing pulses or is this even nessasary?
Is there any documentaion or better yet schematics reguarding this subject available on the net? Any assistance would be appreciated.
Please respond via email if possable.
Thanks Ted
Ted3@ix.netcom.com

3038. Re: Help solid state digital switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: janovetz@glhpx12
Message-ID: <3u5npo$co5@vixen.cso.uiuc.edu>
Source record: 111847

You want to have a switch simply output high/low if you are
in minimum or maximum deflection only? Or do you want a digital
'level' like 0-255 depending on the deflection?

In either case, could you use an integrate and dump amplifier to
find the duty cycle of the waveform. If you want a high/low signal,
you could put this into an analog comparator. And if you want a
digital level, put it into a A/D converter.

I'm sure there's a simpler way (since the schematic you said was
relatively simple), but I don't know it.

Jake

--
janovetz@coewl.cen.uiuc.edu| Once you have flown, you will walk the earth with
University of Illinois | your eyes turned skyward, for there you have been,
I want a PowerPC | there you long to return.
*** Team OS/2 *** | da Vinci

3039. Mini-Circuits VCO's -- Good for VHF VFO's??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: cromwell@rvl2.ecn.purdue.edu
Message-ID: <3u64o1$frp@mozo.cc.purdue.edu>
Source record: 111848

I noticed an ad for Mini-Circuits' POS series VCO's. Small metal cans, they look like their DBM's. The advertised ranges are:
25- 50 MHz
38- 75 MHz
50- 100 MHz
75- 150 MHz
100- 200 MHz
150- 280 MHz
200- 380 MHz
300- 525 MHz
485- 765 MHz
685-1025 MHz
All with +7 dBm out. About US $12, at least for the half at lower frequencies.

My question is -- would one of these be suitable for something like the Rick Campbell T2/R2 phasing SSB designs? I assume you'd need a good multi-turn pot, and the pot would probably need to have good temperature stability, but could one's VCO be be as simple as that?

Bob Cromwell KC9RG
cromwell@ecn.purdue.edu
http://rvl4.ecn.purdue.edu/~cromwell

3040. Re: Polyphase Network Article in June QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: Richard Hosking <osbdivgp@yarrow.wt.com.au>
Message-ID: <3u63u6$ngj@styx.uwa.edu.au>
Source record: 111849

raymonda@Eng.Sun.COM (Ray Anderson) wrote:
>
Ray, I have been building these for several years
The attenuation in practice and on simulation (MicrocapIII)
appears to be max in the middle of the network response
and is less above and below this
Attenuation depends on termination impedance and
number of sections as one would expect
We have achieved 55-60 dB sideband attenuation in a DC Receiver
I would be interested in your circuit

Thanks Richard Hosking
VK6BRO

>

3041. Re: DDS/PLL Hybrid theory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: Richard Hosking <osbdivgp@yarrow.wt.com.au>
Message-ID: <3u64nt$ngj@styx.uwa.edu.au>
Source record: 111850

osbdivgp@yarrow.wt.uwa.edu.au (Osborne Division of General Practice) wrote:
>
>Re DDS/PLL theory
In reply to Clark Fishman sorry I lost your details!
so I will ahve to post this
The DDS chip IS the controller also
After reading the keypad the micro goes into a softwareloop
which acts as the DDS binary adder
In Pseudocode

```
loop
add lo_byte,temp
btfsc status,carry : ? overflow
incf port_C ; Port C is the high byte
add hi_byte,port_C ; High byte of 16 bit no.
btfsc interuppt ; ?Keypress
goto loop
```

The PIC takes 4 clock cycles for most instructions
The above code takes 8 machine cycles
If at least 2 points per cycle in the output waveform
Max output frequency= 20MHz/4/8/2= 312 KHz

The output spectrum is a forest of spurs!
Hope this helps

Richard Hosking VK6BRO

3042. CRYSTAL SOURCE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: Lloyd <lloyd@merlin.nando.net>
Message-ID: <Pine.SUN.3.90.950714155254.8028B-100000@merlin.nando.net>
Source record: 111851

Try International Crystal Co.
They will make you one to your specs. at a reasonable price.

Dallas Lloyd
lloyd@nando.net

3043. Small Mobile antenna for 7 MHz. Anyone built one?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: waboo@cltr.uq.oz.au
Message-ID: <3u4jf6$crh@dingo.cc.uq.oz.au>
Source record: 111852

I have made several mobile antennas for 7MHz and they have all worked well. I have also modified commercial antennas and they have worked well too. What I need though is a short version of what I have built. It finished article needs to be only about 1 merte long. The reason? so I can get into my garage without having to get out and take the antenna off. I have mounted it on my tow bar and brought a section of water pipe up to clear the boot then I place the whip on top of that. So the sp[ace I have left is about 1 metre. Any ideas.
warren

3044. Re: S-paramater problem. Am I going mad???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: daveb@connect.net
Message-ID: <3u4n22$ak6@dallas1.connect.net>
Source record: 111853

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:

>I've designed and build a small amp using an MRF136 (power device, but I'm using at
>low power) using S parameters. The theoretical S parameters of the completed circuit
>(not the device) at my frequency of interest (82MHz) are:

>S11=-24.4dB @ 116.1 deg
>S21= 16.07dB @ 29.4 deg.
>S12=-28.8dB @ -50.3 deg
>S22 = -21.51 dB at 172 deg.

>The built circuit is not quite as good, but shows 15.3 dB gain and reflection
>coefficients of about -13 and -22 dB. Since I dont have an S-parameters test set (I'm
>using spectrum analyser and a directional coupler) its a bit tedious to tune up to
>maximise gain, minimise S11 and minimise S22. A decent S12 would be nice too!

>When analysed theoreticaly the completed amp is unconditionally stable, so I thought
>I could probably make S11=S22=0 at my design frequency. This was my thory, but it
>dont work. Can anyone see where I've gone wrong??

>-------------------Theory---------------

>According to a book (Microwave MESFETS by Pengelly):

Grungy Math Deleted.

>Dave Kirkby G8WRB.

>PS

The equations that you quote allow you to translate impedances from
the input plane to the output plane, and vice-versa. In other words,
if you have a known load impedance, you can use those equations to go
and calculate the input impedance that your device will present. Then,
you can take that input impedance and design a conjugate match for
that.

Going the other way, if you want to match for NFmin, you could
calculate what the output impedance is going to be.

I hope this is clear.

I thing that you are looking for a simultaneous conjugate match, which
is done with another set of equations. I would reccomend hitting the
library for a book by Gonzalez, entitled "Microwave transistor
Amplifiers."

Regards

Dave Bengtson

3045. Re: MF-HF preamps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: djch@rivers.dra.hmg.gb
Message-ID: <DJCH.95Jul14083558@tamar.dra.hmg.gb>
Source record: 111854

I saw a note once which suggested that the VN66AF was a development of the VMP4. True or not, I have built a 50 MHz linear amp with a VN66AF driving two VN66AF's in push-pull. Output is 10W (+40dBm) PEP, and 3rd order products are around 27 db down from the peak, suggesting 3rd order intercept about +53dBm. I've not measured the noise figure. Power supply is +24V, devices biased to 150mA standing current. Gain is 12-14 dB per stage.

Hope this helps, ask me for more details.

--David G8SQH

3046. re: crystal source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <52b_9507141714@mba.mba.org>
Source record: 111855

spearce@ccu1.auckland.ac.nz was looking for a source of
1.8432MHz crystal to build the spectral display in the ARRL
Handbook.

This should be a very easy to get crystal. Properly divided,
the frquency supplies the common baud rates for serial
communications, which means the crystals are everywhere. It's
also why it's used in that spectral display; ata quick glance,
it's being used to supply the clock to get the signal out of
there in a serial format. The fact that the crystal is cheap
and easy to get probably determined that it was used too; other
frequencies can supply the proper clock rates, but this might
be the most common choice.

A lot of electronic component catalogs here in north america
have a section of commonly used crystals; these are the types
used in computers and serial ports and such. I'd check one of
those. If for some reason New Zealand doesn't have distributors
like that (here in Canada we have them, but it's not like we're
overflowing with sources of electronic components), surely you
could get one from Australia.

Another place to look would be in old computer junk. It is a
common frequency. Many boards with a serial port for IBM
compatibles would have such a crystal. I was at a yard sale
a month ago, and got a box of such boards for a dollar. I have
a use for them, so I wouldn't scrap them for just a crystal. But
I know that if I was desperate, I would take the crystal off the
board and later replace it when I was able to find a source of
crystals. So you would find one there. I just noticed in
looking at two boards that one of them uses an 18.432 MHz
crystal, ie ten times higher, for some reason. Make sure the
decimal is in the right place.

You should be able to find those boards all over the place.
Check the garbage maybe. I've found boards for the old Apple II
that way, and one of them was a serial board with the desired
frquency. Or check a place that repairs computers. In a lot
of places, boards are simply replaced instead of repaired. Maybe
you could get an old board labelled broken, and get the crystal
off it.

I hope this helps. The crystals are very readily available.
Don't pay much for them, because they are nice and cheap.
Michael VE2BVW
--

| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

3047. VINTAGE EQIUPMENT FOR SALE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-14 00:00:00 UTC
From: cgs@asl.hitachi.com
Message-ID: <3u6jh3$i2d@sol.asl.hitachi.com>
Source record: 111856

VINTAGE EQIUPMENT FOR SALE

1)Vintage Viking Challenger Cw transmitter modified for AM also. Included is VFO and a few crystals.

2) Lafayette HA800b receiver

3) Heathkit SWR/Power meter.

It has not been years since the equipment has been fired up. There should be essentially nothing wrong with any of the above equipment.

Equipment gos to the highest bidder.

Please E mail me back with questions or a quote if your interested.

Thanks

Carl Scarpa
cgs@asl.hitachi.com

3048. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-15 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_805813590@rtfm.mit.edu>
Source record: 111857
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

```
Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb,
rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet
mailing list counterparts and complements. It is intended to serve as a
guide for the new reader on what to find where. Questions and comments may
be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at
jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October
1994 to add the discussion of non-Usenet mailing lists and streamline most
of the history discussion, and to change the moderator information for
rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list
for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions
were held on the mailing list, and sent to the mailboxes of those who had
signed up for it. When the Usenet software was created, and net news as we
now know it was developed, a newsgroup was created for hams: net.ham-radio.
The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became
progressively higher. First one by one, and then as part of two
reorganizations, what was once one group became many. In the process,
developments elsewhere on the net were reflected in the groups as they were
created, most notably the change to place all of the ham radio groups in one
hierarchy.

The collection of newsgroups continues to grow as more people join the net,
and as more topics of discussion gain volume, I expect to see more groups be
created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the
notable exception being rec.radio.swap. There are also a few mailing lists
that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them,
and not to the groups that aren't. The whole idea of having different
```

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

3049. Re: Squelch circuit - wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-15 00:00:00 UTC
From: sefranek@iii2.iii.net
Message-ID: <3u8aa6$b7@iii2.iii.net>
Source record: 111858

In article <3u4175$2i3@vixen.cso.uiuc.edu> janovetz@glhpx12 (Jacob W Janovetz) writes:
>Hi,
>
> I'm in need of a simple squelch detection circuit if anyone has
>one. It just needs a level and an output (hi/low) from the comparator
>to turn on/off the amplifier. If anyone has hints or circuits, please
>let me know!
>
Hi Jake,
I would need more information about your applicaton, before I would
make any reccomendations. Send E-Mail. Your address bounced.
The usual squelch circuit in an FM reciever is to look at the energy ABOVE
the voice range (?Super-sonic?). When this energy drops it is usually
because of the presence of a recieved station. THe circuit can then be
modified to include the voiced energy band for tone decode etc.

When you mention an amplifier, I suspect you DON'T mean squelch.
But, I've been wrong before... I can still remember when...

Tom
>
Thanks, >
> Jake
>
>--
>janovetz@coewl.cen.uiuc.edu| Once you have flown, you will walk the earth with
> University of Illinois | your eyes turned skyward, for there you have been,
> I want a PowerPC | there you long to return.
> *** Team OS/2 *** | da Vinci

--
Thomas C. J. Sefranek WA1RHP

3050. Re: High reverse isolation amp - how to design??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-15 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <805806514snz@lfheller.demon.co.uk>
Source record: 111859

In article <1995Jul14.140903.51676@ucl.ac.uk>
davek@medphys.ucl.ac.uk "Dave Kirkby" writes:

> Does anyone know the best method to design an amplifier to have a large reverse >
isolation? I've built a 82MHz amp using an MRF136. The reverse isolation is
> about
> 28dB. Does anyone know how to achieve better than this? Three possible methods
> that
> spring to my mind are:
>
> 1) Isolator - not practical at 82MHz
> 2) Attenuator on output - reduces gain.
> 3) Resonate feedback capacitance of device with an inductor. Unfortunately, this> seems
almost certain to make an oscillator at some frequency.
>
> Any ideas???

Four or five years ago RadCom had an article about high-performance DC Rxs
which included a well-isolated RF amp, I think, to prevent the LO getting
back into the antenna.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3051. Re: High reverse isolation amp - how to design??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-15 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3u75q5$32q@hpscit.sc.hp.com>
Source record: 111860

In article <3u6l4b$rrf@newdelph.cig.mot.com>, Chuck KD9JQ <reichert> wrote:
>davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:
>>Does anyone know the best method to design an amplifier to have a large reverse
>>isolation? I've built a 82MHz amp using an MRF136. The reverse isolation is about
>>28dB. Does anyone know how to achieve better than this? Three possible methods that
>>spring to my mind are:
>>
>>1) Isolator - not practical at 82MHz
>>2) Attenuator on output - reduces gain.
>>3) Resonate feedback capacitance of device with an inductor. Unfortunately, this
>>seems almost certain to make an oscillator at some frequency.
>>
>>Any ideas???
>>
>>davek G8WRB.
>>
>>
>
>You might look into adding a ground gate jfet at the output with a 6dB
>pad between the devices. The jfet gain/isolation plus the pad los should
>increase your reverse by at least 16dB.

Better yet, use a Philips BF904 dual gate MOSFET, with gate 2 at RF ground.
You can get 40 or 50 dB. isolation with some forward gain.

Another approach is to use a grounded base amplifier with the base grounded
only thru a series resonant 82 MHz. tank.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

3052. Limiter for Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-15 00:00:00 UTC
From: victor.yiu@psl-online.com
Message-ID: <1db.3465.4478@psl-online.com>
Source record: 111861

Hello, everybody.

I have an old top-of-the-line Sony TC-135SD cassette deck. Although it's cassette features still work, I guess the most valuable feature it has now is the 'limiter.' With it switched, and the rec. level slider pumped up, it does a good job at compressing the dynamic range. It's easily connected through RCA line in/out plugs.

Any interested parties please make bids, or have any questions, please contact:

victor.yiu@psl-online.com
___ Blue Wave/QWK v2.12

3053. SBL-1 mixer max dc current...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-15 00:00:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <19950715132154OSYSMAS@MVS.OAC.UCLA.EDU>
Source record: 111862

I'm looking at the latest QST at the "Rock-Bending Receiver for 7 MHz" article by Randy Hnederson, WI5W. He has the collector of the crystal oscillator directly connected to pin 7 of the mixer and feeds pin 8 with V+. This results in the DC current of the oscillator flowing through the mixer LO transformer. The current is about 20+ mA. How much current is OK to run through here? At what point does the RF transformer in the mixer start having problems (saturation?)?

3054. Re: how does one design/make a swr meter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-15 00:00:00 UTC
From: you@oeonline.com
Message-ID: <DBrJ9H.25r@oeonline.oeonline.com>
Source record: 111863

In article <1995Jul12.145855.12793@roper.uwyo.edu>, dlarson@UWYO.EDU (D. Larson) says:
>
>In article <3tvljo$k99@news.arc.nasa.gov>, mlyon@walrus.mvhs.edu (Michael Lyon) writes:
>>I am wondering how one would attempt to make a 1.2gig SWR meter. Any help
>>would be appreciated. thank you.
>>-Mike
>
>While were on this topic, I am also looking for plans for a SWR meter
>but for 2m. Thanks if anyone has any ideas.
>
>73
>KC7EGB
>---Donald Larson---
>---Laramie Wyoming---
Try the ARRL handbook with good directions to build one. 73 de Len, W8RC

3055. Info wanted on how to broadcast

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-15 00:00:00 UTC
From: Thorsten Kemper <tkemper@freenet.calgary.ab.ca>
Message-ID: <Pine.A32.3.91.950715212731.19612B-100000@srv1.freenet.calgary.ab.ca>
Source record: 111864

I'm looKking for information to be able to broadcast.
Do I need to get a special licence or anything in order
to broadcast? If so where would I go and get the information?
This would be to broadcast in Calgary, Canada.
If anyone could help me it would be greatly appreciated.

Thanks.

3056. Re: Help: Tesla and Jacobs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <3ub6fd$3ft@hg.oro.net>
Source record: 111722

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>In article <3ua709$ptq@newsbf02.news.aol.com> rickcrider@aol.com (RICKCRIDER) writes:
>>OK newsgroup gang.....help me out of this one please.....
>>In the process of convincing a friend of the usefulness and
>>resourcefulness of the magic wonder of the Internet, I promised him I
>>would find info for him on building a simple Tesla Coil and a Jacobs
>>Ladder.....I've searched several FTP sites.....found a few references
>>to Tesla, but no instructions, and found nothing on Jacobs Ladder. Can
>>anyone help pull me through? Thanks.
>>Rick Crider KD4FXA Monroe NC

>Ok, Rick, the Jacobs Ladder first. Get a plexiglass tube about 6 inches
>in diameter and 3 or 4 feet long. Take a neon sign transformer and connect
>its HV outputs to two metal rods arranged in a Vee inside the tube. Leave
>a small gap, 1/4 to 1/2 inch, at the point of the Vee. Set the tube upright
>with the narrow part of the Vee down. Shoot the juice to the neon sign
>transformer and watch the arcs crawl up the tube.

>DANGER, DANGER, Will Robinson! This thing can bite. Keep well clear.

>Ok, next the Tesla Coil. This is nothing but a resonant step up
>transformer with a very high winding ratio driven by a RF power
>oscillator. Get another plexiglass tube and wind about 280 feet
>of #30 enamel coated magnet wire on it. Do this neat, no scramble
>winding. This is the secondary. Mount a small metal ball, or a spike,
>on one end of the tube and connect one end of your coil to this.
>Ground the other end. Now wind a bigger air core coil of about 8
>turns of 1/2 inch copper tubing and mount it around the base of the
>other coil. This is the primary.

>The secondary should be self-resonant around 1.5 MHz or so. Check
>it with a GDO. Now add oil filled HV capacitors in parallel with the
>primary until it is resonant at the same frequency. Again, use the
>GDO. Make a one turn loop of #12 insulated wire around the base of
>the primary. This is the tickler coil.

>Now take a 4-400A, 3-500, 813, 810, or whatever big power tube you
>have handy and wire up a Hartley oscillator using the primary
>as the tank and the tickler for feedback. Turn that sucker on and
>stand back. You should be able to draw arcs several feet long.

>DANGER, DANGER, Will Robinson! This thing can bite *really* bad.

>Note: both of these things will be RFI generators without peer.
>You're going to wreck radio and TV reception for blocks around
>when they are running. Both of these things use *LETHAL* voltages,

>have a care. You or your cat could wind up dead.

>Gary
>--
>Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
>Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
>534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
>Lawrenceville, GA 30244 | |

Gary -- You've got a sense of humor as well as being technically
correct. That is rare in we techie types and I really appreciate
reading the stuff you post.

If you wind the primary of the tesla coil with finer gauge wire than
the 1/2" copper tubing you recommended in your post (say, for example,
some #22 enameled wire) you can drive it with any of the popular TV
horizontal sweep tubes -- not quite as much poo at the output, but
maybe a little easier to find the parts, not to mention the power
transformer doesn't have to be the size of a pole pig!

Jim
WB6BHI
See you at Oshkosh!

Jim Weir VP Engineering | "Your friends will know you
RST Engineering | better in the first minute than
Grass Valley CA 95945 | your acquaintances will know
voice/fax 916/272-1432 | you in a thousand years."
rst-engr@oro.net | (Bach)

3057. Re: Help: Tesla and Jacobs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: ggirod@ix.netcom.com
Message-ID: <3ub874$jj2@ixnews4.ix.netcom.com>
Source record: 111723

In <3ua709$ptq@newsbf02.news.aol.com> rickcrider@aol.com (RICKCRIDER) writes:
>
>OK newsgroup gang.....help me out of this one please.....
>In the process of convincing a friend of the usefulness and
>resourcefulness of the magic wonder of the Internet, I promised him I
>would find info for him on building a simple Tesla Coil and a Jacobs
>Ladder.....I've searched several FTP sites.....found a few references
>to Tesla, but no instructions, and found nothing on Jacobs Ladder. Can
>anyone help pull me through? Thanks.
>Rick Crider KD4FXA Monroe NC
><rickcrider@aol.com>

To build a Jacob's ladder the quick and dirty way is to find a Model T Ford ignition coil (They still make them and they're available from antique car parts places -- maybe you can find one listed on the internet)

You also need a source of 6-12 Volts DC for the coil.

Take two #10 or #12 bare copper wires about 1-2 feet long. Connect one to each of the high voltage terminals of the coil. Arrange the two wires in a very gradual V with a spacing of about 1/2 inch at the bottom and as wide as practical (1-1.5 inches) at the top. Power up the coil; standing well back from the apparatus.

CAUTION!!! (YES, I KNOW I'M YELLING) KEEP AWAY FROM THE HV TERMINALS. THE POWER OF THE COIL CAN HURT YOU AND AT IF YOU ARE LUCKY WILL KNOCK YOU ON YOUR #!&^%$#.

The ladder works as follows:

The arc generates heat (Lots of it) which causes it to rise until the spacing between the conductors breaks the arc. A new arc then forms at the bottom and proceeds upward. Sometimes if there is a lot of power you can get a couple of arcs going, but generally only one.

The ignition coil has an adjustment screw to help optimize the output of the device. You can play with it to tune the apparatus.

Please -- BE CAREFUL and have fun.

I saw a reference to a neon sign transformer which will work just fine. However, it has even more energy available and is more dangerous than

the ignition coil. Be forewarned.

As for a tesla coil, the original one was a sparkgap transmitter in the VLF - Middle frequency range. Details on building one are probably available in 1940-s and 1950s electrical experimenter's books in the library. You.ll know when you've found a genuine article when the book details how to make the glass capacitors used to resonate the coil. Also, Popular Electronics routinely publishes tesla coil designs of somewhat more modest scope than the 1.5 MHZ transmitter suggested.

3058. Re: Help: Tesla and Jacobs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <805876093snz@lfheller.demon.co.uk>
Source record: 111724

In article <3ua709$ptq@newsbf02.news.aol.com>
rickcrider@aol.com "RICKCRIDER" writes:

> OK newsgroup gang.....help me out of this one please.....
> In the process of convincing a friend of the usefulness and
> resourcefulness of the magic wonder of the Internet, I promised him I
> would find info for him on building a simple Tesla Coil and a Jacobs
> Ladder.....I've searched several FTP sites.....found a few references
> to Tesla, but no instructions, and found nothing on Jacobs Ladder. Can
> anyone help pull me through? Thanks.
> Rick Crider KD4FXA Monroe NC
> <rickcrider@aol.com>

The sci.electronics group is the best place for Tesla and Jacobs Ladder
stuff. I've seen lots of postings there.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3059. Grid Dip meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <3ubael$kuk@news.duke.edu>
Source record: 111725

I'm building a high stability frequency source for the physics lab
and I need to get various oscillators and amplifiers working. A long time ago,
I had a Heathkit "tunnel" dip meter and liked it a lot. It really saved me a lot
of bother because I didn't need to use things like network analyzers and
sampling scopes to do the simple things.

I don't have the old dip meter any more and am wondering if anybody
else has one they'd like to sell. It doesn't have to be the tunnel dipper, just
something small with all the coils for 1 MHz to 250 MHz or so.

Jim "no sig" Meyer

3060. Docs/Schematic/Info on KLB-110DX RF (HF) amp wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: bad@taz.WPI.EDU
Message-ID: <3ubalb$5ta@bigboote.WPI.EDU>
Source record: 111726

Hi,

I have a KLB-110DX HF Amplifier that I acquired as part of a deal. The preamp, and possibly one of the power transistors are blown, and I want to replace these. I also want a schematic so that I can see what kind of filtering this amp has. My problem is, I have no docs/schematics or anything (I don't even know what company made this amp).

Here is the info I have:
Model #: KLB-110DX
Made in: Japan
Serial #: 562065

On the front, from left to right, there is:
1. Power meter (100W max)
2. RX (aka Preamp) on/off
3. Power level (low/high)
4. Mode (SSB/AM)
5. Power (on/off)

And on the back there is a switch for the attenuator, so I can drive with either 0.5-3W or 3-10W.

Inside there are two variable caps, to tune the amp to any part of the HF spectrum.

When I drive it with my CB converted to 10 Meter FM (5W output) I get about 50W out, and the preamp definitely doesn't work.

If anyone has ANY idea, who could have made this amp, PLEASE let me know!

Before I get flamed for asking about what might be a CB power amp, let me assure you that this amp is for my CB converted to 10FM.

Thanks for your pointers/help.

73 Bernie NU1S (bad@ee.wpi.edu)

3061. MAKE TONS OF $$$,IT REALLY WORKS!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: Homer
Message-ID: <3ubhb0$du4@vodka.intele.net>
Source record: 111727

Subject: AN EASY WAY TO MAKE $100,000 IN 30DAYS OR LESS, LEGALLY!

$$$ FOR YOUR RECIPES $$$

Please do NOT change anything contained in this letter EXCEPT as directed!

EARN AS MUCH AS $100,000.00 OR MORE IN 30 DAYS, LEGALLY!

EARN MORE THAN EXTRA MONEY!!
YOU WILL BECOME FINANCIALLY INDEPENDENT!!

Here's how to do it.
IT WORKS EVERY TIME! Again don't change anything.

Follow these instructions exactly and you could make $100,000 in the next 30 days. This program REALLY works. It makes money for those who do it honestly! Take the time to read it COMPLETELY!

I know, ordinarily, we disregard these letters because they usually don't
work like they're supposed to, but this ONE is DIFFERENT!

Carl Simmonds used this legal program last year and made $82,360 in cash
the first time he used it. Needless to say, he quit his job immediately
paid off all debts in full, and started another mailing.

Believe me, this is an EASY opportunity. You can do this all on your computer,
by "JUST PRESSING A FEW BUTTONS". You will EASE YOUR FINANCIAL PRESSURES,
and begin to make GOOD things happen for you and your family. READ ON!

* * * * * * * INSTRUCTIONS * * * * * * *

1. Send $2.00 (cash only) inside a sheet of carbon paper or construction
paper, and send a self-addressed, stamped envelope to each of the DEALERS
(1 through 4) below for the recipes they offer.

2 Save this letter on disk. Remove the name, and recipe title that is in the number 1 position. Move the others up a space. Put your name,
address, and the name of your recipe in the number 4 position.

3 Post this file just as it appears (with your name, etc.) in 10 different
places on-line (newsgroups, forums, etc.). Do the postings between 6 a.m.
and 7 a.m. Friday, Saturday or Sunday to get the highest position and have
your posting read first. Ten postings should yield about 100 responses,
which
should then yield about $100,000.

4 **When the money begins coming to your HOME MAILBOX, put your recipe
in the provided SELF-ADDRESSED, STAMPED ENVELOPE - sit back, smile, and
know that you
NOW OWN AN HONEST AND EASY SMALL HOME-OPERATED BUSINESS! KNOW ALSO, THAT
YOU HAVE DONE SOMETHING SMART TO ACHIEVE FINANCIAL INDEPENDENCE!

* * * * * LOOK AT THESE FIGURES WITH ONLY A 15% RESPONSE! * * * * *

Step 1: Fifteen dealers mail at least 15 letters each with your name in
position #3 AND send you a request for a recipe and $2 each or $30.

Step 2: Two hundred and twenty five (225) dealers mail at least 15 letters with
your name in position #2 AND send you a request for a recipe and $2 each
or $450.

Step 3: Three thousand three hundred and seventy five (3,375) dealers mail
at least 15 letters with your name in position #1 AND send you a request
for a
recipe and $2 each or $6750.

Step 4: Fifty thousand six hundred and twenty five (50,625) dealers send
you
a request for a recipe and $2 each or $101,250.

TOTAL CASH RECEIVED (15% RESPONSE) $108,480.00
ELAPSED TIME: 30 days! Everyone responding immediately.
ADVANTAGE: $8 Initial investment.

Professional care has been taken to insure that this Marketing Plan does
NOT violate any laws! (Reference U.S. Code, Title 18: Section 1302, 1343,
and TITLE 39, Section 3005).

The key factor is that we are Mailing Merchandise...OUR TREASURED
RECIPES.

Be honest in every way. Be sure to keep accurate records of income
for Income Tax purposes.

GOOD FORTUNE TO YOU!

* * * * * * * * DEALERS LISTED * * * * * * * *

1. Dan McNally (Easy Dump Cake)
26 Cambria Street
Clearwater Beach, Fl 34630

2. G. Bart (Exotic Spaghetti Sauce)
160 NW 176 Street #407
Miami, Fl 33169

3. Jason Meyers (Awesome Oatmeal-Raisin Cookies)
1695 S. 100 E.
Orem, UT 84058

4. Don Anderson (Atomic Salsa)
P.O. Box 3907
Winchester, VA 22601

****
S. Finch -- I made $141,000 the last time I used this program. It
REALLY
WORKS!
****
J.S. Holliman -- I am a skeptical person by nature. But I knew
this program was different. Over a period of 1 1/2 months, I received
a total of $137,870 in the MAIL!
****
P.S. Why not try it yourself? Mathematically it is possible, but
ONLY IF EVERYONE PARTICIPATES! This system works for the BENEFIT OF
ALL, so remember to begin with your name in the #4 position, for
MAXIMUM
SALES and PROFITS! THIS IS EASY AND YOU GET LOTS OF MONEY!!

GOOD LUCK !!!!!

3062. Re: Help: Tesla and Jacobs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <3uc6uo$qke@news.azstarnet.com>
Source record: 111728

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>In article <3ua709$ptq@newsbf02.news.aol.com> rickcrider@aol.com (RICKCRIDER) writes:
>>OK newsgroup gang.....help me out of this one please.....
>>In the process of convincing a friend of the usefulness and
>>resourcefulness of the magic wonder of the Internet, I promised him I
>>would find info for him on building a simple Tesla Coil and a Jacobs
>>Ladder....

[stuff deleted]

>Note: both of these things will be RFI generators without peer.
>You're going to wreck radio and TV reception for blocks around
>when they are running. Both of these things use *LETHAL* voltages,
>have a care. You or your cat could wind up dead.

Great Gary! I just hope this guy lives in your neighborhood, not mine. Cuz the only lethal danger to him isn't going to be just high voltage.

Of course, MIL-C-3092 (if my memory is right about the number) still contains a test procedure
for determining the hermeticity of glass encapsulated crystals that says something like, "In a
darkened room, bring the energized terminal of a Tesla coil near the crystal and observe the
color of the gas discharge...." :-)

My lab at work is across the runway from an international airport. Imagine the fun I could have testing crystals this way.

Happy RFI

Wes

3063. Motorola RF xistors ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: hduff@humnet.westonia.com
Message-ID: <792027019601@humnet.westonia.com>
Source record: 111729

Does anyone know of a cross reference for Motorola house marked RF transistors ? Wondering if these are your usual MRF- transistors that Motorola stamps with house numbers for use in thier own radio equipment?

ie.. M4018 (removed from an RF deck of a VHF radio) = MRF???

M9583 (on an RF deck from a low-band Mitrek) = MRF???
M1102 " " = MRF???

I'd like to have an actual cross list to MRF for all of thier Mxxxx RF transistors if it is available. Anyone ?

Thanks..Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

--

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3064. Mini-Circuits VCO's -- Good for VHF VFO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: Timothy_Cadigan@fforum.blkcat.com
Message-ID: <NOMSGID_1=3A109=2F239.0_950716_222100_307ca6ce@fidonet.org>
Source record: 111730

Bob
I saw your note about the VCO on my local bbs. I too
was interested in the little "magic box" for QRP work
if you get any info would you foward me a note? I am
going to give them a call this week to get a few of
these to play with.
73!
Tim Cadigan, WC1F

3065. Re: 9watt 900mHz transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: Bill.Hommel@f53.n121.z1.fidonet.org
Message-ID: <748_9507171707@woodybbs.com>
Source record: 111731

MG>From: eus.eusmge@memo.ericsson.se (Mike Groves)
>Subject: Re: 9watt 900mHz transistor
>Organization: Ericsson North America, Inc.

MG>Bill.Hommel@f53.n121.z1.fidonet.org (Bill Hommel) wrote:

MG>>Greetings All!
>>
>>In the Winter '95 issue of ATVQ, there is a small blurb about a
>>transistor that does 9- ? watts from 800-1000mHz. The unit is a surface
>>mount NPN model PTB20093. Has anyone used this or know anything about
>>it? I'd appreciate hearing anything you could pass along...
>>

MG>I think I can help. It was designed here at Ericsson Inc. in Morgan
>Hill, Ca by Jeff who works with me in the Engineering Dept. It's
>manufactured here too. We have transistors in that band delivering
>from 1W to over 150W CW. The 20093 will do an easy 9W with 10dB gain
>and min. 50% efficiency. It will handle an infinate VSWR too. It is
>not a 50 ohm matched transistor, so some impedance matching will need
>to be done on the PC Board to get it to play. Circuit diagrams are
>readily available and the circuit is not complex.

MG>Drop me a line I'll send or fax you a data sheet. I would also like
>to know a little more about the publication ATVQ if you don't mind.
>I've been involved with ATV here for only about a year or so and am
>looking for some good publications. Thanks.

MG>Mike Groves (KD6PKJ)
>RF Engineer

MG>Ericsson Inc.
>675 Jarvis Dr.
>Morgan Hill, Ca 95037
>408-778-9434

Dear Mike,

Thanks so much for your reply. The full name of the mag. I quoted from
is called Amateur Television Quarterly. Their NEW address is:

Three (3) North Court Street
Crown Point, IN 46307
Voice (219) 662-6396
FAX (219) 662-6991

Henry B. Ruh KB9FO, Publisher

$18.00/year for four (4) issues.

Lots of good articles and ads for things you can't live without! ;}

BTW, The device I was inqiring about IS the one you described. I received phone call from Harold B. from your company last Friday (7-14). He was great to talk to, despite the fact that we played a few rounds of phone tag between CA and WI. He gave me a brief history of your company, your product line, and said he would be sending some info via snail mail. I really appreciated the way I was treated by your company, even after I told Harold that I might only want to buy one transistor. Good customer service seems to be more and more proportional to the amount of the order involved. I won't hesitate to let anyone know how well I was treated by you folks.

I am anxious to see the specs. on the 20093 transistor. If you have the time, my FAX number is (608) 356-4777. A cut sheet would suffice. Harold said he would be sending a catalog, etc.

Thanks again for the reply!!

73,

Bill KA9QFJ
***
* OLX 2.1 TD * Depressed? Call Counselor Deanna Troi 1-800-NCC-1701
--
|Fidonet: Bill Hommel 1:121/53
|Internet: Bill.Hommel@f53.n121.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

3066. Mini-Circuits VCO's -- Go

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: fred.mckenzie@spacecoast-bbs.com
Message-ID: <8AD52DE.0091000650.uuout@spacecoast-bbs.com>
Source record: 111732

BC> I assume you'd need a good multi-turn pot, and the pot would
BC> probably need to have good temperature stability, but could one's
BC> VCO be be as simple as that?
Bob-
I think you will need data from Mini-Circuits, before your question
can be answered.
"Good" temperature stability is relative to your needs. My first
thought is that VCO stability doesn't need to be extremely good if its
intended application is in a Phase Locked Loop. If you're trying to meet
a requirement for a mechanically and thermally stable, manually tuned VFO,
then this may not be the way to go.
73, Fred, K4DII

This copy of Freddie 1.2.5 is being evaluated.

3067. UHF radio over 6 miles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: "." <74217.3274@CompuServe.COM>
Message-ID: <3ua5m4$mv5$1@mhadf.production.compuserve.com>
Source record: 111865
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb

What does it take to be able to use 2 UHF walkie talkies over a distance of about 6 to 6 3/4 miles? I'm going to Ocean city in about a month and my friend rented a place with out a phone. What a moron. Anyway we need to communicate. Any suggestions?

Corben.

3068. Re: Info wanted on how to broadcast

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jul16.053231.28215@ke4zv.atl.ga.us>
Source record: 111866

In article <Pine.A32.3.91.950715212731.19612B-100000@srv1.freenet.calgary.ab.ca> Thorsten Kemper <tkemper@freenet.calgary.ab.ca> writes:
>I'm looKking for information to be able to broadcast.
>Do I need to get a special licence or anything in order
>to broadcast? If so where would I go and get the information?
>This would be to broadcast in Calgary, Canada.
>If anyone could help me it would be greatly appreciated.

Contact your DOC (Canadian equivalent of the US FCC) and ask for information on applying for a broadcast license. In the US, getting such a license is expensive and time consuming, as are meeting the technical and financial responsibility requirements, if you can get one at all. In some markets, there simply aren't any open broadcast channel assignments available. In those cases, your best bet is to attempt to purchase an existing broadcasting operation. You can then, assuming regulatory approval of the transfer, assume the license and facilities of the previous broadcaster.

In the US, you'd expect to pay between $100,000 and $5,000,000 or so depending on market size (more in the very top markets) and type of operation (FM stations generally command more than AM stations). I'm not familiar with the going rates in Canada, but they probably don't vary much from that for equivalent size markets and facilities.

Broadcasting in large markets is a cutthroat business. You can quickly lose your shirt if you aren't very astute. In some smaller markets, a broadcast facility can be a relaxed mom and pop operation, a low stress retirement business. Calgary is a fairly large city, I'd analyze the market very carefully before jumping in. A good business plan is going to be essential.

You really should be asking this question in one of the broadcasting groups. That way you'd get input from more professionals. Not too many on this group are associated with broadcasting. Amateurs aren't allowed to do that.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3069. Help: Tesla and Jacobs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: rickcrider@aol.com
Message-ID: <3ua709$ptq@newsbf02.news.aol.com>
Source record: 111867

OK newsgroup gang.....help me out of this one please.....
In the process of convincing a friend of the usefulness and
resourcefulness of the magic wonder of the Internet, I promised him I
would find info for him on building a simple Tesla Coil and a Jacobs
Ladder.....I've searched several FTP sites.....found a few references
to Tesla, but no instructions, and found nothing on Jacobs Ladder. Can
anyone help pull me through? Thanks.
Rick Crider KD4FXA Monroe NC
<rickcrider@aol.com>

3070. Re: UHF radio over 6 miles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: kyle cassidy <cassidy@netaxs.com>
Message-ID: <3uc74k$t8c@netaxs.com>
Source record: 111868
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb

well, the obvious answer is a well located repeater. i had the same problem but was able to communicate a good 20 miles by using a good repeater. another option is to get yourself a well situated antenna, a 3 element beam perhaps mounted on the roof pointed at your house (if you're only going to talk to one other person, no sense putting a roter up there). there's also the option of an amplifier.

kc

3071. re: faster than cd4066b

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <785_9507170330@mba.mba.org>
Source record: 111869

spearce@ccu1.auckland.ac.nz said " The cd4066B cmos switch
has a cut-off frequency of between 4 and 7 MHz (not sure
precisely). He then added that he was looking for a similar
device that would pass higher frequencies.

This is an error I've seen made before. The CD4066B might have
a low switching rate, but that does not mean that it cannot
switch much higher frequencies. It's rather like a relay; you
can only switch it so fast, but the relay contacts can carry
much higher frequencies. It depends on the way the relay is built.
Same with CMOS switches.

My Motorola CMOS data book from years ago right off says that
the 4066B can "transmit frequencies up to 65MHz @ 10vdc". This
isn't in the fine print of the tables, but in the list of features
right up front. Just like a relay, the circuitry being used
around the CMOS switch determines things like crosstalk and
how well the device will operate at higher frequencies.

I remember an article in Radio Electronics or Popular Electronics
from years ago that had a useful intro to this matter. I have it
somewhere around, but don't ask me to look for it. It had a table
of the various switches in the CD4xxx series, and the highest
frequency they were good for and such. I wish I could remember
the details. I know that the CD4066 is generally a better choice
than the CD4016, but there is one exception and I can't remember
what.

This old Motorola data book doesn't help much, since they don't
use constant values to compare the same specs between the two
devices. A different company's data book might give a better
view.

The 4016 and 4066 are the same thing logically; spst gates.
In the 4xxx series, there are more complicated switching mechanisms.
I seem to recall from that old article that some of the
more complicated devices have better frequency transmission
ratings, but I quick glance of one of the other ones shows no
difference.

Of course, if you want to use one of the other ones, it would
have to fit your application.

Get some data sheets and start comparing. Get a more recent one,
and perhaps something like a 74HC4066 (or how ever the number will
come out) has not only a better switching rate, but a better

transmission rate.

There are also CMOS switches from other companies, Siliconix
used to make some, that might be looked at for better results.
Michael VE2BVW
--
| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

3072. Re: Help: Tesla and Jacobs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jul16.102720.29803@ke4zv.atl.ga.us>
Source record: 111870

In article <3ua709$ptq@newsbf02.news.aol.com> rickcrider@aol.com (RICKCRIDER) writes:
>OK newsgroup gang.....help me out of this one please.....
>In the process of convincing a friend of the usefulness and
>resourcefulness of the magic wonder of the Internet, I promised him I
>would find info for him on building a simple Tesla Coil and a Jacobs
>Ladder.....I've searched several FTP sites.....found a few references
>to Tesla, but no instructions, and found nothing on Jacobs Ladder. Can
>anyone help pull me through? Thanks.
>Rick Crider KD4FXA Monroe NC

Ok, Rick, the Jacobs Ladder first. Get a plexiglass tube about 6 inches
in diameter and 3 or 4 feet long. Take a neon sign transformer and connect
its HV outputs to two metal rods arranged in a Vee inside the tube. Leave
a small gap, 1/4 to 1/2 inch, at the point of the Vee. Set the tube upright
with the narrow part of the Vee down. Shoot the juice to the neon sign
transformer and watch the arcs crawl up the tube.

DANGER, DANGER, Will Robinson! This thing can bite. Keep well clear.

Ok, next the Tesla Coil. This is nothing but a resonant step up
transformer with a very high winding ratio driven by a RF power
oscillator. Get another plexiglass tube and wind about 280 feet
of #30 enamel coated magnet wire on it. Do this neat, no scramble
winding. This is the secondary. Mount a small metal ball, or a spike,
on one end of the tube and connect one end of your coil to this.
Ground the other end. Now wind a bigger air core coil of about 8
turns of 1/2 inch copper tubing and mount it around the base of the
other coil. This is the primary.

The secondary should be self-resonant around 1.5 MHz or so. Check
it with a GDO. Now add oil filled HV capacitors in parallel with the
primary until it is resonant at the same frequency. Again, use the
GDO. Make a one turn loop of #12 insulated wire around the base of
the primary. This is the tickler coil.

Now take a 4-400A, 3-500, 813, 810, or whatever big power tube you
have handy and wire up a Hartley oscillator using the primary
as the tank and the tickler for feedback. Turn that sucker on and
stand back. You should be able to draw arcs several feet long.

DANGER, DANGER, Will Robinson! This thing can bite *really* bad.

Note: both of these things will be RFI generators without peer.
You're going to wreck radio and TV reception for blocks around
when they are running. Both of these things use *LETHAL* voltages,
have a care. You or your cat could wind up dead.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3073. faster than cd4066b

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-16 00:00:00 UTC
From: spearce@ccu1.auckland.ac.nz
Message-ID: <3ub6if$2kl3@thebes.waikato.ac.nz>
Source record: 111871

The cd4066b cmos switch has a cut off frequency of between 4 and 7 MHz
(not sure precisely).

Are there similar or equivalent devices which are capable of passing higher frequencies?

Is so what are they called/how much do they cost/who makes them etc.

Many thanks

Stephen Pearce

3074. Motorola 1K HF modele, HEPL, from where to catch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Jorma Saloranta <jorma@salor.pp.fi>
Message-ID: <3ud708$hk5@idefix.eunet.fi>
Source record: 111733

Please: who sells those 1 KW HF modules?
OH2KI

Jorma@salor.pp.fi

3075. Re: Motorola 1K HF module, HELP, from where to catch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Jorma Saloranta <jorma@salor.pp.fi>
Message-ID: <3ud7lm$hk5@idefix.eunet.fi>
Source record: 111734

sri, typing errors - did not know it is flying..already

3076. Motorola 1K HF module, HELP, from where to catch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Jorma Saloranta <jorma@salor.pp.fi>
Message-ID: <3ud8tl$hk5@idefix.eunet.fi>
Source record: 111735

Sri, typing errors. But anyway: does anyone remember where (QST) was product information and ordering add? Jorma OH2KI Jorma@salor.pp.fi

3077. re: faster than cd4066b

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: tangent@interlink.net
Message-ID: <3uda0k$qgi@ns.RezoNet.NET>
Source record: 111736

In article <785_9507170330@mba.mba.org>,
Michael.Black@juxta.mba.org (Michael Black) wrote:

>I know that the CD4066 is generally a better choice
>than the CD4016, but there is one exception and I can't remember
>what.
>
>This old Motorola data book doesn't help much, since they don't
>use constant values to compare the same specs between the two
>devices. A different company's data book might give a better
>view.
>
>The 4016 and 4066 are the same thing logically; spst gates.

The principal difference between the 4016 and 4066 is on resistance.
The 4016 is 300 ohms.
The 4066 is 75 ohms.

Circuit layout is critical at higher frequencies and cross-talk is a
major concern.

+---+
Richard Katezansky (tangent@InterLink.net)

Tangent Electronics
Montreal, Canada
+---+

3078. Manitoba Telecom

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: zorlac@magic.mb.ca
Message-ID: <3ueln1$n7a@froboz.magic.mb.ca>
Source record: 111737
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet

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/ o /O ) \ usenet newsgroups, internet email
| 204 / \ \ h/p file and message networks
| \__ / _/|__ email: zorlac@mbnet.mb.ca
\ \\ (_) /_ |_/
\\__________ */ /\_o
\___ / \_// Information Overload!
/ /
|/ * located in Winnipeg, Manitoba

Cult of the Dead Cow (cDc) Global Domination
Underground Experts United (uXu) Canadian Outlet

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__\__\\//__/__ Underground Experts United [ x x ] cDc communications
| U |\/| U | uXu Central Distribution \ / cDc Global Domination
\___/ /\ \___/ uXu Canadian Outlet (' ') Factury Direct Outlet
/__//\\__\ August 30, 1994 (U) September 10th, 1994
Est. Not! Est. 1986

Freq zorlac @ Infinet 69:650/200, Hacker 666:3204/0,
Hacker Basic 66:204/0, Fido 1:348/103

To apply type "APPLY" at prompt, then for password enter "RADIO".
```

3079. Re: UHF radio over 6 miles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Bill Harwood <harwood@sirius.chinalake.navy.mil>
Message-ID: <DBvvs4.FnL@avalon.chinalake.navy.mil>
Source record: 111738
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb

Any kind of outside or window mount antenna will probably do. I cary a handy talkie with a mag mount and a 30" Dimond/Comet dual band antenna for the rental car and then put it on the heater/cooler or refridgerator in the room. Use of a handy talkie amplifier (RF comcepts type) and a mag mount antenna should do the trick. If one or both rooms face one another and have some elevation ... high rise hotel. You should be able to work with handies and rubber ducks.

Bill Harwood
AB6DY

3080. MAXAR 80 9600 Baud

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Eric Weaver <eweaver@nando.net>
Message-ID: <Pine.SUN.3.91.950717103519.10600D-100000@parsifal.nando.net>
Source record: 111739
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Has anyone modified a Motorola MAXAR-80 to do 9600 baud packet? I have several, and if someone has already done this, I would love to not have to re-invent the wheel...

---
73 de ke4zer / eweaver@nando.net / eric_weaver@northstate.win.net
---
Eric Weaver - Data/FAX 919-220-0291 - PO BOX 12741 RTP, NC 27709-2741

3081. Re: faster than cd4066b

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDBx22F.LDE@netcom.com>
Source record: 111740

in <3ub6if$2kl3@thebes.waikato.ac.nz>, spearce@ccu1.auckland.ac.nz wrote:
: The cd4066b cmos switch has a cut off frequency of between 4 and 7 MHz
: (not sure precisely).
:Are there similar or equivalent devices which are capable of passing
higher frequencies?
:Is so what are they called/how much do they cost/who makes them etc.

The 74hc4066 is rated at higher frequency but lower voltages.

There are a ton of different analog switches. "The Art of Electronics" by
Horowitz and Hill has a great writeup on them.

Try Maxim for some high speed video stuff. Other mfgrs. are Harris,
Analog Devices, and whatever they call Siliconix these days.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

3082. Need source for Heathkit parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: mcfarlan@ms23.dseg.ti.com
Message-ID: <3ue102$opc@superb.csc.ti.com>
Source record: 111741

Forgive me if this question has already been asked/anwered,
but how do I get replacement parts for Heathkits?

Thanks!

Steve

3083. Re: Help: Tesla and Jacobs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <3ue2n7$e4h$1@mhadg.production.compuserve.com>
Source record: 111742

I used a transformer from a Billboard. Two coat hangers bent in the proper
shape and ZAP! Jacobs ladder. However... Really REALLY lethal voltages
are involved and the power of the arc can punch a hole through a drinking
glass, model airplanes etc.
--
73, Jay WB0VNE - AAV5TH

3084. Re: MiniSport Laptop Hacker #28

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <3ue2qb$e4h$2@mhadg.production.compuserve.com>
Source record: 111743
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Good luck in 96!

--
73, Jay WB0VNE - AAV5TH

3085. Re: Motorola 1K HF module, HELP, from where to catch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <3ue2ul$e4h$3@mhadg.production.compuserve.com>
Source record: 111744

QST: (203) 594-0200 Voice / (203) 594-0259 Fax. $44 Overseas payment in US funds and... Well worth it! I also recomend RadComm R.S.G.B. Lots of home build articles.
--
73, Jay WB0VNE - AAV5TH

3086. Re: Squelch circuit - wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <3ue322$e4h$4@mhadg.production.compuserve.com>
Source record: 111745

Squelch is easy with the MC13135 recv on a chip. Do you have a copy of Circad
or the demo? I could E-Mail you a schematic of a really easy 50Mhz recv.
With Squelch of course!
--
73, Jay WB0VNE - AAV5TH

3087. Re: Sbl-1 mixer max dc cur

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <805985018.AA02873@hamlink.mn.org>
Source record: 111746

OO>From: OSYSMAS@MVS.OAC.UCLA.EDU (Michael Stein)
OO>Newsgroups: rec.radio.amateur.homebrew
OO>Subject: SBL-1 mixer max dc current...
OO>Organization: University of California, Los Angeles
OO>Reply-To: osysmas@mvs.oac.ucla.edu
OO>Message-ID: <19950715132154OSYSMAS@MVS.OAC.UCLA.EDU>
OO>Date: Sat, 15 Jul 1995 13:21
OO>
OO>I'm looking at the latest QST at the "Rock-Bending Receiver for 7
OO>MHz" article by Randy Hnederson, WI5W. He has the collector of
OO>the crystal oscillator directly connected to pin 7 of the mixer
OO>and feeds pin 8 with V+. This results in the DC current of the
OO>oscillator flowing through the mixer LO transformer. The current
OO>is about 20+ mA. How much current is OK to run through here? At
OO>what point does the RF transformer in the mixer start having
OO>problems (saturation?)?
OO>
OO>---
OO> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
OO>(1:282/100.0)Hi,
Yeah I wondered the same thing. I plan on looking it up in my Mini-Ckts
catalog in the AM. Looks to me like it may be a problem.
72 Bob WB0POQ

Technology is OUT of control ......

3088. Source for 1724 and/or 3724

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: tkayani@Legarto.Minn.Net
Message-ID: <3ue7kg$i5l@News.Minn.Net>
Source record: 111747
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Hello all,

I am looking for the following ICs of Motorola make:
1724
3724
The sample I have is a a FPQ1724.
Any help will be appreciated. I am looking for a qunatity in the
range of 50+.

Regards.

--
==========
Twinix Systems Inc.
119 North Fourth Street,
Suite 508,
Minneapolis, MN 55401
Voice: 612-338-7170
Fax: 612-397-9417
e-mail:tkayani@legarto.minn.net
==========

3089. Re: Need source for Heathkit parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: "James A. Storm" <jastorm@ix.netcom.com>
Message-ID: <3uekg6$154@ixnews4.ix.netcom.com>
Source record: 111748

According to QST, parts are still available for Heathkits:

Heath Order Desk
P.O. Box 1288
Benton Harbor, MI 49023-1288

616-925-5899/616-925-4914

73, Jim WB6LWS Pacifica, CA

3090. JAN811A, need more info on these tubes....?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Johan Celis <jcelis@infoboard.be>
Message-ID: <3udqf1$3ln@ibbr.ib.be>
Source record: 111749

Hi everybody,

I do have an homebrew amplifier I bought from a friend that moved away.
The amplifier works with 3 tubes, type JAN811A. Those are now used, and I
need to replace them. Which 811A tubes should I buy??? Chinese, American
JAN's or Russian tubes. Is there any difference???
Another friend of mine told me to use 812A tubes. Their output is even
higher. Is this true??? Are they compatible??? Any prices???

Many questions, so I hope to get many anwers. Thanks in advance...

Pse if you do not post this message to this newsgroup, please send it
over to my own e-mail address. This address is from a collegue at my
temporary work. So please post to Kurt.vlaminck@infoboard.Be

Best greetings to all of you!!

Kurt.Vlaminck@infoboard.Be

3091. Re: Uhf radio over 6 miles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <805997962.AA02875@hamlink.mn.org>
Source record: 111750

77>From: . <74217.3274@CompuServe.COM>
77>Newsgroups: rec.radio.amateur.equipment, rec.radio.amateur.homebrew,
77>rec.radio.amateur.misc, rec.radio.amateur.policy, rec.radio.cb
77>Subject: UHF radio over 6 miles
77>Organization: via CompuServe Information Service
77>Message-ID: <3ua5m4$mv5$1@mhadf.production.compuserve.com>
77>Date: 16 Jul 1995 04:48:04 GMT
77>
77>What does it take to be able to use 2 UHF walkie talkies over a
77>distance of about 6 to 6 3/4 miles? I'm going to Ocean city in
77>about a month and my friend rented a place with out a phone.
77>What a moron. Anyway we need to communicate. Any suggestions?
77>
77>Corben.
77>
77>---
77> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
77>(1:282/100.0)
Hi,
Well *reliable* comms on UHF over this kind of a path is a dicey
proposition. have you considered buying/renting a couple of cellphones
(assuming of course the area has cell coverage)?
I worked in the 2 way business for 20 years here in the Minneapolis
area, and had many customers wanting this kind of coverage with
portables, but never had much luck even on a well based repeater system.
Mobiles and base stations are a different matter....
Good luck.
Bob L. WB0POQ

Technology is *OUT* of control.....

3092. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-17 00:00:00 UTC
From: jeff.sumberg@sailboard.com
Message-ID: <8AD62A0.012E0008C8.uuout@sailboard.com>
Source record: 111751

KR>JEFF SUMBERG (jeff.sumberg@sailboard.com) wrote:
>: You can also look at long wave UV without hurting you eyes, but when
>: you do, they feel strange. You know you are looking into something that
>: appears to be quite dim, but your eyes tell you (by the way they feel)
>: that you are staring into something very bright. Quite odd.

and krieder@buffnet.net (Kurt Rieder) replied:

KR>This is bad, bad advice ! Throughout my career, I was in an industry
>that operates arc generating devices with power inputs of 10 to 60 MW.

I said =LONG WAVE= *NOT* SHORT WAVE!
~~~~~~~~~ ~~~~~~~~~~

Long wave will not hurt your eyes. Short wave *WILL BLIND YOU*, and
that is what ARC welding generates. If you had read an earlier message
that I left a couple of weeks ago I left a very strong warning about
eye contact with short wave UV, as did many others.

KR>excessive exposure, "called arc eyes", does not appear until several
>hours after exposure. Its a feeling that someone has poured a hand full
>of sand in you eyes, and the rubbing only makes thing worse. Just like
>a sunburn... the retina gets blisters on it. Maybe... after two days
>you can recover... maybe just partly. You want to try it ?

Of course not, and we've all said that already. Short wave UV is what
is used to erase EPROMS and is BAD NEWS for the eyes. Somebody
mentioned using LONG WAVE to erase Eproms and I was explaining that it
won't work and mentioned you could look at long wave UV without eye
damage. You can buy long wave UV ("Black Light") tubes in many places,
and they are not shielded in any way as you want the "black light" to
flood the room to make your posters (or whatever) glow. K0ol man!

--
****
* 73 de N2VYU, Jeff, in New Jersey (Fn21) *
* Email: jeff.sumberg@sailboard.com *
* Packet: N2VYU @ WA2SNA.NJ.USA.NA *
* Advanced class - WAC on RTTY *
* Ramapo Mountain Amatuer Radio Club *
****

* 1st 2.00d #32s * .
~~~~~~~~~

3093. Re: HEY GUYS! CALL 1-800-559-6554

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: Burt Fisher <K1OIK@ccsnet.com>
Message-ID: <3uhgv8$hs@alterdial.UU.NET>
Source record: 111752
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

BOOKS <102347.2274@CompuServe.COM> wrote:
>Are you naked? Call me for action. 1-800-559-6554 Christine

The only action hams want no REAL man would want.

#================#===#
Burt Fisher	Teacher of video, broadcasting and electronics
Amateur call	South Dennis, Ma. (Cape Cod)
K1OIK	If you sit in the fence, it is a pain in the butt
#================#===#
| k1oik@ccsnet.com fisher@meol.mass.edu xuab85a@prodigy.com |
#===#

Get a GIF of K1OIK by telnet://ccsnet.com and go to FREE downloads
for bf1pres.gif

3094. Electrolytics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3uf7gk$pv2@vixen.cso.uiuc.edu>
Source record: 111753
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

Can anyone point me in the direction of a textbook which contains information on the design of electrolytic capacitors?

I am looking for information including what materials are used for the electrolytes, how to compute the capacitance, breakdown voltage, loss, etc.

I can be e-mailed directly on this. No need to burden the whole newsgroup!

73, Zack W9SZ

3095. SHF Microwave still there?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: smchenry@freenet.columbus.oh.us
Message-ID: <3ug6u9$27d@acme.freenet.columbus.oh.us>
Source record: 111754

Is the company SHF Microwave still in business? I ordered a 10GHz
Gunplexer type device from them some time a go and am now looking to order
another one. Also, all you folks who keep buying those "Brake light
testers", Put them to a REAL use and get on 10GHz so we have someone to
talk to. You wouldn't believe how easy it is.
Look in the back of the latest handbooks for very simple plans...
Please reply here or e-mail me at the address below. Thanks, Sean.
Also, looking for 10GHz WBFM skeds in the central Ohio area. KB8JNE.

--
smchenry@FREENET.COLUMBUS.OH.US In Cyberspace, no one can hear you scream.

3096. Re: Whither Dan's mySmall Parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: dave@diusys.cms.udel.edu
Message-ID: <3uge0c$j9g@news.udel.edu>
Source record: 111755

David Beach, NorFam, Memorial University (dbeach@kean.ucs.mun.ca) wrote:
: Whither Dan's Small Parts?
: Does anybody know where Dan (of Dan's Small Parts, Missoula MT) has
: gone? The phone has been disconnected. If nobody knows where
: he has gone, any other good ideas (besides Ocean State) for those
: little 'ham bits and pieces'?
: David BeVO2BD

I mailed an order to him earlier this year and he mailed it back
with a short note saying he was unable to fill the order at that
time. No further details were given. Too bad, he was good
low cost source of parts.

Another source of similar stuff is Circuit Specialists. I've
had good luck with them.

73, Dave WA3U

3097. Re: faster than cd4066b

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1995Jul18.154914.16077@schbbs.mot.com>
Source record: 111756

>>I know that the CD4066 is generally a better choice
>>than the CD4016, but there is one exception and I can't remember
>>what.
>>
>>This old Motorola data book doesn't help much, since they don't
>>use constant values to compare the same specs between the two
>>devices. A different company's data book might give a better
>>view.
>>
>>The 4016 and 4066 are the same thing logically; spst gates.

>The principal difference between the 4016 and 4066 is on resistance.
>The 4016 is 300 ohms.
>The 4066 is 75 ohms.

There is also the 74HC4066. 3 dB loss is 100 MHz @ 4.5v, 120 MHz @ 9v supply.
The main advantage is a lower "on" resistance of about 30 ohm.

There are also 74HC4051s (like a single pole, 8 position switch). I have often
wondered how they would work as an RF router in the front end of a receiver.
It would be nice to use a pair of these to select between up to 8 different
front end band pass filters rather than use a large switch.

- Dan Tayloe, WB0NVB, Phoenix, Az.

3098. xtal for 10.10 mcs needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: brunel@hugo.rz.fh-ulm.de
Message-ID: <brunel.12.300BAA9E@hugo.rz.fh-ulm.de>
Source record: 111757

Hi...
I tried to build a qrp tx for 30 meters. Now I have dificulties to
get a crystal for the "exotic" 10.10 mcs. Crystals for 10.00 and 10.24 are
often needed in computers but that's too far away from 10.10.
Who can tell me where I can get a low cost (because the tx is low cost) xtal
for this freq. ???
Many thanks, 73 de DL2SFE (Roman)

3099. Re: EPROM Erasing Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <3ugnvg$h5v@newsbf02.news.aol.com>
Source record: 111758

Long wave will not hurt your eyes. Short wave *WILL BLIND YOU*, and
that is what ARC welding generates. If you had read an earlier mes

I beg to differ with you. While short wave is *much* more dangerous to
look at, long wave is not without its risks either. I have several pieces
of longwave lighting equipment (for flourescent minerals, etc), and every
single one came with warnings to limit one's direct-view exposure.
PFZouave@aol.com
Pete Friedrichs
*** Common Sense Is Not That Common ***

3100. HF Amp tubes for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: "R. Bingham" <rbingham@blue.weeg.uiowa.edu>
Message-ID: <Pine.A32.3.91.950718112103.89952A-100000@red.weeg.uiowa.edu>
Source record: 111759

To the group:

I have a pair of Eimac 4-400As that I think are in good
condition...envelopes look fairly clean, so probably not too many hours.
I have air-system sockets, chimneys and plate caps. I had planned on
using these in an HF amp, but due to time and monetary constraints, as
well as increasing difficulty in obtaining some critical parts, I have
decided to sell them. I would prefer to sell the parts as a group rather
than piecemeal. I would like $275.00 for the lot, but I would entertain
a very reasonable offer.

Rich,
WW0Q

****
* *
All the world's a stage--it's just that some are better actors then others
* *
* Richard Bingham richard-bingham@uiowa.edu *
* rbingham@blue.weeg.uiowa.edu *
* *
****

3101. help needed with 2m channelizer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: ed@fore.com
Message-ID: <3uh3an$1tj@baleen.fore.com>
Source record: 111760

From Ed@fore.com

I have a GLB electronics channelizer model 400B that I want to
use with an ICOM ic21a. I dont have any info on the unit other
than my own measurments.

Tx freq output 6.?? mhz
Rx freq output 48.?? mhz

My Icom wants osc xtals around 18 mhz I think.

Unit internally oscillates around 24 mhz square waves from VCO.

The 24mhz gets divided down to 12mhz then again to 6 mhz then LC filtered
for the output for the tx freq.

The Rx is a different bird, it goes through a 74h00 (and gate I think?)
and is just buffered, then to a tuned circuit, that is tuned at about
48 mhz.

Any Ideas? Sources on info on this unit would be appreciated.
A schematic and users manual would be fantastic!

Please Reply Email Ed@fore.com

73

Ed N3SDO

3102. xtal for 10.10 mcs needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: FRANK W LEE <frank@yorks.demon.co.uk>
Message-ID: <806090236snz@yorks.demon.co.uk>
Source record: 111761

Hello Roman. You can get xtls on 10.106 from the following address:

Kanga Products, Seaview House, Crete Road East, Folkestone CT18 7EG

The price is 4 plus postage.
They also stock crystals on the other QRP freq's.
You might like to subscribe to the two newsgroups for qrp'ers, if you
don't already. Will send info if you need it.
73
--
Frank G3YCC (G QRP 042)

3103. Add Vol ctrl to spkrs.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: dlarson@UWYO.EDU
Message-ID: <1995Jul18.150741.12983@roper.uwyo.edu>
Source record: 111762
Cross-posted to: comp.sys.ibm.pc.soundcard.tech,rec.radio.amateur.homebrew

I have a new cd-rom/soundcard kit that has speakers with no volume
control (Sound Blaster 16 *VALUE* CD). Many of my DOS based
programs have drastically different volume so I would like
to add a volume control in line w/ the speakers but don't know the
best way to do it.
Any suggestions? Both speakers are fed directly from the soundcard,
not one from the soundcard and one from the first one.
Thanks in advance.
KC7EGB
---Donald Larson---
---Laramie Wyoming---

3104. Looking for R390A Product detector plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: butch@maestro.maestro.com
Message-ID: <DBxMw5.Lw6@maestro.maestro.com>
Source record: 111763

Hello,

I have a R#()A receiver that was converted to a product detector in the 80's the basic plans from what i understand was in either a ham radio or 73 magazine article that was published in the mid 70's. the product detector is a 6be6 and the am detector is a diode if anyone has information on this please contact me.

allan bart

3105. GE masterexecII

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: mikelder@aol.com
Message-ID: <3uhqei$soa@newsbf02.news.aol.com>
Source record: 111764

Does anyone know where I can obtain info for this radio, I have a friend that has one and would like to put it in service as a packet digi. It is 440Mhz or so right now. Is there a site where I can obtain any info on this rig??

3106. Re: SHF Microwave still there?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: Kevin Cole <kevinc@ncw.net>
Message-ID: <Pine.HPP.3.91.950718195058.4525A-100000@bing.ncw.net>
Source record: 111765

On 18 Jul 1995, Sean McHenry wrote:

>
> Is the company SHF Microwave still in business? I ordered a 10GHz
> Gunplexer type device from them some time a go and am now looking to order
> another one. Also, all you folks who keep buying those "Brake light
> testers", Put them to a REAL use and get on 10GHz so we have someone to
> talk to. You wouldn't believe how easy it is.
> Look in the back of the latest handbooks for very simple plans...
> Please reply here or e-mail me at the address below. Thanks, Sean.

so a question or two... first - what kind of ballpark ($$$) does 10Ghz
play in? Could a guy get active for a couple of hundred bucks?

second - what's the most painless way to start
learning it - assuming that I haven't had to pay much attention to much
theory in a good few years?

I've always been curious about Ghz-land but never moved above HF before -
and not much of that in the last few years...

WA7ZNB

3107. video restoration

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: jmiller@eyes.arizona.edu
Message-ID: <3uf89h$rfs@news.ccit.arizona.edu>
Source record: 111766

I am trying to digitize video (dipix frame grabber) and the source is a vcr
(yes I know this is difficult). I would like to build an amplifier that will buffer the video and allow adjustmet of black level and white level, as well as clean up the sync pulses.

Are there monolithic amplifiers to do this with a single IC and a few outboard components? Any suggestions appreciated.

tnx
Joe Miller KI7WV

3108. Re: JAN811A, need more info on these tubes....?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: Jorma Saloranta <jorma@salor.pp.fi>
Message-ID: <3ufi6d$ctv@idefix.eunet.fi>
Source record: 111767

Hi.

What makes you to feel that you have to replace the tubes, have you measured the output and foud the tubes "soft". How soft? Measure filament voltage also, some tubes are very sensitive to too low voltage (measure it when full load is on).

My suggestion is to buy 811's, cheapest ones because I think that they are good enoug.

(my exprience is that we need a full 100 % nut person to blow up a tube ... usually the tubes live very long, Very = 10-.20 years in proper amateur use)

73 OH2KI Jorma

3109. ICOM Delta-1e Extended RX range

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-18 00:00:00 UTC
From: oddjob@cix.compulink.co.uk
Message-ID: <DBxrpp.A5r@cix.compulink.co.uk>
Source record: 111768

ICOM Delta-1e Extended RX range

This is a Triband hand held 2m/70cms/23cms, does anyone know of any
mods/tips for extending the receive range ? 4m? air band PMR etc?

3110. Re: HEY GUYS! CALL 1-800-559-6554

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <3uhnou$2nc@usenet.interramp.com>
Source record: 111769
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

BOOKS <102347.2274@CompuServe.COM> wrote:
>Are you naked? Call me for action. 1-800-559-6554 Christine

Nice. Perhaps if 'webmaster@compuserve.com' got inundated by mail complaining about this chap (or chapess) he/she or whatever it is could be encouraged to keep the slime to the alt newsgroups where it belongs.

3111. Re: Squelch circuit - wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: jbls@aol.com
Message-ID: <3uidqe$7a5@newsbf02.news.aol.com>
Source record: 111770

>Squelch is easy with the MC13135 recv on a chip. Do you have a copy of
>Circad or the demo? I could E-Mail you a schematic of a really easy
50Mhz >recv. With Squelch of course!
>--
>73, Jay WB0VNE - AAV5TH

I have a copy of CirCad. Could you please send me the schematic and/pcb
files? Got any other interesting Circad files? I'd like to build a 6m
transceiver.

Thanks

John
KE6TGN

3112. Re: SHF Microwave still there?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: jbls@aol.com
Message-ID: <3uie01$7bn@newsbf02.news.aol.com>
Source record: 111771

>Also, all you folks who keep buying those "Brake light
>testers", Put them to a REAL use and get on 10GHz so we have someone to
>talk to. You wouldn't believe how easy it is.
>Look in the back of the latest handbooks for very simple plans...
>Please reply here or e-mail me at the address below. Thanks, Sean.
> Also, looking for 10GHz WBFM skeds in the central Ohio area. KB8JNE.

I have a K band transceiver that was part of an up/downlink satellite system. Do you know anything about converting this type of thing? Any info on microwave communication you can give me would be helpful. Are there any newsgroups or Web pages regarding microwave?

Thanks for any help you can give.

John
KE6TGN

3113. Long Wave Club of Amer.(ADDRESS PLEASE!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: magill@ix.netcom.com
Message-ID: <3uhnfl$qil@ixnews2.ix.netcom.com>
Source record: 111772

Without success I have been trying to locate the address of the Long Wave Club of America. Have been wanting to join since I am a 160-190 KHz band enthusiast.

Can anyone provide me with the address -- pse reply via EMAIL!!

Thanks --- Bob Magill (N6MTU)

3114. Re: SHF Microwave still there?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <3ui3og$fkm@vixen.cso.uiuc.edu>
Source record: 111773

In a previous article, kevinc@ncw.net (Kevin Cole) says:

>>
>> Is the company SHF Microwave still in business? I ordered a 10GHz
>> Gunplexer type device from them some time a go and am now looking to order
>> another one. Also, all you folks who keep buying those "Brake light
>> testers", Put them to a REAL use and get on 10GHz so we have someone to
>> talk to. You wouldn't believe how easy it is.
>> Look in the back of the latest handbooks for very simple plans...
>> Please reply here or e-mail me at the address below. Thanks, Sean.
>
>
>so a question or two... first - what kind of ballpark ($$$) does 10Ghz
>play in? Could a guy get active for a couple of hundred bucks?
>
> second - what's the most painless way to start
>learning it - assuming that I haven't had to pay much attention to much
>theory in a good few years?
>
>I've always been curious about Ghz-land but never moved above HF before -
>and not much of that in the last few years...
>
>WA7ZNB
>
>

The aforementioned SHF Microwave Parts had some really nice 10 GHz units
for $25. I got one that puts out about 10 mW.
Depending on how deep your junkbox is, the rest of the circuitry to make
a transceiver out of it could cost from nothing to $25-50, I think. (Far
under $100 for the whole project!)

You can actually get on the band with a Gunnplexer and an old FM radio or
2 meter rig, and an audio amp of some kind to modulate the Gunnplexer,
and a power supply or battery. See the ARRL Handbook from the late 80's.
You would actually need a friend on the band with a similar setup too;
it's nice to have someone to talk to!

I will send a request for a current price list to the address I have for
SHF and see what happens.

73, Zack W9SZ

3115. Re: HEY GUYS! CALL 1-800-559-6554

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: jbl@levin.mv.com
Message-ID: <DByxJ6.17v@mv.mv.com>
Source record: 111774
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <3uhgv8$hs@alterdial.UU.NET>,
Burt Fisher <Burt Fisher <K1OIK@ccsnet.com>> wrote:
|BOOKS <102347.2274@CompuServe.COM> wrote:
|>Are you naked? Call me for action. 1-800-559-6554 Christine

|The only action hams want no REAL man would want.

Projecting again, Burt?

--
Nets: levin@bbn.com | Those who cavalierly reject the Theory of
or jbl@levin.mv.com| Evolution, as not adequately supported by facts,
pots: (617)873-3463 | seem quite to forget that their own theory is
ARS: KD1ON | supported by no facts at all. --H. Spencer

3116. Re: HEY GUYS! CALL 1-800-55*-****

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: skowit1@umbc.edu
Message-ID: <3ujafe$973@umbc9.umbc.edu>
Source record: 111775
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <3uhgv8$hs@alterdial.UU.NET>, Burt Fisher <K1OIK@ccsnet.com> wrote:
>BOOKS <102347.2274@CompuServe.COM> wrote:
>>Are you naked? Call me for action. 1-800-55*-**** Christine
>
>The only action hams want no REAL man would want.
>

Hams do it with more frequencies!

Shai Kowitt N3VAS
skowit1@umbc.edu

3117. Looking for gears for Tempo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <3uipbh$8l5@newsbf02.news.aol.com>
Source record: 111776

I have been attempting to repair an old Henry Radio Tempo 2020. A couple of the gears that drive the various bandswitches are cracked, split, or otherwise buggered up and need replacing. I have looked for them without success in two catalogs, Stock Drive Products, and Small Parts Inc. I also haven't been able to find them in any hobby shops either. Stock drive has some parts that are close, but not close enough. Any Ideas?

The gears have an OD of about 7/8", a pitch diameter of about 5/8" and 13 teeth. The bore contains a brass insert and a diameter of 1/4".

Pat Tracy, KE1C

3118. Antenna design Software - announcement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jul19.171814.49133@ucl.ac.uk>
Source record: 111777

TITLE: yagiu109.zip

PURPOSE: To analyse performance of Yagi-Uda antennas. You
give the dimensions and positions of each element, and the
program calculates gain, input impedance, front-to back ratio,
beam-patterns etc. An optimisation program 'optimise' tries to
optimise a design. The optimiser can also tell you the sensitivity
of a good design, to small mechanical errors.

AUTHOR: David Kirkby BSc. MSc. G8WRB.
email:davek@medphys.ucl.ac.uk
Department of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA.
Telephone: 071-380-9700
Fax: 071-380-9577.

anonymous ftp from medphys.ucl.ac.uk

What you get:

386 protected mode executables.
Most source code (some code from 'Numerical Recipes in C' needed too)
20 page postscript manual.
Unix man pages.
Both DOS and unix makefiles.
All code is PD.

3119. Re: Antenna design Software - announcement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jul19.172648.22538@ucl.ac.uk>
Source record: 111778

I should have added the file 'yagiu109.zip' is in a directory:

pub/users/davek/YagiUda.

dave kirkby.

3120. FT51R HW/SW PC Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: rlmeyering@ccgate.dp.beckman.com
Message-ID: <rlmeyering.2.000C2FD8@ccgate.dp.beckman.com>
Source record: 111779

Could someone send me instructions on how to interface my PC to my FT51R radio. I am interested in writing a program to upload and downlowd FT51R configs. Note: I already own the RT systems app to do this but am curious and would like to write my own. Please send via e-mail.

RL Meyering

3121. Relays for vhf amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <3uj71a$aqt@newsbf02.news.aol.com>
Source record: 111780

I am looking for reccomendations for relays for T/R switching for VHF & UHF amplifiers. The next project is a homebrew "brick" for 223 MHz, and I already have the transistors picked out, and a board layout is currently underway. PIN diodes have been considered for T/R switching, but I just don't feel the added circuitry and biasing doo-doo is worth the effort. A relay's simplicity and relialbility seems hard to beat. The target output power is somewhere around 200 watts or so.

Pat Tracy, KE1C

3122. Converting VHF to AM/SSB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: walshults@aol.com
Message-ID: <3ujvho$ha6@newsbf02.news.aol.com>
Source record: 111781

Hi.

Just had a mod done to my Cobra 148GTL. I've got lowers down to 26.81khz and uppers to 28.04khz. Cool deal!

My question is: Does a *mod* exist to allow transmission and receive from a VHF Marine Radio on 11 meters?? It seems like there should be because the 148 goes into 10 meters a little and started out as an 11M radio. The VHF is a 10M radio that would need to operate on 11M. The 25 watt supply found in the VHF would be nice on 11M.

Am I radically off base? I know a little knowledge is dangerous... but no worries because in this arena I don't even have that much :-)

Thanks
Wal

3123. Re: GE masterexecII

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jul19.161605.14690@ke4zv.atl.ga.us>
Source record: 111782

In article <3uhqei$soa@newsbf02.news.aol.com> mikelder@aol.com (Mikelder) writes:
>Does anyone know where I can obtain info for this radio, I have a friend
>that has one and would like to put it in service as a packet digi. It is
>440Mhz or so right now. Is there a site where I can obtain any info on
>this rig??

Any GE/Ericsson dealer should be able to order you a service manual for
this radio. It does make an excellent packet radio for 1200 baud. Because
it is phase modulated, you have to do some mods to make it work at 9600
baud. Basically, convert it to FM modulation by varactor modulating the
channel icom directly. You can do that and not lose temperature compensation
by using an opamp summer to combine the modulation with the temperature
compensation voltage. The IF filter is a bit narrow, however, and you
may have problems on receive. You can broaden it with a gimmick capacitor
across the narrower filter. However, a Motorola Micor is simpler to get
on 9600.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3124. Need plans for frequency converter 50mhz to 53mhz...?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: robkas@aol.com
Message-ID: <3ukcj1$lt7@newsbf02.news.aol.com>
Source record: 111783

frequency converter should have good input to output match, (75 ohm) and have a bandpass from 50-750 mhz. Input rf level would be at 35 dbmv. +/- 5 db.
any schematics suggestions greatly appreiciated please E-mail robkas@aol.com

THX>
robkas@aol.com

3125. Need:Alpha-91A schematics set

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: skulyov@freenet.columbus.oh.us
Message-ID: <3ukg4u$59a@acme.freenet.columbus.oh.us>
Source record: 111784

I'm looking for the schematics set of Alpha-91B HF linear
amplifier.
Appreciate for any help.
73! Sergei
AA8OT, UA3AP
Columbus, Ohio

3126. Re: Looking for gears for Tempo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: 'AB7HI' Stephen Lee <slee@u.washington.edu>
Message-ID: <Pine.A32.3.91j.950719161016.32665A-100000@homer12.u.washington.edu>
Source record: 111785

I advise giving BERG Precision Mechanical Components
a call. Request their catalog #M90 covering small
gears and gear drives. Sales and customer service
number is: (516) 599-5010
General telephone number is: (516) 596-1700.

I've purchased gears for robotics work from BERG and
have been very satisfied with their products.

Stephen Lee
AB7HI

3127. NEW Ham Radio + X-10 Product Offered

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: Marshall Craw <mcraw@halcyon.com>
Message-ID: <Pine.ULT.3.91.950719193331.8352A-100000@chinook.halcyon.com>
Source record: 111786

I am pleased to announce Positive Time System's new radio / power controller called the RCS-I. The RCS-I connects to any VHF/UHF radio and can send X-10 commands throughout your home or building. X-10 modules control AC appliances of any type and have been around for over 10 years through Radio Shack, Sears, Leviton and others. The RCS-I has other features like an alarm input that will page you, a listen mode to hear whats going on in your shack, a brief voicemail message, and many others. The RCS-I responds to all commands in a plesant female voice, and you voice for the call sign. More details are avaiable on the PTS homepage at:

http://www.halcyon.com/pos.time.sys/top

Thank You,

Marshall Craw | POSITIVE --> TIME --> SYSTEMS -->
North Bend, WA |
<mcraw@halcyon.com> | "A company for Timely Innovation!"

3128. Long Wave Club of Amer.(ADDRESS PLEASE!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: Timothy_Cadigan@fforum.blkcat.com
Message-ID: <NOMSGID_1=3A109=2F239.0_950719_223900_c392deae@fidonet.org>
Source record: 111787

Bob,
LWCA membership and 1 year subscription:
$18. (Make check out to Long Wave Club of America.
Send to;
LWCA
45 Wildflower Rd.
Levittown, PA
19057...
Very interesting monthly publication. Lots of folks with
interesting plans for homebrew gear.
Good luck
Tim Cadigan, WC1F

3129. Re: 9watt 900mHz transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-19 00:00:00 UTC
From: Bill.Hommel@f53.n121.z1.fidonet.org
Message-ID: <df0_9507220018@woodybbs.com>
Source record: 111788

To: eus.eusmge@memo.ericsson.se (Mike Groves)

MG>From: eus.eusmge@memo.ericsson.se (Mike Groves)
>Subject: Re: 9watt 900mHz transistor
>Organization: Ericsson North America, Inc.

MG>Bill.Hommel@f53.n121.z1.fidonet.org (Bill Hommel) wrote:

MG>>Greetings All!
>>
>>In the Winter '95 issue of ATVQ, there is a small blurb about a
>>transistor that does 9- ? watts from 800-1000mHz. The unit is a surface
>>mount NPN model PTB20093. Has anyone used this or know anything about
>>it? I'd appreciate hearing anything you could pass along...
>>

MG>I think I can help. It was designed here at Ericsson Inc. in Morgan
>Hill, Ca by Jeff who works with me in the Engineering Dept. It's
>manufactured here too. We have transistors in that band delivering
>from 1W to over 150W CW. The 20093 will do an easy 9W with 10dB gain
>and min. 50% efficiency. It will handle an infinate VSWR too. It is
>not a 50 ohm matched transistor, so some impedance matching will need
>to be done on the PC Board to get it to play. Circuit diagrams are
>readily available and the circuit is not complex.

MG>Drop me a line I'll send or fax you a data sheet. I would also like
>to know a little more about the publication ATVQ if you don't mind.
>I've been involved with ATV here for only about a year or so and am
>looking for some good publications. Thanks.

MG>Mike Groves (KD6PKJ)
>RF Engineer

MG>Ericsson Inc.
>675 Jarvis Dr.
>Morgan Hill, Ca 95037
>408-778-9434

Mike,

Thanks so much for your reply. The full name of the mag. I quoted from
is called Amateur Television Quarterly. Their NEW address is:

Three (3) North Court Street
Crown Point, IN 46307
Voice (219) 662-6396
FAX (219) 662-6991

Henry B. Ruh KB9FO, Publisher

$18.00/year for four (4) issues.

Lots of good articles and ads for things you can't live without! ;}

BTW, The device I was inqiring about IS the one you described. I received phone call from Harold B. from your company last Friday (7-14). He was great to talk to, despite the fact that we played a few rounds of phone tag between CA and WI. He gave me a brief history of your company, your product line, and said he would be sending some info via snail mail. I really appreciated the way I was treated by your company, even after I told Harold that I might only want to buy one transistor. Good customer service seems to be more and more proportional to the amount of the order involved. I won't hesitate to let anyone know how well I was treated by you folks.

I am anxious to see the specs. on the 20093 transistor. If you have the time, my FAX number is (608) 356-4777. A cut sheet would suffice. Harold said he would be sending a catalog, etc.

Thanks again for the reply!!

73,

Bill KA9QFJ
***
* OLX 2.1 TD * Depressed? Call Counselor Deanna Troi 1-800-NCC-1701
--
|Fidonet: Bill Hommel 1:121/53
|Internet: Bill.Hommel@f53.n121.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

3130. UK Repeater logic info Reqd.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: wilson_jo@grpr21.dnet.bp.com
Message-ID: <1995Jul20.040652.2053@rcwusr.bp.com>
Source record: 111789
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I've recently taken over as repeater keeper of GB3OH, the 70cm repeated located in East Central
Scotland.

The box seems to be working OK, apart from one small problem (and in dire need of a tune-up!).

As part of a club project for a group within the Falkirk Amateur Radio Club, we're intending to get
this repeater back on the air soon, but we lack any information on the system. The TX and RX
sections aren't too much of a problem, but we'd like to get some info on the logic.

It's discrete logic (no processor), and as far as we can tell, of a 1979 vintage. I know the logic
is a copy of some used somewhere in England, so it's not unique to 'OH, although it is possible
the original constructors of 'OH (now slient key) did modify it slightly.

The logic board is about 9 inches square, with a large PCB edge connector to the rear. There are
several presets located up the left hand edge of the board. By trial and error, we've determined
some of the functions of these presets, but we're still trying to figure out the others.

Does anyone have diagrams or any information on something this old? If you have, please email me here, or wilson_jo@grpr21.dnet.bp.com.

In the long term, we're hoping to revame the whole system, but as it seems to be working quite
well just now, we intend to get the box back on the air as it is.

A date for your diaries: 8th October 1995, from 11:00 to 16:30, the Falkirk Amateur Radio Club
will be holding a junk sale in the Scout hall in Grangemouth. Morse tests will be available.
Some of the proceeds of this sale will go towards the upgrading of GB3OH. Further details from myself at the above address.

John.

==========
wilson_jo@grpr21.dnet.bp.com
John Wilson, Room 22 NAB, BP Chemicals Ltd., Bo'ness Road, Grangemouth,
Stirlingshire, Scotland. FK3 9XH
Telephone : 01324-493263 FAX : 01324-493870

The views expressed in this note are those of the individual concerned
and should not necessarily be taken as being the views of The British
Petroleum Company p.l.c. or any of the BP Group of companies.
==========

3131. Re: UK Repeater logic info Reqd.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: TKC@netins.net
Message-ID: <3ulm54$sc@insosf1.netins.net>
Source record: 111790
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

wilson_jo@grpr21.dnet.bp.com (John Wilson) wrote:

:>I've recently taken over as repeater keeper of GB3OH, the 70cm repeated located in East Central
:>Scotland.

:>The box seems to be working OK, apart from one small problem (and in dire need of a tune-up!).

:>As part of a club project for a group within the Falkirk Amateur Radio Club, we're intending to get
:>this repeater back on the air soon, but we lack any information on the system. The TX and RX
:>sections aren't too much of a problem, but we'd like to get some info on the logic.

From the sounds of it all you would be better off to junk the old
controler and just buy a new one... It should hook on easy...
You will spend a lot of down time on the repeter that you and your
gang could have been chatting.....

********** TKC **********

3132. [?] TV -> Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: rdc@freenet.vancouver.bc.ca
Message-ID: <3ul5is$ar2@freenet.vancouver.bc.ca>
Source record: 111791
Cross-posted to: rec.radio.noncomm,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.amateur.equipment

Does anyone have any knowledge of converting an old TV to a (lousy?)
Spectrum Analyzer ?

My idea is to hook the vertical yoke to the speaker and the horizontal
ramp voltage to the tuner (with a pot or voltage divider between them for
some control).

With a marker I should just be able to change channels to move around the
spectrum and get a 'picture' of it. TV's have decent freq. range also ...
Not a Tektronix $100,000 setup but I should 'see' 'something'.

B/W TV's are cheap enough that I'm willing to butcher one ...
It would be helpful if anyone had tried this before or better yet knew of
an obtainable article on doing this...

Any tips would be appreciated or have I missed some intricacies of
television design that would prevent this from being possible ?

Don't laugh too hard as I only intend to cut a couple of wires and it
should be easy to restore it if need be ;>

--
Robert Clark
RDC@freenet.vancouver.bc.ca UNIX(r) System V Release 4.0 [142.103.106.2]
http://www.freenet.vancouver.bc.ca incoming:// 49 15 00 N 123 07 00 W
.

3133. HP3047 phase noise software wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: jks@pajarito.sw.Central.Sun.COM
Message-ID: <3umhgk$1v3@handler.Eng.Sun.COM>
Source record: 111792
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I've acquired the phase noise interface (HP35601) from an old 3047 phase noise measuring system, but a complete system requires the 3582 and 3585 spectrum analyzers and a 9845T calculator (!) running special software. I'd like to hack the 35601 to work with my 4396 analyzer running IBASIC, so a few questions crop up:

Anyone have the 3047 measurement software? (tape cartridge for 9845T) Anyone know if it's distributed as source code (probably BASIC) or just binary?

If binary, does anyone have a pointer to the group inside HP that wrote the code? (probably early 80's)

If source, is the tape format compatible with anything modern or will I have to find a 9845T (ugh) to read it?

Ditto the above for anyone running the modern 3048 system.

It sure would be nice to measure down to -170 dBc/Hz @ 10 Khz for a change..

john.seamons@sun.com

3134. WANT SILICON SYSTEMS SSI-202 DTMF DECODER CHIPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: mallorys@nbnet.nb.ca
Message-ID: <950720224358.85BD16@news.nbnet.nb.ca>
Source record: 111793
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Hello and thanks for reading this posting. I am in the process of building a repeater controller and a link controller. Both of these controllers need to have remote acess to the repeaters so that I will be able to shujt the system down and/or controll links as needed. Of course this will be done with DTMF tones, and to do this I need several DTMF decoder chips. Silicon Systems makes a SSI-202 chip that will do the job very nicely. Now you say there are all kinds of suppliers of DTMF chips, but, the problem is that most of these new chips are all microprocessors, and not what I want. Here in lies the problem. Where can I get a supply of these chips. I would prefer to get them iun Canada, but if needed I would go to the U.S of A. Any help would be greatly appreciated not only by myself, but from the members of the TRI-County ARC in Moncton New Brunswick Canada.

Please send reply to mallorys@nbnet.nb.ca

73, VE9SHM
Steve Mallory

3135. beam won't work, help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: calhoun@teleport.com
Message-ID: <3ul4km$2nd@linda.teleport.com>
Source record: 111794

Well, I tried to make my own beam antenna, but something is wrong and I�m hoping that someone here can help. I started with the plans from "The Radio Amateur Antenna Handbook" by William Orr and Stuart Cowan. It is a three element designed to work at 144mhz. The plans called for:
Reflector: 41.75 inches
Driven: 39.4 inches
Director: 37.5 inches
Spacing: 10 inches
using 1 inch aluminum tubing. Of course I didn't read the instructions carefully until I was done. I used 3/8 inch solid aluminum tubing instead. It doesn't work very well. I used a SWR meter and got a reading of approx. 3.5

Does anyone have any suggestions for me?
dave

btw, I mounted the driven elements one above the other. Please email replies to dtpdave@aol.com if possible. Thanks,
dave
--
calhoun@teleport.COM Public Access User --- Not affiliated with Teleport
Public Access UNIX and Internet at (503) 220-1016 (2400-14400, N81)

3136. Re: Converting VHF to AM/SSB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3ukunh$qmt@info4.rus.uni-stuttgart.de>
Source record: 111795

In article <3ujvho$ha6@newsbf02.news.aol.com>,
WalShults <walshults@aol.com> wrote:
>My question is: Does a *mod* exist to allow transmission and receive from
>a VHF Marine Radio on 11 meters?? It seems like there should be because
>the 148 goes into 10 meters a little and started out as an 11M radio.

Wal,

Your message is completely garbled. Before attempting any frequency
modification on any radio, you should inform you about the basics.
First try to understand the difference between VHF and 11m
and between kiloherz and megaherz.

Moritz

3137. Re: Motorola 1K HF module, HELP, from where to catch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: Jorma Saloranta <jorma@salor.pp.fi>
Message-ID: <3ulgnm$mu9@idefix.eunet.fi>
Source record: 111796

I have found what i was looking for: in each QST small Ham ads
KD4YBC
197, Chickasaw Lane
Myrtle Beach
SC 29577

3138. Re: Sbl-1 mixer max dc cur

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: Garry Foster <gmfoster@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950720092013.6141A-100000@grape.epix.net>
Source record: 111797

Isn't the mixer rated DC-xxx freq. You can use these mixers as attenuators by controlling the DC current thru one port. I would not expect it to be a problem unless the current went way high.

Garry WB0NNO

3139. data sheets - where to get them

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: slug@ciunix.uc.pt
Message-ID: <3ulomd$769@gnu.mat.uc.pt>
Source record: 111798

hello guys
could someone tell me where to find good datasheets, for transistors, IC, etc
ie, for everything!

--
()'s
Nuno Sucena
CB: CQG9304 HAM: CT1FOX

Universidade de Coimbra

Maluquinho da electronica

W:wq
WW ->>> http://ciunix.uc.pt/home/slug/WWW/HomePage.html

3140. Re: [?] TV -> Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3ulrn4$1eru@info4.rus.uni-stuttgart.de>
Source record: 111799

>My idea is to hook the vertical yoke to the speaker and the horizontal
>ramp voltage to the tuner (with a pot or voltage divider between them for
>some control).

The tuner and the vert. scan coils cannot react fast enough to the horizontal scan ramp. (to display a nice peak you would need a signal band width of a few 100 KHz).

An alternative might be to scan vertically and use the hor. coil for yor deflection. The horizontal scan generator (+ HV generator) may need the presence of the scan coils as a load, so you may have to provide a second set of coils.

The speaker audio is not a good source of signal strength, better will be the AGC voltage. You will need a booster amp to feed the scan coils with it.

If you disable the horizontal or vertical scan on a TV you have to reduce the beam current quite a bit to prevent "burn-in".

Don't get worried by folks saying that there are lethal voltages within TV sets. As long as you know what you are doing, you are perfectly allright.

73, Moritz DL5UH

3141. Q: FM10a with a 3rd overtone xtal.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <3uluqc$63f@cocoa.brown.edu>
Source record: 111800

Hi,
I have the parts for a FM10a transmitter kit and a 89.1MHz crystall
(3rd overtone probably). I'm a tad uncertain on how to combine
the crystall with the original tunable LC parallel tank that feeds the
BA1404 chip.

thanks,
john

3142. Add Vol ctrl to spkrs.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.3649.546@acenet.com>
Source record: 111801

DL>I have a new cd-rom/soundcard kit that has speakers with no volume
DL>control (Sound Blaster 16 *VALUE* CD). Many of my DOS based
DL>programs have drastically different volume so I would like
DL>to add a volume control in line w/ the speakers but don't know the
DL>best way to do it.
DL>Any suggestions? Both speakers are fed directly from the soundcard,
DL>not one from the soundcard and one from the first one.
DL>Thanks in advance.
DL>KC7EGB
From: brian.carling@acenet.com

Donald - just go to Radio Shack and buy an "L-PAD".
Instructions come with it, on how to attach it to a speaker.
You can buy them from other mail-order electronic parts suppliers
too

73 de AF4K

• SLMR 2.1a • My family thinks I am WORKING on this computer! He he!

3143. RE:Heathkit parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: eamurashie@mail.beckman.com
Message-ID: <eamurashie.42@mail.beckman.com>
Source record: 111802

Heathkit was paired down to Heath Education Systems.
You still might try to get replacement parts from them.
Their main number is 1-800-253-0570, and their parts
department number is 616-925-5899.

Ed

Ed Murashie US Mail : Beckman Instruments Inc.
phone: (714) 993-8895 Diagnostic System Group
fax: (714) 961-3759 200 S. Kraemer Blvd W-361
Internet: eamurashie@ccgate.dp.beckman.com Brea, Ca 92621

3144. 50MHz exciter / TX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: Webbat1@cf.ac.uk
Message-ID: <3ukgr4$m0l@news.cict.fr>
Source record: 111803

I am working on a project which involves mounting independent electronic sensors under the skin to monitor various body conditions. The sensor(s) are powered from a small coil, which picks up a current from a transmitter outside the skin.

I am at present designing a transmitter for this. So far I have based my exciter around a 2N3819 FET and my power stage around some low power silicon bipolar devices.

These designes are not proving successfull, however. I hope that someone can send me some ideas and hopefully even some circuit diagrams, as I have been designing the exciter and power stages from memory, and I think I may have missed out some bits from the circuits.

Thanks in advance,
Andrew Webb, GERME

Please mail answers to webbat1@cf.ac.uk
basic MIME mail is ok. fopr diagrams, gif/jpegs and autocad files are ok.

3145. Re: Grid Dip meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <3ukqcm$a7k@nnrp2.primenet.com>
Source record: 111804

james P. Meyer (jimbob@acpub.duke.edu) wrote:
: I'm building a high stability frequency source for the physics lab
: and I need to get various oscillators and amplifiers working. A long time
: ago, I had a Heathkit "tunnel" dip meter and liked it a lot. It really
: saved me a lot of bother because I didn't need to use things like network
: analyzers and sampling scopes to do the simple things.

: I don't have the old dip meter any more and am wondering if anybody
: else has one they'd like to sell. It doesn't have to be the tunnel dipper,
: just something small with all the coils for 1 MHz to 250 MHz or so.

Jim,
I have a Heathkit GD-1A Grid Dip Meter with all of the coils which
will do 2.0 to 300 MHz. I got it at a hamfest for $25, and then later got
a remanufactured James Millen unit. I'll sell you the Heathkit for what I
paid for it, plus COD charges.

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo---

3146. Anyone have DBM mixers FS/swap?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: markman@unix1.utm.edu
Message-ID: <markman.40.001132DB@unix1.utm.edu>
Source record: 111805

Looking for a few doubly-balanced mixers. MCL or equiv.
Send price and qty available.

Email to markman@UTM.Edu

Thanks

3147. Re: Wanted LP Output Filter Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jul20.081136.29389@ucl.ac.uk>
Source record: 111806

In article gug@newsbf02.news.aol.com, bcdlr@aol.com (BCdlr) writes:
> Is there out there somewhere, software to calculate LP output filters,
> like for QRP transmitters amps, (i.e. 7 element filters)?
> Is there any software to calculate torrid winding data?
> Is there any software to calculate winding data for beads to make chokes?
> Seems like it would be a whole lot easier just winding a choke on a bead
> for occasional radio work.
> I'm a ham newcomer wanting some help. I'm learning but still not "all"
> there yet, (ha). The Amidon literature for me is confusing....
> Thanks!
> Dan Reynolds, bcdlr@aol.com, KB9JLO

These's a PD program FDS (Fildes) that can give you the L and C values for filters.
It dont tell you how to wind then though.

davek

3148. Re: ********** ANNOUNCEMENT OF OPPORTUNITY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Jul20.081908.29204@ucl.ac.uk>
Source record: 111807

This has little to do with the amatuer. We would all appreciate not having this commecial rubbish here.

davek

3149. HP3047 phase noise software wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: jks@pajarito.sw.Central.Sun.COM
Message-ID: <3umhs2$214@handler.Eng.Sun.COM>
Source record: 111808

I've acquired the phase noise interface (HP35601) from an old 3047 phase noise measuring system, but a complete system requires the 3582 and 3585 spectrum analyzers and a 9845T calculator (!) running special software. I'd like to hack the 35601 to work with my 4396 analyzer running IBASIC, so a few questions crop up:

Anyone have the 3047 measurement software? (tape cartridge for 9845T) Anyone know if it's distributed as source code (probably BASIC) or just binary?

If binary, does anyone have a pointer to the group inside HP that wrote the code? (probably early 80's)

If source, is the tape format compatible with anything modern or will I have to find a 9845T (ugh) to read it?

Ditto the above for anyone running the modern 3048 system.

It sure would be nice to measure down to -170 dBc/Hz @ 10 Khz for a change..

john.seamons@sun.com

3150. Re: ********** ANNOUNCEMENT OF OPPORTUNITY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-20 00:00:00 UTC
From: lyndon@orthanc.com
Message-ID: <3un8ii$ki5@multivac.orthanc.com>
Source record: 111809

davek@medphys.ucl.ac.uk (Dave Kirkby) writes:

>This has little to do with the amatuer. We would all appreciate not having
>this commecial rubbish here.

Propagation and solar activity have nothing to do with ham radio? Boy
have *I* been confused for the last N years :-)

--lyndon (hanging out places besides 10 GHz)
--
Orthanc Systems: Internet and UNIX consulting

---
lyndon@orthanc.com || canada!lyndon || Fax: +1 604 561 2067
For Amateur Radio information visit http://ve7tcp.ampr.org/

3151. Re: Looking for R390A Product detector plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: fehner@cts.com
Message-ID: <DC34Ky.Mr7@crash.cts.com>
Source record: 111672

butch@maestro.maestro.com (' ALLAN W. BART) wrote:

>Hello,

>I have a R#()A receiver that was converted to a product detector in the
>80's the basic plans from what i understand was in either a ham radio or
>73 magazine article that was published in the mid 70's. the product
>detector is a 6be6 and the am detector is a diode if anyone has
>information on this please contact me.

>allan bart

The article was in the July 1974 issue of HamRadio. I installed the
circuit in my R390A in 1975 and except for changing some resistor
values it has worked fine ever since. Let me know if you need any
additional information.

73's,
Barbara KK6IB
E-Mail: fehner@cts.com

3152. Need Icom R7000 ATV Unit Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: rfallon@ix.netcom.com
Message-ID: <3uotc4$n30@ixnews2.ix.netcom.com>
Source record: 111810
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.scanner

My TVR7000 ATV unit for my Icom R7000 has stopped working. The IF out of the receiver looks good so I need to look at the ATV Unit itself. The problem is that I cannot find my schematic for the TVR7000. If you have this schematic and would be willing to make a copy for me I would be greatful. I don't want to go inside this sucker without it. You can email me directly if you can help.

Thanks,

Ray WA1WZF

3153. Re: HP3047 phase noise software wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3uoupa$d4j@hpscit.sc.hp.com>
Source record: 111811
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <3umhgk$1v3@handler.eng.sun.com>,
John Seamons <jks@pajarito.sw.Central.Sun.COM> wrote:
>I've acquired the phase noise interface (HP35601) from an old 3047 phase
>noise measuring system, but a complete system requires the 3582 and 3585
>spectrum analyzers and a 9845T calculator (!) running special software.
>I'd like to hack the 35601 to work with my 4396 analyzer running IBASIC,
>so a few questions crop up:
>
>Anyone have the 3047 measurement software? (tape cartridge for 9845T)
>Anyone know if it's distributed as source code (probably BASIC) or just
>binary?
>
>If binary, does anyone have a pointer to the group inside HP that wrote
>the code? (probably early 80's)
>
>If source, is the tape format compatible with anything modern or will I
>have to find a 9845T (ugh) to read it?
>
>Ditto the above for anyone running the modern 3048 system.
>
>It sure would be nice to measure down to -170 dBc/Hz @ 10 Khz for a
>change..
>
>john.seamons@sun.com

We used to have a old 3047 system collecting dust and tried to get
it running again. Basically, it wasn't worth it. We ended up getting
a 3048 system, which is usable for some types of measurements, but
also has many, many limitations. And this was for use at HP (albeit
a different division than the one that made the 3047,8). I am going
to replace my 3048 with the cross-correlation system made by Femtosecond
Systems. It can go down to -190 dBc./Hz. Femtosecond is a company
started by Fred Wall's son, I think it's in Boulder, CO. Fred Wall
is the dean of phase noise experts at NIST in Boulder.

If you simply must obtain 3047 software, the keeper of that flame is
Bob Temple at the HP Spokane Division. He will probably not be too
happy if you ask him for ancient software, but he is the guy who
wrote it (along with a forgotten software man).

Rick Karlquist N6RK
rkarlqu@scd.hp.com

3154. Postscript files Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <3uoean$q05@newsbf02.news.aol.com>
Source record: 111812

The ARRL BBS and FTP sites post various files in postscript files so that someone with the freeware program Ghost can easily print out a PC Board a laserjet printer. Zack Lau, KH6CP, has files available for his 10GHZ building blocks. Another neat program called HDL_ANT, written by N1BWT, will lay out templates for horn design and horn feeds for various parabola's, etc.
I have looked high and low for this Ghost program and finally found it on Compuserve. After downloading it and finding it do be about 700K, I fiddled with it for about a week. The documentation assumes you have used this program before and are a UNIX EXPERT! I do not fit either case. After about a week, I can print the circuits, but get errors on the fonts. So I commented them out from the .PS file, because it is not clear how to load them.

My other dillema, is that I don't have a postscript printer. I have access only to an HP Laserjet. Is there a way to make the conversion.

If anyone has a simple solution to the above I will be all ears. Is there a comercial package available to moreless plug in and go. The money may be worth the tradeoff for all of the time I devoted to this and still have not found a way to do make a usable printout. Thanks beforehand.

Viny N1VC

3155. Re: Add Vol ctrl to spkrs.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <3un13a$7kv@cc.iu.net>
Source record: 111813
Cross-posted to: comp.sys.ibm.pc.soundcard.tech,rec.radio.amateur.homebrew

isn't there a software mixer control you can use to set the volume?
(however, running an SB 16 from OS/2 means i can go "behind" to use the
os/2 mixer to set the volume there when needed...so i don't know if there's a
lack of a volume setup for dos...)

the purely hardware solution would be to put an L-pad in the line between the
sound board and the speakers -- available at radio shack and many other
parts suppliers around the world...probably could get the right kind of cables
(jack to bare wire) to avoid having to assemble a connector -- will need a
box to put the control in tho...

In <1995Jul18.150741.12983@roper.uwyo.edu>, dlarson@UWYO.EDU (D. Larson) writes:
>I have a new cd-rom/soundcard kit that has speakers with no volume
>control (Sound Blaster 16 *VALUE* CD). Many of my DOS based
>programs have drastically different volume so I would like
>to add a volume control in line w/ the speakers but don't know the
>best way to do it.
>Any suggestions? Both speakers are fed directly from the soundcard,
>not one from the soundcard and one from the first one.
>Thanks in advance.
>KC7EGB
>---Donald Larson---
>---Laramie Wyoming---

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio

3156. Re: data sheets - where to get them

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: jbls@aol.com
Message-ID: <3uncn5$jcd@newsbf02.news.aol.com>
Source record: 111814

>hello guys
>could someone tell me where to find good datasheets, for transistors, IC, etc
>ie, for everything!

Get the ECG Semiconductors Master Replacement Guide. It has pin outs, specs, etc. A good electronics supply store should stock them for sale or at least be able to tell you how to get a copy. Also check used book stores

John
KE6TGN

3157. Re: WANT SILICON SYSTEMS SSI-202 DTMF DECODER CHIPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: Jon Bloom <jbloom@arrl.org>
Message-ID: <3uoqt9$gug@mgate.arrl.org>
Source record: 111815
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

mallorys@nbnet.nb.ca (Stephen Mallory) wrote:
>tones, and to do this I need several DTMF decoder chips. Silicon Systems
>makes a SSI-202 chip that will do the job very nicely. Now you say there are
>all kinds of suppliers of DTMF chips, but, the problem is that most of these
>new chips are all microprocessors, and not what I want. Here in lies the
>problem. Where can I get a supply of these chips. I would prefer to get them
>iun Canada, but if needed I would go to the U.S of A. Any help would be

I dunno about a Canadian source, but B.G. Micro has them for $2.25 each. You can
contact them at:

B.G. Micro
P.O. Box 280298
Dallas, TX 75228
Tel: 1-800-276-2206 (Oders only)
1-214-271-9835 (Tech support)
1-214-271-2462 (Fax)
Email: bgmicro@ix.netcom.com

They take the usual range of plastic money.

Jon Bloom, KE3Z | jbloom@arrl.org
American Radio Relay League |
225 Main St., Newington CT 06111 |

3158. Re: [?] TV -> Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3upabp$fp0@nuclear.microserve.net>
Source record: 111816

moritz@ipers1.e-technik.uni-stuttgart.de () wrote:
>Don't get worried by folks saying that there are lethal voltages
>within TV sets. As long as you know what you are doing, you are
>perfectly allright.

This is the kind of statement that gets people killed - even experienced service technicians have been killed working on TV's and other high-voltage equipment.

Moritz, I wonder if you are willing to pick up the funeral expenses if this gentleman makes a mistake while following your advice?

73,

Jack WB3U

3159. Re: JAN811A, need more info on these tubes....?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3up930$fp0@nuclear.microserve.net>
Source record: 111817

In article <3udqf1$3ln@ibbr.ib.be>,
Johan Celis <jcelis@infoboard.be> wrote:
>Which 811A tubes should I buy??? Chinese, American JAN's or Russian tubes.
<snip>
>Another friend of mine told me to use 812A tubes. Their output is even
>higher. Is this true??? Are they compatible??? Any prices???

First, although the 812A is similar to the 811A, it does *not* provide higher output. Plate dissipation is identical, but while the 811A has a MU of 160, the 812A is rated at only 29. Also, for a given class of operation, the 812A requires considerably more grid bias and is not well-suited for zero bias use. Finally, the 812A has a lower grid current rating than the 811A and may not hold up as well in Amateur service.

Regarding various versions of the 811A, you may be limited to using certain types, depending on the mechanical configuration of your amplifier. I haven't purchased new 811A's in several years, so some things may have changed. However, as of five years ago, amplifiers that mounted the tubes horizontally could not use the imports. While U.S. tubes had always specified a certain relationship between the orientation of the base relative to internal construction, this wasn't true of imported versions. As a result, the imports would eventually short internally due to element sag when mounted in amplifiers such as the Collins 30L-1.

I suggest that you contact one of the companies that supplies the various versions and ask their opinion. Personally, now that U.S. tubes are available again, I wouldn't consider anything else. The savings to be had buying impoprts is slight and may not justify the time and expense of dealing with an inferior product.

73,

Jack WB3U

3160. Need KT88/6550 Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: beard@acca.nmsu.edu
Message-ID: <3up5np$6n4@bubba.NMSU.Edu>
Source record: 111818

I need at least four (4) KT88's or 6550 tubes for a stereo amp.
If you have any or know of where I can get some at a reasonable
price, I would appreciate the information.

Thank you
WA4QGA

e-mail beard@acca.nmsu.edu or ae761@rgfn.epcc.edu

3161. Re: [?] TV -> Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <a3b_9507212230@mba.mba.org>
Source record: 111819

I haven't seen the original post, but apparently someone wanted
to turn an old tv set into a "spectrum analyzer".

From a snippet I saw in another post, I think the idea was to
simply leave the rf/if part of the set the same, and rearrange
the video circuitry to use it as what amounts as a big scope.

I was going to say that this wouldn't work because TV sets have
an if bandwidth of about 6 MHz or so, which is ridiculously large
for a spectrum analyzer. YOu might be able to detect the density
of signals due to combined signal strength, but it wouldn't really
tell you much about the individual signals.

Then it hit me that you wanted to use the audio output as the
vertical signal to the video section. At least that has an if
bandwidth of about 100KHz or so. Okay for fast scanning and getting
a broad view of the spectrum, though not useful for close up operation.

But there are two things wrong with this. Here in North American
(I don't know where the original poster was from, and I can't recall
if it's different elsewhere), the audio of a television signal is
an FM subcarrier. That means the detector is reacting to FM. For a
spectrum analyzer, you want the amplitude of the signals. If you've
looked at any of the "spectrum analyzers" described in the ham mags
in recent years (the ones using tv tuners for their front ends), they
do tend to use FM circuitry in the IF. But that's there so you can
listen to what's being transmitted, and a lot of VHF spectrum is FM.
But if you look closely, all of those analyzers tap off somewhere else
to get a detected amplitude to feed the vertical deflection of the
display.

The second problem is that it is a subcarrier. Traditionally, (and
I've seen articles about improving things so maybe in recent tv sets
things are done differently) the video signal is detected, and then the
FM detector is fed from the video detector. I remember reading somehing
in QST years and years ago about a correction to a short piece about
converting a tv set to a VHF receiver. Back in the tube days. The
correction was that without the video signal, there would be no signal
to feed into the FM detector. The solution was to convert the video
detector (the usual am diode detector) into a mixer, and add a
beat oscillator to mix the IF (in the 21 MHz range in really really old
tv sets, slightly above 45 MHz in everything since) to the 4.5 MHz
that the FM detector is set up at.

So not only is the FM detector the wrong choice, it won't even work
at detecting FM signals in this case.

ALl that being said, someone once did describe turning a tv set into
a band scanner. He took an old tv set, left the power supply and
some of the video circuitry in place, but ripped out the rf/if.
He basically used the tv set (and I think he did some mods on]
the deflection circuitry) as a wide screen oscilliscope, which worked
in this case since it was a limited application.

Then he added IF and multiple front ends (one for each of the
HF bands at the time). The front ends were varactor tuned. IN
the circuit somewhere was a switching mechanism that would switch
from band to band. So on the screen you would have each band
displayed at the same time, each above the other.

It was a great idea. There have been band scanners described, but
they all were limited to one band at a time, often using a tap
on the station receiver to get an IF signal. This one gave you
a very broad picture. But by doing it band by band, the display
was not cluttered up with the stuff in between bands, which was
not what you wanted for this application.

This article still might be useful, to see what the guy did to
the video circuitry of the tv set. You'd still have to basically
build the whole rest of the analyzer, but some of the circuits
I've seen are fairly simple (though their operation of course
matches). Find a tv set with a voltage tuneable tuner, find one
using ceramic filters in the FM IF, and combine them and you've
got it.

The article was in Ham Radio magazine, back in 1972. Maybe
sometime early in 1973, but I don't think so. IN the same issue
there's an early synthezier by ALfred Helfrick. But I don't
recall which month. The article was the cover article.

I hope this helps.
Michael
--
| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

3162. Re: Gain of Yagi/Apeture area of Yagi.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <3uou16$ch3@hpscit.sc.hp.com>
Source record: 111820

In article <1995Jul21.090208.50880@ucl.ac.uk>,
Dave Kirkby <davek@medphys.ucl.ac.uk> wrote:
>Can anyone tell me the maximum gain one would expect of a Yagi of a known boom length?
>Better still, whats the apeture area of a Yagi? I know a formulae relating max
>gain (without supergain) to apeture area.
>
>
>
>davek
>
>

The relationship between gain and aperture area has nothing to do with additive gain vs. subtractive gain, supergain, etc. Perhaps what you really mean is physical volume, which is only very vaguely related to aperture area (large aperture tends to require large physical size, but there are many exceptions to this generalization).

Without supergain, you can't get an array gain of better than N using an N element antenna, no matter what the boom length, etc. For Yagis, supergain is basically confined to 2 and 3 element designs for practical reasons. For long Yagi's, you must have both enough elements and a long enough boom (near quarter wave spacing) to get maximum gain.

Rick Karlquist
rkarlqu@scd.hp.com

3163. Component performance in vacuum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-21 00:00:00 UTC
From: jathomas@netcom.com
Message-ID: <jathomasDC376A.CE5@netcom.com>
Source record: 111821

Does anyone have any pointers to information of the performance or tolerance of electronic components in a vacuum? I'm interested in the behavior of transistors, dip-packaged IC's, carbon-film resistors and different types of capacitors.

I don't know if this is the right forum, but I thought some of you may have worked on the amateur satellite programs. Thanks in advance.

John A. Thomas
jathomas@netcom.com
N5RZP

3164. Re: WANT SILICON SYSTEMS SSI-202 DTMF DECODER CHIPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: "Robert Blumenkranz (Ni6r)" <radiobob@earthlink.net>
Message-ID: <3ur94m$1q3@mars.earthlink.net>
Source record: 111673
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I have a large quantity of the Teltone M956 (22 pin IC). It is exactly
the same as the SSI-201 except that the M956 operates on 5 volts. The
chip uses a 3.58 Mhz xtal. I use the chip as a repeater controller and
touchtone decoder. It is commercial quality. You can have as many as
you need. The price is $22.95ea.
If you are interested give me a note EMAL or call at
714-671-2009
Robert Blumenkranz NI6R

3165. Re: WANT SILICON SYSTEMS SSI-202 DTMF DECODER CHIPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: "Robert Blumenkranz (Ni6r)" <radiobob@earthlink.net>
Message-ID: <3ur96m$1q3@mars.earthlink.net>
Source record: 111674
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I have a large quantity of the Teltone M956 (22 pin IC). It is exactly
the same as the SSI-201 except that the M956 operates on 5 volts. The
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Robert Blumenkranz NI6R

3166. Re: WANT SILICON SYSTEMS SSI-202 DTMF DECODER CHIPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: "Robert Blumenkranz (Ni6r)" <radiobob@earthlink.net>
Message-ID: <3ur9cj$1q3@mars.earthlink.net>
Source record: 111675
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I have a large quantity of the Teltone M956 (22 pin IC). It is exactly
the same as the SSI-201 except that the M956 operates on 5 volts. The
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touchtone decoder. It is commercial quality. You can have as many as
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If you are interested give me a note EMAL or call at
714-671-2009
Robert Blumenkranz NI6R
Check out my home page for other touchtone decoder products
http://www.earthlink.net/users/engcon/webdocs/

3167. Re: WANT SILICON SYSTEMS SSI-202 DTMF DECODER CHIPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: "Robert Blumenkranz (Ni6r)" <radiobob@earthlink.net>
Message-ID: <3ur9dt$1q3@mars.earthlink.net>
Source record: 111676
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

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the same as the SSI-201 except that the M956 operates on 5 volts. The
chip uses a 3.58 Mhz xtal. I use the chip as a repeater controller and
touchtone decoder. It is commercial quality. You can have as many as
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If you are interested give me a note EMAL or call at
714-671-2009
Robert Blumenkranz NI6R
Check out my home page for other touchtone decoder products
http://www.earthlink.net/users/engcon/webdocs/

3168. Re: WANT SILICON SYSTEMS SSI-202 DTMF DECODER CHIPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: "Robert Blumenkranz (Ni6r)" <radiobob@earthlink.net>
Message-ID: <3ur9fn$1q3@mars.earthlink.net>
Source record: 111677
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I have a large quantity of the Teltone M956 (22 pin IC). It is exactly
the same as the SSI-201 except that the M956 operates on 5 volts. The
chip uses a 3.58 Mhz xtal. I use the chip as a repeater controller and
touchtone decoder. It is commercial quality. You can have as many as
you need. The price is $22.95ea.
If you are interested give me a note EMAL or call at
714-671-2009
Robert Blumenkranz NI6R
Check out my home page for other touchtone decoder products
http://www.earthlink.net/users/engcon/webdocs/

3169. Re: WANT SILICON SYSTEMS SSI-202 DTMF DECODER CHIPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: "Robert Blumenkranz (Ni6r)" <radiobob@earthlink.net>
Message-ID: <3ur9oh$1q3@mars.earthlink.net>
Source record: 111678
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I have a large quantity of the Teltone M956 (22 pin IC). It is exactly
the same as the SSI-201 except that the M956 operates on 5 volts. The
chip uses a 3.58 Mhz xtal. I use the chip as a repeater controller and
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If you are interested give me a note EMAL or call at
714-671-2009
Robert Blumenkranz NI6R
Check out my home page for other touchtone decoder products
http://www.earthlink.net/users/engcon/webdocs/

3170. Re: Postscript files Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: schiller@adobe.com
Message-ID: <1995Jul22.013641.24978@adobe.com>
Source record: 111679

In article <3uoean$q05@newsbf02.news.aol.com> vinyn1vc@aol.com (VINY N1VC)
writes:
>
> The ARRL BBS and FTP sites post various files in postscript files so that
> someone with the freeware program Ghost can easily print out a PC Board a
> laserjet printer. Zack Lau, KH6CP, has files available for his 10GHZ
> building blocks. Another neat program called HDL_ANT, written by N1BWT,
> will lay out templates for horn design and horn feeds for various
> parabola's, etc.
> I have looked high and low for this Ghost program and finally found it on
> Compuserve. After downloading it and finding it do be about 700K, I
> fiddled with it for about a week. The documentation assumes you have used
> this program before and are a UNIX EXPERT! I do not fit either case.
> After about a week, I can print the circuits, but get errors on the fonts.
> So I commented them out from the .PS file, because it is not clear how to
> load them.

I have never heard of "Ghost", I do know of a program called "ghostscript"
that will convert postscript files to rasters that can be printed on dumb
printers or displayed on the screen. ghostscript is available through the
"GNU" free software foundation, I believe.

>
> My other dillema, is that I don't have a postscript printer. I have access
> only to an HP Laserjet. Is there a way to make the conversion.
>

As I said above, you could print to a laser jet using ghostscript, but I have
never done so and don't know the details.

You might consider looking
around for a used postscript printer. A friend of mine picked up one at
a flea market for next nothing a few week ago. Be sure it has a centronics
port if you are using an IBM-compatible PC. If you are using a Mac or a
UNIX box any postscript printer should work. To test a used postscript
printers: on power up it should print a "start-up" page that tells you
the printer configuration, and proves the printer works. However, this
feature can be disabled by setting on a dip switch on the "back panel"
of the printer. Hopefully the seller knows about this. Also, there has to
be paper in the paper try, of course.

Once you have your printer, you need a driver. Sigh...

Another possible solution: I think you can purchase a postscript cartridge
for later model laser jet printers that allow them to interpret postscript.

> If anyone has a simple solution to the above I will be all ears. Is there
> a comercial package available to moreless plug in and go?

1. Buy an all new system (printer, computer etc) and have them configure it
at the store

2. If you have a Mac things are fairly simple. Mac's include postscript
printer drivers as part of the OS. But you still might software version
problems if you by the Mac and the printer separately and used.

> The money may be
> worth the tradeoff for all of the time I devoted to this and still have
> not found a way to do make a usable printout. Thanks beforehand.
>
> Viny N1VC

3171. Anyone knows how to mod a Tel-Com 150A IMTS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: wired@genes.pl.my
Message-ID: <806384025.20559snx@genes.pl.my>
Source record: 111680

Anyone knows how to change the tx/rx freqs on this old IMTS briefcase phone?

thanks

wired@genes.pl.my

3172. Re: Postscript files Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <3uqp39$76d@cc.iu.net>
Source record: 111681

In <3uoean$q05@newsbf02.news.aol.com>, vinyn1vc@aol.com (VINY N1VC) writes:
>I have looked high and low for this Ghost program and finally found it on

the program is really called Ghostscript. i want to say it's one of the things
under the GNUware banner or something like that.

>Compuserve. After downloading it and finding it do be about 700K, I

you didn't get it all.

>fiddled with it for about a week. The documentation assumes you have used
>this program before and are a UNIX EXPERT! I do not fit either case.

such is the way of free programs -- GS is pretty good tho...i think
Don Lancaster has some stuff that real postscript handles that GS didn't
(but that was a revision or so ago).

>After about a week, I can print the circuits, but get errors on the fonts.

that's the part you're missing..you'll probably have to include the fonts into
the data load for the program or figure out how to link a font directory into
GS to tell it where to find what it's looking for.

>My other dillema, is that I don't have a postscript printer. I have access
>only to an HP Laserjet. Is there a way to make the conversion.

i can think of a couple ways to go here:

buy Adobe Acrobat Pro.

comes with a distiller to take PS to PDF.
PDF's can be read by free viewers available for
dos, windows|OS/2, unix, macintosh (www.adobe.com)
PDF's can be viewed/printed on a wide variety of printers
includes those w/o postscript support.

you didn't say what version laserjet you have, there have been a number
of postscript add ons for the HP/Canon engines over the years.
good chance one exists for yours - not cheap and performance
is only fair. you'll need to max out the memory on the printer
if i remember right.

the truly simple solution is to scrounge up a used postscript printer.
we found a DEC used equipment dealer that was selling old DEC
scriptprinters (LN03 type beasts) around $500..i think there's a
series of printers around $1k-$1500 new (we locked onto the
old beasties because we already had some...they may not be for
the faint of heart...i recall they're Ricoh print engines and those

are a pain to maintain (seperate toner, drum, etc.)

>If anyone has a simple solution to the above I will be all ears. Is there
>a comercial package available to moreless plug in and go. The money may be

Acrobat -- i think i got mine for around $250 or so (YMMV). see the details on the Adobe Web Page...(I did ask Bart Jahnke about putting the forms into Acrobat so the exam generator software forms kit would be able to make forms that look like the original...but i guess i'll have to make up some examples.)

>worth the tradeoff for all of the time I devoted to this and still have
>not found a way to do make a usable printout. Thanks beforehand.
>
>Viny N1VC

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio

3173. Re: [?] TV -> Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: forsberg@cts.com
Message-ID: <DC3Ju6.7MA@crash.cts.com>
Source record: 111682

rdc@freenet.vancouver.bc.ca (Robert Clark) wrote:

>Does anyone have any knowledge of converting an old TV to a (lousy?)
>Spectrum Analyzer ?

Don't know about converting a TV to a spectrum analyzer but Science
Workshop has a kit that interfaces with an oscilloscope or a sound
card in a PC to function as a spectrum analyzer. Their address is:
Science Workshop
POB 310
Bethpage, NY 11714

Hope this helps. Bruce Forsberg WB6IZG

3174. Re: Postscript files Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: mkelly@brisbane.DIALix.oz.au
Message-ID: <3upv0cnct1@brisbane.DIALix.oz.au>
Source record: 111683

I have been using Go-script for some years now on my DeskJet+.
It is a Postscript interpreter and I paid +- $200 for it.
Goscript works with all kinds of printers and puts out postscript
files just fine.

It will turn your HP Laserjet into a kind of psotscript printer.
I have a postscript printer too and am impressed with the speed
of the DeskJet GS combo. May even be faster than the Richo7000PS.

You may have to fiddle with setups to get the down-loaded files to
print OK, but.

73. Murray Kelly. vk4aok.

3175. Re: Component performance in vacuum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jul22.040912.27068@ke4zv.atl.ga.us>
Source record: 111684

In article <jathomasDC376A.CE5@netcom.com> jathomas@netcom.com (John A. Thomas) writes:
>Does anyone have any pointers to information of the performance or
>tolerance of electronic components in a vacuum? I'm interested in the
>behavior of transistors, dip-packaged IC's, carbon-film resistors and
>different types of capacitors.

There are two main concerns with operating electronics in a vacuum,
outgassing of the package materials, and thermal cooling concerns.

Outgassing can be a serious problem, and is suspected for contaminating
AO-10's Mode L antenna transfer relay, and thus reducing the calculated
link performance by about 10-15 dB. Designs should avoid leaving exposed
surfaces that can be harmed by outgassing contamination, and components
should be selected based on the outgassing products they produce. Except
for actual thermal vacuum chamber testing, or using previously space
qualified components, there's no source of data on vacuum outgassing
of common electrical components.

Thermal problems are more generic. Normal components are designed to
be air cooled. Without air, their cooling has to be done solely by
conduction and ultimately by radiation. Things like resistors and
transistors have to be heatsinked to the spaceframe and/or derated to
allow for the less efficient cooling from lack of convection. This
is calculatable for any component.

A related problem for satellite systems is thermal cycling stress.
The mechanical component bonds have to be designed to allow for
differential expansion and contraction under the impact of repeated
thermal cycling. That calls for good mechanical design and careful
pairing of component materials.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3176. Re: Postscript files Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <3uqpce$76d@cc.iu.net>
Source record: 111685

In <1995Jul22.013641.24978@adobe.com>, schiller@adobe.com (Steve Schiller) writes:
>a flea market for next nothing a few week ago. Be sure it has a centronics
>port if you are using an IBM-compatible PC. If you are using a Mac or a

you can usually hook printers to any i/o port on a PC. things like windows
would let you hook to a com port as well as a parallel port, for example...

>Once you have your printer, you need a driver. Sigh...

usually the basic laserwriter driver will do for getting started - just if you
find a beast like a QMS-2220 or 2210 you don't get the special features
going until you get a driver for that. but the basic print on letter paper
will work.

>
>Another possible solution: I think you can purchase a postscript cartridge
>for later model laser jet printers that allow them to interpret postscript.

ok in a true pinch. what i know of it is that it's relatively slow compared
to a machine optimized for PS.

i already mentioned Acrobat.

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio

3177. AN EASY WAY TO MAKE $100,000 IN 30 DAYS OR LESS, LEGALLY!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: kevinls343@aol.com
Message-ID: <3uqq81$fih@newsbf02.news.aol.com>
Source record: 111686

Subject: AN EASY WAY TO MAKE $100,000 IN 30 DAYS OR LESS, LEGALLY!
From: anonymous <gggg@grt.net>
Date: 8 Jul 1995 20:19:49 GMT
Message-ID: <3tmp95$b4v@saba.info.ucla.edu>

$$$ FOR YOUR RECIPES $$$

Please do NOT change anything contained in this letter EXCEPT as directed!

EARN AS MUCH AS $100,000.00 OR MORE IN 30 DAYS, LEGALLY!

EARN MORE THAN EXTRA MONEY!!
YOU WILL BECOME FINANCIALLY INDEPENDENT!!

Here's how to do it.
IT WORKS EVERY TIME! Again don't change anything.

Follow these instructions exactly and you could make $100,000
in the next 30 days. This program REALLY works. It makes money
for those who do it honestly! Take the time to read it COMPLETELY!

I know, ordinarily, we disregard these letters because they usually don't
work like they're supposed to, but this ONE is DIFFERENT!

Carl Simmonds used this legal program last year and made $82,360 in cash
the first time he used it. Needless to say, he quit his job immediately
paid off all debts in full, and started another mailing.

Believe me, this is an EASY opportunity. You can do this all on your
computer,
by "JUST PRESSING A FEW BUTTONS". You will EASE YOUR FINANCIAL
PRESSURES,
and begin to make GOOD things happen for you and your family. READ ON!

* * * * * * * INSTRUCTIONS * * * * * * *

1. Send $2.00 (cash only) inside a sheet of carbon paper or construction
paper, and send a self-addressed, stamped envelope to each of the DEALERS
(1 through 4) below for the recipes they offer.

2 Save this letter on disk. Remove the name, and recipe title that
is in the number 1 position. Move the others up a space. Put your name,
address, and the name of your recipe in the number 4 position.

3 Post this file just as it appears (with your name, etc.) in 10
different
places on-line (newsgroups, forums, etc.). Do the postings between 6 a.m.
and 7 a.m. Friday, Saturday or Sunday to get the highest position and have

your posting read first. Ten postings should yield about 100 responses, which
should then yield about $100,000.

4 **When the money begins coming to your HOME MAILBOX, put your recipe in the provided SELF-ADDRESSED, STAMPED ENVELOPE - sit back, smile, and know that you
NOW OWN AN HONEST AND EASY SMALL HOME-OPERATED BUSINESS! KNOW ALSO, THAT YOU HAVE DONE SOMETHING SMART TO ACHIEVE FINANCIAL INDEPENDENCE!

* * * * * LOOK AT THESE FIGURES WITH ONLY A 15% RESPONSE! * * * * *

Step 1: Fifteen dealers mail at least 15 letters each with your name in position #3 AND send you a request for a recipe and $2 each or $30.

Step 2: Two hundred and twenty five (225) dealers mail at least 15 letters with
your name in position #2 AND send you a request for a recipe and $2 each or $450.

Step 3: Three thousand three hundred and seventy five (3,375) dealers mail
at least 15 letters with your name in position #1 AND send you a request for a
recipe and $2 each or $6750.

Step 4: Fifty thousand six hundred and twenty five (50,625) dealers send you
a request for a recipe and $2 each or $101,250.

TOTAL CASH RECEIVED (15% RESPONSE) $108,480.00
ELAPSED TIME: 30 days! Everyone responding immediately.
ADVANTAGE: $8 Initial investment.

Professional care has been taken to insure that this Marketing Plan does NOT violate any laws! (Reference U.S. Code, Title 18: Section 1302, 1343, and TITLE 39, Section 3005).

The key factor is that we are Mailing Merchandise...OUR TREASURED RECIPES.

Be honest in every way. Be sure to keep accurate records of income
for Income Tax purposes.

GOOD FORTUNE TO YOU!

* * * * * * * * DEALERS LISTED * * * * * * * *

1.
Dan McNally (Easy Dump Cake)
26 Cambria Street
Clearwater Beach, Fl 34630

2.
G. Bart (Exotic Spaghetti Sauce)
160 NW 176 Street #407

Miami, Fl 33169

3.
S.R. (Oatmeal-Pecan Cookies)
P.O. Box 411496
Los Angeles, CA 90041

4.
KLS
(Home Made Irish Soda Bread)
P.O. Box
Boca Raton, Fl

****

S. Finch -- I made $141,000 the last time I used this program. It REALLY WORKS!

****

J.S. Holliman -- I am a skeptical person by nature. But I knew this program was different. Over a period of 1 1/2 months, I received a total of $137,870 in the MAIL!

****

P.S. Why not try it yourself? Mathematically it is possible, but ONLY IF EVERYONE PARTICIPATES! This system works for the BENEFIT OF ALL, so remember to begin with your name in the #4 position, for MAXIMUM SALES and PROFITS! THIS IS EASY AND YOU GET LOTS OF MONEY!!

GOOD LUCK !!!!!

3178. Anyone knows how to mod a Tel-Com 150A IMTS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: eugene.kang@wem.org
Message-ID: <1693481548-950721203345@wem.org>
Source record: 111687

From: wired@genes.pl.my (Eugene Kang)
Subject: Anyone knows how to mod a Tel-Com 150A IMTS?

Anyone knows how to change the tx/rx freqs on this old IMTS briefcase
phone?

thanks

wired@genes.pl.my

---
* ChristNET Global Christian Network *
* Christ Connection (310) 398-7804 *

3179. WTB: 4X5 scope camera parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: n1ddzrjc@aol.com
Message-ID: <3uriak$kqe@newsbf02.news.aol.com>
Source record: 111688

Looking to complete the scope camera but need the 4X5 back or the parts to make it. Want to be able to record height of ionosphere pulse-echo on film.
I already have the polaroid holder itself but need the frame and the round glass part. Just the frame that holds the back would be ok - I can machine something. Its gotta be 4X5 though.

Bob

3180. Yaesu FT-11R mods wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-22 00:00:00 UTC
From: dorje@ios.com
Message-ID: <3ur2gm$njh@ios.com>
Source record: 111689

Looking for any modifications that can be done to the Yaesu FT-11R HT,
such as extended receive, etc.
Thanx in advance.
Chuck WA1IIE

3181. Re: WANT SILICON SYSTEMS SSI-202 DTMF DECODER CHIPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-23 00:00:00 UTC
From: "John B." <johnb7@earthlink.net>
Message-ID: <3ustfh$ha7@mars.earthlink.net>
Source record: 111690
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I believe Radio Shack has the SSI-202 for about $5.00
I've also see them in JDR (Mail order) for about $2.95

Hope this helps. I also use this chip.

John

3182. Re: WANT SILICON SYSTEMS SSI-202 DTMF DECODER CHIPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-23 00:00:00 UTC
From: wired@genes.pl.my
Message-ID: <806463163.20565snx@genes.pl.my>
Source record: 111691

In article <3ur94m$1q3@mars.earthlink.net> radiobob@earthlink.net writes:
>
>I have a large quantity of the Teltone M956 (22 pin IC). It is exactly
>the same as the SSI-201 except that the M956 operates on 5 volts. The
>chip uses a 3.58 Mhz xtal. I use the chip as a repeater controller and
>touchtone decoder. It is commercial quality. You can have as many as
>you need. The price is $22.95ea.
>If you are interested give me a note EMAL or call at
>714-671-2009
>Robert Blumenkranz NI6R

What kind of output does it give? CAn I interface it to a computer?
Is there a circuit diagram included?

thanks

3183. Re: Converting VHF to AM/SSB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-23 00:00:00 UTC
From: blanton@ni.net
Message-ID: <blanton-2307950003430001@xband.ni.net>
Source record: 111692

In article <3ujvho$ha6@newsbf02.news.aol.com>, walshults@aol.com
(WalShults) wrote:

> My question is: Does a *mod* exist to allow transmission and receive from
> a VHF Marine Radio on 11 meters?? It seems like there should be because
> the 148 goes into 10 meters a little and started out as an 11M radio. The
> VHF is a 10M radio that would need to operate on 11M. The 25 watt supply
> found in the VHF would be nice on 11M.
>
> Am I radically off base?

I'm afraid you are, Wal. VHF marine radios operate around 160 MHz while
11m radios are at 27 MHz. This really isn't a feasible mod.

73,

Lee, WA8YBT/6

3184. Sidebands for data transmission ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-23 00:00:00 UTC
From: kff@hk.super.net
Message-ID: <3utljb$4dv@tst.hk.super.net>
Source record: 111693

I am looking at connecting 2 computers in my house with an RF link and have been wondering whether the upper and lower sidebands of a simple RF Tx/Rx system could be used to represent the high and low states. I am also concerned how fast the circuit can switch from one sideband to another.

Can anyone comment on how fast these states can be switched and suggest a source for reference material with basic radio designs/schematics for simple & cheap sideband transmitters and receivers; preferably in a language which doesn't require a PhD in Radio Electronics.

Kevin
- thieves want your money or your life, women demand both ...

3185. Re: Postscript files Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-23 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DC6DFo.EJq@ncifcrf.gov>
Source record: 111694

In article <3uqp39$76d@cc.iu.net> wnewkirk@iu.net (Bill Newkirk) writes:
>In <3uoean$q05@newsbf02.news.aol.com>, vinyn1vc@aol.com (VINY N1VC) writes:

>>fiddled with it for about a week. The documentation assumes you have used
>>this program before and are a UNIX EXPERT! I do not fit either case.
>
>such is the way of free programs -- GS is pretty good tho...i think

Agreed about the ddocumentation but gs is a hell of a lot better than the
alternative - nothing. Although it's freely distributed, you can send
Peter Deutsch $50, so that there will be more versions of gs

>>My other dillema, is that I don't have a postscript printer. I have access

No-one else does either that why there is gs, it has drivers for all common
printers. The fonts that come with gs aren't as good as those from adobe,
So if you already have the adobe fonts from another package, then use them
instead.

Joe Mack NA3T mack@ncifcrf.gov

>

3186. FS: "The Electronic Experimenter's Handbook" (1963)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-23 00:00:00 UTC
From: ghg3@aol.com
Message-ID: <3uu6jk$a7p@newsbf02.news.aol.com>
Source record: 111695

For Sale: "The Electronic Experimenter's Handbook" (1963)

"The Electronic Experimenter's Handbook" 1963
By Popular Electronics
Condition: Excellent
Softcover, 168 pages

$5.50 ppd

Please contact me if you are interested in this book, or have any
questions
on it content.

George Gifford
ANCESTRY CONNECTION
36 Alton Avenue
Cumberland, RI 02864

ac023@osfn.rhilinet.gov (preferred)
ghg3@aol.com (alternate)

Anyone who may be offended by this sales post, please contact me
and accept my apology.

3187. Re: Converting VHF to AM/SSB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-23 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <3utpne$9hr@usenet.interramp.com>
Source record: 111696

>> My question is: Does a *mod* exist to allow transmission and receive from
>> a VHF Marine Radio on 11 meters?? It seems like there should be.

snip ..

>> Am I radically off base?
>
>I'm afraid you are, Wal. VHF marine radios operate around 160 MHz while
>11m radios are at 27 MHz. This really isn't a feasible mod.
>

Maybe one day you will be able to buy a radio and turn it into a
3200 sq. ft. home by clipping two diodes and a green wire ?????

:-) I guess "Mod" is the modern equivalent of "homebrew" ??

Grant/NQ5T

3188. Looking for Very High Power Transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-23 00:00:00 UTC
From: butch@maestro.maestro.com
Message-ID: <DC5G7o.1w8@maestro.maestro.com>
Source record: 111697

Hello,

I am building a 4-400a amp and I am in need for a plate transformer that can feed 3 of these brutes. so if you have something capable of about 1 amp at 3000 volts let me know.

regards,

allan bart
wa2rzq

3189. Connecting A Transverter To TS120V

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-23 00:00:00 UTC
From: Simon Lewis <slewis@pacsat.demon.co.uk>
Message-ID: <383927697wnr@pacsat.demon.co.uk>
Source record: 111698

Hi All

Can anyone tell me if they have come up with anyway to modify
a TS120V to accept a transverter socket? Id much prefer this way rather
than start relay switching a high power attenuator in/out of the
transmit line.

Any info appreciated.

+--+
| 73 From: Simon Lewis GM4PLM - Helensburgh - Strathclyde - Scotland |
| Packet: GM4PLM @ GB7SAN.#78.GBR.EU Email: slewis@pacsat.demon.co.uk |
| AMSAT - UK Member 4282 **** SUPPORT YOUR LOCAL AMSAT GROUP **** |
+--+

3190. Re: [?] TV -> Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3uvi59$3d9k@info4.rus.uni-stuttgart.de>
Source record: 111699

In article <3upabp$fp0@nuclear.microserve.net>,
WB3U <jackl@pinetree.microserve.com> wrote:
>Moritz, I wonder if you are willing to pick up the funeral expenses if this
>gentleman makes a mistake while following your advice?

Jack,

If it was anywhere nearly as dangerous as crossing a road,
I would certainly worry.

Moritz DL5UH

3191. 4$ale Tek 1.8GHz spectr analyz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: bmork@comtch.iea.com
Message-ID: <3v12m1$4h7@krel.iea.com>
Source record: 111700
Cross-posted to: rec.radio.swap,sci.electronics,rec.radio.amateur.homebrew,pnw.forsale

A rare golden bird - super condition!

Tektronix spectrum analyzer, composed of the following components:

- 7613 frame, selectable *storage scope* or normal trace
- 7A17 fixed gain amplifier plug-in
- 7L12 1.8 GHz spectrum analyzer dual-wide plug-in
- a spare 7603 frame, but display tube is non-functional

The left of three slide-ins is taken by a no-frills, fixed gain vertical amp. This is available as the left channel on the mainframe. The center and right slot are the spectrum analyzer, and show as the right channel on the display.

On screen dynamic range: 80 dB.

Sensitivity: picks up all the local TV and radio stations using a paperclip on the input connector. The sensitivity dial spins around to a minimum reference level of -100 dBm.

Tucker sells just the 7L12 plug-in for $3995, but street prices seem to check out at 1/2 to 1/3 of Tucker's. I offer the entire package for $1725, including the second mainframe for spare repair parts. I'm packing for a move on 14 August. E-mail back soon!

--
Brian J. Mork, InCrea (TM) - Pacific Northwest, Voice 509-244-3764
bmork@comtch.iea.com / ARO ka9snf@ka7fvv.#ewa.wa.usa
USMail 6006-B Eaker, Fairchild, WA 99011

3192. Bird Wattmeter Model 43

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: ab4el@nando.net
Message-ID: <3v1kvd$ngs@parsifal.nando.net>
Source record: 111701
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Plagurized from the July 95 issue of PRINTED CIRCUIT FABRICATION:

"Rewards Paid for Vintage Wattmeters

"'Quest 43' has been launched by Bird Electronic Corp (Cleveland, OH) to locate the oldest working Model 43 Thruline wattmeter. The search celebrates the company's recent production of the 250,000th Model 43. Winners will be announced at the International Wireless Communications Expo/Spring '96 Convention, to be held April 24-26, 1996, at the Las Vegas Convention Center.

"Rewards will be offered to owners of the 10 lowest serial number Model 43 wattmeters in working condition. The owner of the lowest serial number will receive a 24-KT gold-plated Model 43 and a $1,000 gift certificate to the company's catalog. The next nine lowest serial numbers will receive $250 to $500 gift certificates. All 10 owners will be sent a new wattmeter to replace their vintage unit.

"Entries must be received by January 31, 1996. All Model 43 owners seeking additional information or an entry form are encouraged to contact Greg Johns at (216)248-1200 ext 261."

--
73/Steve/AB4EL ab4el@Cybernetics.NET in Raleigh, NC 35.81245N, 78.65849W

3193. Re: UK Repeater logic info Reqd.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: wilson_jo@grpr21.dnet.bp.com
Message-ID: <1995Jul24.052429.2059@rcwusr.bp.com>
Source record: 111702
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <3ulm54$sc@insosf1.netins.net>, TKC@netins.net writes:
>:>As part of a club project for a group within the Falkirk Amateur Radio Club, we're intending to get
>:>this repeater back on the air soon, but we lack any information on the system. The TX and RX
>:>sections aren't too much of a problem, but we'd like to get some info on the logic.
>
>From the sounds of it all you would be better off to junk the old
>controler and just buy a new one... It should hook on easy...
>You will spend a lot of down time on the repeter that you and your
>gang could have been chatting.....

The big problem here is one of cash - yes, we could replace the logic, and we'd very much like to, but new logic isn't cheap. If we take the cheaper route, and start to develop our own, that takes time. We have a working box, and we'd like to get it on the air, then start an upgrade program.

John.

==
wilson_jo@grpr21.dnet.bp.com
John Wilson, Room 22 NAB, BP Chemicals Ltd., Bo'ness Road, Grangemouth,
Stirlingshire, Scotland. FK3 9XH
Telephone : 01324-493263 FAX : 01324-493870

The views expressed in this note are those of the individual concerned
and should not necessarily be taken as being the views of The British
Petroleum Company p.l.c. or any of the BP Group of companies.
==

3194. help needed with Colpits Osc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: Xpress@cf.ac.uk
Message-ID: <3uvpqj$4e8@news.cict.fr>
Source record: 111703

I have been designing a small transmitter, but the Colpitts oscillator is refusing to oscillate. It is based around the 2N3819 FET, and is a design commonly used in Practical Wireless magazine. Could somebody email me a picture of the circuit diagram, so that I can check my design, as I am unable to check in my back copies of PW due to being away from home for a while.

TIA

Andrew Webb

3195. Re: [?] TV -> Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: SCHOEN@REZE-1.RZ.RWTH-AACHEN.DE
Message-ID: <3uvp7h$64v@news.rwth-aachen.de>
Source record: 111704

rdc@freenet.vancouver.bc.ca (Robert Clark) schrieb:

>Does anyone have any knowledge of converting an old TV to a (lousy?)
>Spectrum Analyzer ?
>Robert Clark

A complete answer will follow; until now i will just say: It is
possible! I already built a working device. There are some problems
involved (IF-Bandwidth, AGC,...).
- use vertical scan as tuning voltage
- compare the SSI voltage against horizontal scan voltage; if equal
activate video output

Klaus Sch�nhoff
Tel.: 0241-23390
SCHOEN@REZE-1.RZ.RWTH-AACHEN.DE

3196. HELP,MULTIPOINT 900MHz AMP ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: rpmackin@ashley.business.uwo.ca
Message-ID: <3v03qg$bnj@falcon.ccs.uwo.ca>
Source record: 111705

Help please,
I have a 900MHz power amp module, purchased new at a flemarket.
It looks like it bolts onto the back of a rig, as it has large heatsink
fins on one side.

It has the following printed on the PC board,

MULITPOINT NETWORKS
900MHz POWER AMPLIFIER
PC100033 Rev. 1/C

It has 2 RF connections, and an 8 pin header (next to a trim pot.)
Is anyone familiar with this module, especially the pinout of the
header?

I would be very grateful for any info on the unit.
Thanks for your time,

de VE3PMK,

Pat MacKinnon,
London, Ontario, Canada
Tel: 519 649-1455
Fax: 519 649-7776

3197. Re: Looking for Very High Power Transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: ed@fore.com
Message-ID: <3v093j$3oq@baleen.fore.com>
Source record: 111706

>plate transformer, 1 amp at 3000 volts...

Have you thought about junk microwave ovens? I used to service these years ago, customers used to junk these left & right, The parts are $$$!, 99% of the time the transformer was still good.

The average Tappan m/w oven had a secondary of about 1200v ac that could deliver 1a+ pretty much 100% duty cycle. You could get a couple of these and string them in series for the needed B+. You might be able to make a deal with a repair shop, 'I'll haul these heavy beasts away for free for you'... ?kw worth of transformers (wont be light weight) for some strong back work?

There are also doubler circuits, big caps, thickly insulated wire, interlock switches, hv diodes, relays/triacs...

Its an Idea, may not be the best idea, but its better than nothing.

73

Ed N3SDO

Ed@fore.com

3198. Re: Looking for Very High Power Transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: adercole@mezzrtm.lasc.lockheed.com
Message-ID: <3v0b6u$pqp@butch.lmsc.lockheed.com>
Source record: 111707

If you live within driving distance of NYC. I might have what you need.

3199. PL circuit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: markem@Primenet.Com
Message-ID: <3v0c1i$7nl@nnrp1.primenet.com>
Source record: 111708

Does anyone have a good PL (CTCSS) circuit I can use to add PL to an old 2M mobile rig? I can buy a board but it seems like it should be a pretty simple thing to build. It doesn't have to be super small and only needs to do one tone (162.2). Any pointers will be appreciated.

Thanks & 73... Mark AA7TA

3200. PL circuit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: markem@Primenet.Com
Message-ID: <3v0c9r$7od@nnrp1.primenet.com>
Source record: 111709

Does anyone have a good PL (CTCSS) circuit I can use to add PL to an old 2M mobile rig? I can buy a board but it seems like it should be a pretty simple thing to build. It doesn't have to be super small and only needs to do one tone (162.2). Any pointers will be appreciated.

Thanks & 73... Mark AA7TA

3201. Re: Converting VHF to AM/SSB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: fischrj@nise-ch
Message-ID: <1995Jul24.135222.14449@nosc.mil>
Source record: 111710

> blanton@ni.net (J. L. Blanton) writes:
> In article <3ujvho$ha6@newsbf02.news.aol.com>, walshults@aol.com
> (WalShults) wrote:
>
> > My question is: Does a *mod* exist to allow transmission and receive from
> > a VHF Marine Radio on 11 meters?? It seems like there should be because
> > the 148 goes into 10 meters a little and started out as an 11M radio. The
> > VHF is a 10M radio that would need to operate on 11M. The 25 watt supply
> > found in the VHF would be nice on 11M.
> >
> > Am I radically off base?
>
> I'm afraid you are, Wal. VHF marine radios operate around 160 MHz while
> 11m radios are at 27 MHz. This really isn't a feasible mod.
>
> 73,
>
> Lee, WA8YBT/6
>
>>>>
this is just a test. Please disregard!

3202. Re: Gain of Yagi/Apeture area of Yagi.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3v0bge$q4l@newsbf02.news.aol.com>
Source record: 111711

Subject: Gain of Yagi/Apeture area of Yagi.
From: davek@medphys.ucl.ac.uk (Dave Kirkby)
>>>>Date: Fri, 21 Jul 1995 09:02:08 GMT
Message-ID: <1995Jul21.090208.50880@ucl.ac.uk>

Can anyone tell me the maximum gain one would expect of a Yagi of a known boom length?
Better still, whats the apeture area of a Yagi? I know a formulae relating max
gain (without supergain) to apeture area.

davek<<<<

Hi Dave, There are many published charts showing gain vs. boom length. I'm not sure how accurate they are since the ones I have seen are in Handbooks.

It is my understanding you are correct. The effective apature does relate directly to the gain of the array, and vice versa. That is the long and backwards way to estimate gain however. A direct measurement works best, and then the measured gain can be used to calculate the apature

73 Tom .

3203. Re: Looking for Very High Power Transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: gcouger@jsun.agen.okstate.edu
Message-ID: <3v0vd2$qun@bubba.ucc.okstate.edu>
Source record: 111712

Rewinding transformers from power poles will produce the cheapest high power xformers I know of. It might be a little more power than you need. A 100 amp house transformer should handle about 18 amps at 1200 v a pretty healthy safty factor.

Gordon

Gordon Couger - 624 Cheyenne, Stillwater, OK 74075
gcouger@master.ceat.okstate.edu 405-624-2855 evenings
I do not speak for my employer

3204. Re: Gain of Yagi/Apeture area of Yagi.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <3uvr6n$1826@info4.rus.uni-stuttgart.de>
Source record: 111713

Dave,

DL6WU has worked out a table on the best gain available
per boom length for optimized yagi antennas. His work has been
continued by DJ9BV and K1FO, there is information in recent
ARRL Handbooks and in the VHF DX-Book edited by Ian, G3SEK(?)

73, Moritz DL5UH

3205. Re: Gain of Yagi/Apeture area of Yagi.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3v0bnv$q7b@newsbf02.news.aol.com>
Source record: 111714

Subject: Gain of Yagi/Apeture area of Yagi.
From: davek@medphys.ucl.ac.uk (Dave Kirkby)
>>>>Date: Fri, 21 Jul 1995 09:02:08 GMT
Message-ID: <1995Jul21.090208.50880@ucl.ac.uk>

Can anyone tell me the maximum gain one would expect of a Yagi of a known boom length?
Better still, whats the apeture area of a Yagi? I know a formulae relating max
gain (without supergain) to apeture area.

davek<<<<

Hi Dave, There are many published charts showing gain vs. boom length. I'm not sure how accurate they are since the ones I have seen are in Handbooks.

It is my understanding you are correct. The effective apature does relate directly to the gain of the array, and vice versa. That is the long and backwards way to estimate gain however. A direct measurement works best, and then the measured gain can be used to calculate the apature

73 Tom .

3206. Re: [?] TV -> Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: rdc@freenet.vancouver.bc.ca
Message-ID: <3v0vr9$nnp@freenet.vancouver.bc.ca>
Source record: 111715
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

----- Update from original poster -----
From the replies I've received this is 'where we are now':

A few repliers and myself have figured out we can use the VERTICAL scan (60Hz) ramp voltage to tune the TV tuner synchronously with the vertical position. By rotated the yoke 90' the picture could be 'right-sided' (and with some height/width adjustment the picture 're-sized') converting the display back to the 'normal' horizontal type.

Tapping the AGC and amplifying that (instead of 'the sound') will give a strength indication similar (but uglier) to a Spectrum Analyzer (I hope!).

Intended for use on 2 meters.

After testing on an old full-sized set I'd like to continue the idea with a hand-held (CRT, not LCD) portable from Radio Shack (so that interested parties can obtain the same set and follow the MOD instructions easily).

I expect to have the neccesary test equipment and an old TV ready next week.

--
Robert Clark
RDC@freenet.vancouver.bc.ca UNIX(r) System V Release 4.0 [142.103.106.2]
http://www.freenet.vancouver.bc.ca incoming:// 49 15 00 N 123 07 00 W
.

3207. re: WANT SILICON SYSTEMS SSI-202 DTMF DECODER CHIPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <c43_9507241730@mba.mba.org>
Source record: 111716

mallorys@nbnet.nb.ca (Stephen Mallory) was looking for
a Silicon Systems SSI-202 DTMF decoder, and was hoping it
could be found in Canada. He is interested in this part
since it's meant for standalone operation, rather than
intended for use with a computer.

I don't know where to get them in Canada. Maybe Electrosonic
in Toronto, but I thought they had quite a high minimum order.

I don't have a recent catalog, but
Active Electronics
237 Hymus Boulevard
Pointe Claire, Quebec
H9R 5C7

1-800-363-7601

had a number of DTMF decoders in their catalog from a few
years ago. Minimum order is something like $25, though.
They have local stores across Canada, but I don't see anything
in the Maritimes.

I want to point out that the SSI-202 is not the only stand-alone
DTMF decoder. The 8870, I forget the prefix but it's made by
a couple of companies, is similar in circuit to the SSI-202. I
don't think the pinouts are the same, so be warned.

There have been articles on both these devices in both
Radio Electronics/Electronics Now and 73, for sure. I could
find the references with some effort. They have been about
ham use, by the way.

I was looking for some DTMF decoders for a project and was
put off by not finding a source that wouldn't require a minimum
order or all that trouble of ordering across the border. I ended
up finding some 8870's on some circuit boards at the local
surplus outlet. Too bad the project was no longer needed. I
saw the board, brought one home to puruse it, and by the time
I got back, somebody else had snapped the rest up. It was
some kind of telephone interface board. If you have any
surplus stores over there, you never know what might turn up.

I also ended up with some sort of telephone board for an IBM
compatible that not only had a DSP IC, but a tone decoder. Not
likely to get the thing going since it came with no manual
or software, but it is terribly intriguing. I got it in a box
of other computer boards at a garage sale, and I paid only a dollar

for the box.

I want to add one really important thing. Apparently your original post has brought on a deluge of posts by some guy with a bunch of DTMF decoders that he wants to unload. He wants $23.00 for them. I haven't done a lot of pricing, but that seems terribly high for DTMF decoders.

One place that sells both SSI-202 and 8870 DTMF decoders is
B.G. Micro
PO Box 280298
Dallas, Texas 75228
USA

214-271-5546

They've been around for years, though I've never order from them. An ad from them in Electronics Now last year had both the SSI-202 and 8870 Decoders, either kind for $2.25. They don't seem to have a minimum order, but they do have a minimum $7.50 shipping and handling fee to Canada. Kind of costly if you buy only one, but if you need a few more, it might be the best place.

It would seem a lot less costly than the guy trying to sell his here.

Someone else was asking about the IC's the guy was selling. Basically, both these DTMF decoders use minimum circuitry. A color subcarrier crystal (3.58 MHz), easily found in a color tv set lying on the sidewalk waiting for the garbage truck, a couple of resistors and capacitors. The output is a four bit data set, and a line that would indicate that the data is ready. There's a bit more, but that's basically it. The IC's do operate by themselves, but they can be easily interfaced to a computer. Feed the four data bits into a parallel input port, and use the strobe line to indicate that things are valid. It's really a matter of software than a hardware problem.

Hope this helps.

Michael VE2BVW
--
| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

3208. July QST Var. Bdwth. Audio Filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-24 00:00:00 UTC
From: gtm@fore.com
Message-ID: <3v1ant$sap@shell.fore.com>
Source record: 111717

CQ anyone trying to build K7OWJ's "Continously Variable Bandwidth
Audio Filter" described in the July issue of QST.

I'm looking for insight in getting this puppy working.

Yes, I have seen the errata listed on page 79 in the August QST.
The only other change I've made is the use of the MAX297 instead
of the MAX295 (conveniently unavailable until October ;-)

I do have good clock output from U5, the 555 timer, in
the suggested frequency range (37kHz to 180kHz)

I'm wondering if the MAX297 is not a direct replacement as K7OWJ
suggests.

Thanks - KB7QPA

3209. VARIALBE DC POWER SUPPLY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: s965544@jinx.umsl.edu
Message-ID: <3v3321$p75@kasey.umkc.edu>
Source record: 111622

I'd like to build a low-cost variable DC power supply that would produce
4-40 volts DC at about 2amps. Could anyone help me with this project?

Bill Johnson <s965544@admiral.umsl.edu>

3210. Re: Gain of Yagi/Apeture area of Yagi.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DC9z04.nM@ncifcrf.gov>
Source record: 111623

In article <3v0bge$q4l@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>Subject: Gain of Yagi/Apeture area of Yagi.
>From: davek@medphys.ucl.ac.uk (Dave Kirkby)
>>>>>Date: Fri, 21 Jul 1995 09:02:08 GMT
>Message-ID: <1995Jul21.090208.50880@ucl.ac.uk>
>
>Can anyone tell me the maximum gain one would expect of a Yagi of a known
>boom length?

Hi Dave,
The formula (from that very good book, "The VHF/UHF DX book", DIR publishing,
Buckingham, England Ed Ian White G3SEK, page 7-16, go get a copy right now)
is
gain= 7.8log10(size in wavengths)+9 dbd

valid for 2-50lambda.

Joe NA3T

3211. Re: Winding Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDC9uM6.A27@netcom.com>
Source record: 111624

Ference Kish (fkish@world.net) wrote:
: I've been using formulas from handbooks, like ARRL handbook,
: and I find that the inductances of my coils are out by about
: 3% - 10%. According to the text books one should be able to get
: to 1%...

Your results are not too far out of the ballpark. Several issues can account for the difference. For one thing, most coil formulas are based on solenoidal coils where the length is several times greater than the coil diameter. If this assumption is violated than you will notice a difference.

The frequency at which the coil is used will also determine the final value of inductance. This is because the effects of stray capacitance and characteristics of the coil form are influenced by frequency. Some coil form materials are better than others. For example, nylon is not very good because it can absorb moisture from the air. Polystyrene is usually pretty good. Some ball point pens are made of polystyrene which can make a good coil form for the HF frequencies.

And of course you can always wind the coil for more inductance than needed and trim it to final value by removing turns. Increasing the number of turns by 40% doubles the inductance of a coil (the inductance is proportional to the square of the turns).

Also, don't overlook the fact that your L meter might not be properly calibrated. Measure one of your inductors with a quality calibrated L meter. Then save the inductor as a personal standard. A university physics or EE department lab should have a meter that is reasonably accurate. Note that many of the mass produced Taiwanese digital volt meters include an LCR meter, but don't rely on the calibration to be dead on. They are not laboratory instruments (but they are good enough for most ham radio construction projects).

73,

Thomas
ars KI4N

3212. 2.5 mm stereo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: jimlasal@telerama.lm.com
Message-ID: <3v3dsj$6ge@pink.lm.com>
Source record: 111625

Buck Rogers gives some tips for interfacing the Alinco DR-150T to packet in the July '95 issue of CQ magazine. He took time to point out that a 2.5 mm STEREO plug is difficult to find. He's right. I called Digi-Key and for the first time (at least for me) they were stumped. I'd rather not jury-rig the patch cord/adapter detailed in the article. Does anyone have a source for 2.5 MM stereo jack?

Tnx in advance.
--

Bye.
--Jim

3213. mlhack28.zip - Zenith Minisport docs, hints, hacks & goodies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: bmork@comtch.iea.com
Message-ID: <9507251841.kp2088@SimTel.Coast.NET>
Source record: 111626
Cross-posted to: comp.archives.msdos.announce,comp.sys.zenith,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

I have uploaded to SimTel, the Coast to Coast Software Repository (tm),
(available by anonymous ftp from the primary mirror site ftp.coast.net
and the secondary mirrors of SimTel):

ftp://ftp.coast.net/SimTel/msdos/packet/mlhack28.zip

SimTel/msdos/packet/
mlhack28.zip Zenith Minisport docs, hints, hacks & goodies

MLHACK28.ZIP is a compendium of newsletters about the Zenith Minisport
laptop computer and its use as a packet radio host computer. Zenith
offers only minimal and expensive support for this popular but
discontinued 8086 compatible notebook computer. Newsletters contain
technical notes, construction projects, operating hints, resources,
architecture details and other related goodies. The Minisport Laptop
Hacker (TM) series is the result of owning and repairing Minisports and
donations from others on Internet and the Amateur Radio packet networks.

Special requirements: None

Changes: Compendium includes Minisport Laptop Hacker #1 - #28.

mlhack28.zip has replaced mlhack25.zip.

FreeText. Uploaded by the author.

Brian Mork
bmork@comth.iea.com
ARO ka9snf@ka7fvv.#ewa.wa.usa

3214. Re: Converting VHF to AM/SSB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: clifto@indep1.chi.il.us
Message-ID: <DCADtL.10B@indep1.chi.il.us>
Source record: 111627

In article <blanton-2307950003430001@xband.ni.net> blanton@ni.net (J. L. Blanton) writes:
>I'm afraid you are, Wal. VHF marine radios operate around 160 MHz while
>11m radios are at 27 MHz. This really isn't a feasible mod.

Well, then, what about putting six of them in series?

--
Cliff Sharp There are days when no matter which
WA9PDM way you spit, it's upwind.
clifto@indep1.chi.il.us --The First Law of Reality

3215. Program for coil windings

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: markman@unix1.utm.edu
Message-ID: <markman.44.000E35EE@unix1.utm.edu>
Source record: 111628

Does anyone happen to know where to find a program that will allow you to specify the coil dia. , wire ga. and inductance and the program will give you number of turns? A ftp or www site would be great! I mainly want it for VHF/UHF frequencys.

You can post in newsgroup or email me at markman@UTM.Edu

Thanks in Advance!
Mark

3216. Re: [?] TV -> Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <ce3_9507251330@mba.mba.org>
Source record: 111629

rdc@freenet.vancouver.bc.ca (Robert Clark), who I believe
was the originator of this thread, made some coments about
the information he has received so far on the matter of
turning an old tv set into a "spectrum analyzer". After
making some reasonable comments about the deflection circuit,
he added:

"Tapping the AGC and amplifying that (instead of 'the sound') will give a strength
indication similar

to a spectrum analyzer (I hope!)."

I already made a comment about this, and I'm sure I implied
something about this point, but this is not going to work.

The bandwidth of a tv set is something like 6MHz wide. Bigger
than the whole 2M band. You won't be able to differentiate
between the individual signals, because there is no way that
they will stand out from each other.

The agc voltage that you want to use instead of the sound
(which is FM here in North AMerica), will be a reflection of
all the signals in that 6MHz or so band. It will more or
less reflect the density of signals in that 6MHz segment,
but it will not reflect individual signals.

To repeat what I said before, if you want to do this you
will have to convert the existing 41MHz IF signalof the tv
set down to a frequency where you can get better selectivity,
and pick of some sort of signal strength there.

The idea of using an old tv set for the display is not too
unreasonable, as long as your desired scan rate fits the
limitations of the set. Using the tuners is also a good
idea and has been done in numerous "spectrum analyzers"
described in the ham magazines over the past decade or so.
But I think you may be much better off junking what's between
the tuner and the display circuitry, and building a simple
double conversion IF strip that will have the needed selectivity.

Michael VE2BVW
--
| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

3217. direct digital synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: dalex@eskimo.com
Message-ID: <DC91wL.A1@eskimo.com>
Source record: 111630

would some kind soul please point the way to some net sites
that have info on direct digital systhesis.

printed material would be of help also

thanks dave kg7zq

3218. Winding Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: Ference Kish <fkish@world.net>
Message-ID: <NEWTNews.806688740.20010.fkish@ausnet.world.net>
Source record: 111631

Hi!
I've been looking around for some realible and practical
ways to design and wind air-core coils.

I've been using formulas from handbooks, like ARRL handbook,
and I find that the inductances of my coils are out by about
3% - 10%. According to the text books one should be able to get
to 1%...

Could others let me know what their experiences are in winding
coils, what method and tools are using.

regards, ference

3219. Do vacuum tubes have shelf life?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDCA70D.HFJ@netcom.com>
Source record: 111632

Like most good people in the world, I'm saving for my retirement.
That savings includes a pretty good pile of transmitting and receiving
tubes, some new, some used. For me retirement is still 20-30 years
away.

Will these tubes retain their vacuum if stored "properly"? I've heard
that tubes get gassy, and perhaps some of my used tubes are in this
condition but are still usable. Does the gassy characteristic get worse
with time, or with usage?

Thanks,

73 Dave WB0GAZ dgf@netcom.com

3220. Re: 2.5 mm stereo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: unclewsw@aol.com
Message-ID: <3v3s3r$3ke@newsbf02.news.aol.com>
Source record: 111633

Hi,

It took me a while to find a 2.5 mm stereo plug but my answer was in QST. Try Mouser Electronics @ 800 346-6873. I ended up with an unshielded 2.5 stereo but it looks like they also cary shielded. Check page 92 of their Purchasing Manual 583. Part # 172-2204 2.5 mm shielded stereo plug stripped and tinned for $2.97 each.

73 de Bill Wallace N1EMF UncleWSW@AOL.com

Plan for failure then your plan will be a success. - Credo for Disaster Planning

3221. id old part please

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: dwjurkat@rodan.syr.edu
Message-ID: <3v2o7m$nkq@newstand.syr.edu>
Source record: 111634

I have some old memory chips (early '80s) and need the pinout for them.
DRAM part no. 4264-20. I believe they are 64K x 1, 200 ns, tri-state.
My data book lists the 4164 (64k x 1) and the 4256 (256k x 1).
Is the pinout the same as either of these and which timing diagrams should
I use. I only need to read and write, but not nibble and page modes.
Thanks, dj.

ps - the chips came from an old PC.

3222. Re: PL circuit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: ESPI35E@prodigy.com
Message-ID: <3v1dbm$22ls@usenetw1.news.prodigy.com>
Source record: 111635

markem@Primenet.Com (Mark E. Monninger) wrote:
>
>Does anyone have a good PL (CTCSS) circuit I can use to add PL to an
old
>2M mobile rig? I can buy a board but it seems like it should be a
pretty
>simple thing to build. It doesn't have to be super small and only needs
to
>do one tone (162.2). Any pointers will be appreciated.
>
>Thanks & 73... Mark AA7TA
>
Check out 73 Magazine, August 1989 Pages 13 and on.

Uses a LM1458 Dual Op-Amp IC, which I'm sure you could substitute about
any dual for. Works pretty good. Better the components you use, the
more stable......

73's and good luck!

3223. Factory Spec Pages on 4-1000A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: alster@micron.net
Message-ID: <alster-2507951752150001@cs002p11.micron.net>
Source record: 111636

Anyone have access to the Eimac spec pages for the 4-1000A? What I am looking for are the specs with operating curves, operating conditions and the Eimac engineering data for this tube. Of course I would cover any costs involved.
Tnx frm Russ..WA6CWV..Boise, Idaho.

3224. Re: Gain of Yagi/Apeture area of Yagi.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <290228051wnr@ifwtech.demon.co.uk>
Source record: 111637

In article: <DC9z04.nM@ncifcrf.gov> mack@ncifcrf.gov (Joe Mack) writes:
:
: >From: davek@medphys.ucl.ac.uk (Dave Kirkby)
: >Can anyone tell me the maximum gain one would expect of a Yagi of a known
: >boom length?
:
: Hi Dave,
: The formula (from that very good book, "The VHF/UHF DX book", DIR publishing,
: Buckingham, England Ed Ian White G3SEK, page 7-16, go get a copy right now)
: is
: gain= 7.8log10(size in wavengths)+9 dbd
:
: valid for 2-50lambda.

<blush !> Tnx Joe, your check is in the mail :-)

Actually the formula comes from DL6WU, and strictly speaking it
applies only to his own long yagi designs. It may be possible to
get a few tenths of a dB more - and of course there are many yagis
achieving much less!

Remember that gain isn't everything. Most designs that achieve
higher gain than the DL6WU are doing it at the expense of some
other aspect of performance, such as tolerance to manufacturing
variations, stacking and the detuning effects of raindrops.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

3225. Re: 4$ale Tek 1.8GHz spectr analyz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: Bill Harwood <harwood@sirius.chinalake.navy.mil>
Message-ID: <DCAFMs.FGL@avalon.chinalake.navy.mil>
Source record: 111718
Cross-posted to: rec.radio.swap,sci.electronics,rec.radio.amateur.homebrew,pnw.forsale

Does it include a tracking generator or just the spectrum analyer. I
can never figure out what TEK stuff does..

Thanks,
Bill Harwood
AB6DY

3226. TDA8702 help pse

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: jperale@ibm.net
Message-ID: <3v31tc$vo4@news-s01.ny.us.ibm.net>
Source record: 111719

Hello!
I�m looking for information about package and pin asignement of TDA8702.
It�s a Philips 8-bit DAC, with application until 30 MHz. I need this
information for building a 5 Mhz DDS VFO.

Many thanks for reading this message.

73, Juan M.Perales, EA6NP
Mallorca Island, Spain

jperale@ibm.net

3227. Help! SM230 & FT1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: Jimmy Hall <jhall@sibylline.com>
Message-ID: <3v1gl9$cam@zeus.intellinet.com>
Source record: 111720

I would like to hook my SM230 Station monitor to my FT1000 and

realize the IF output on the FT1000 is different than the SM230

requires. Does anyone know a fix for this problem????

Tnx & 73 de Jimmy KJ5QN

3228. HF amp 4CX1000A help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-25 00:00:00 UTC
From: ve6nap@cronus.oanet.com
Message-ID: <3v1ili$hi3@hermes.oanet.com>
Source record: 111721

Am looking to home build a single tube 4CX1000A 160 - 6 Meter
amplifier:
Any suggestions as to circuit details and reading material
would be apreciated
Most of the information I have found deals with triodes
or sweep tubes.
I am also intrested in building a 4-1000A 160 thru 10 meter
amp and want to compare the simalarities and advantages of
both tubes.
thanks in advance to all that respond
73
ar
sk
de ve6nap
gerald caouette.

3229. Re: Winding Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: Ference Kish <fkish@world.net>
Message-ID: <NEWTNews.806771117.9470.fkish@ausnet.world.net>
Source record: 111638

Hi Thomas!

Thanks for your reply. I am using a digital LCRQ meter. It may not be as accurate as a lab. meter, however, it is probabley better than a DVM with LC functions.

I'm using bakelite tubes for my formers and I mount those on a modified hand-drill. This way I have made coils with resonably uniform and firm windings. The lengths of my coils are always longer than twice their diameter.

My real "problem" is not so much inaccuracy but the fact that the error is not constant. If I could find a relationship between inductance or physical dimensions and error then I could derive some for of correction factor and should then be able to "design" and wind the coils resonaby accurately.

However, the range of errors is quite wide and that's what's bugging me.

It is great fun though and I wont give up yet. I am getting better at it and now only use 3 sizes if the bakelite tubes so Im getting to "know" them.

thanks again for your reply, regards, ference

3230. Re: Program for coil windings

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <3v4g63$n03@cc.iu.net>
Source record: 111639

In <markman.44.000E35EE@unix1.utm.edu>, markman@unix1.utm.edu (Mark Mansfield) writes:
>Does anyone happen to know where to find a program that will allow you to
>specify the coil dia. , wire ga. and inductance and the program will give you
>number of turns?

i guess i might suggest reviewing the ARRL Handbook and other books.
there was even an L/C slide rule calculator at one time (think i have one
buried around here). in any case, the formulas are pretty straight forward
and can be easily implemented in a spreadsheet, basic program or even
a programmable calculator.

of course at VHF/UHF the rules change a bit on just what's an L and a C and
exactly where those have to go to be those...

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

3231. Re: HF amp 4CX1000A help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <3v4g2r$fjv@news.azstarnet.com>
Source record: 111640

ve6nap@cronus.oanet.com (Gerald Caouette) wrote:
>Am looking to home build a single tube 4CX1000A 160 - 6 Meter
>amplifier:
>Any suggestions as to circuit details and reading material
>would be apreciated
>Most of the information I have found deals with triodes
>or sweep tubes.
>I am also intrested in building a 4-1000A 160 thru 10 meter
>amp and want to compare the simalarities and advantages of
>both tubes.
>thanks in advance to all that respond

Gerald:

I can probably find other info given time, however, one article at hand is "An All Band 4CX1000A Super Cathode Diven Amplifier" in CQ MAgazine for April, 1970. This design did not cover six meters, though. I'm not sure 160 - 6 coverage is too practical either. I'm not saying it can't be done, I just think you're asking for heartburn.

If you want a copy of the article, please send your mail address.

Regards, Wes -- N7WS

3232. Re: Postscript files Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: z007298b@bcfreenet.seflin.lib.fl.us
Message-ID: <3v4gia$5d3@bcfreenet.seflin.lib.fl.us>
Source record: 111641

Bill:
I've jumped into the middle of this thread, but I've been using
Ghostscript with a Laserjet printer for the past few weeks and I think
I've got the "bugs" worked out. Send a message with your specific
questions to my E-Mail or Compuserve address, and I should be able to get
your package up and going on the laserjet.

Eliot Fenton
z007298b@bcfreenet.seflin.lib.fl.us
Compuserve: 72633.3247@compuserve.com

3233. Re: Winding Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <3v4gio$fjv@news.azstarnet.com>
Source record: 111642

Ference Kish <fkish@world.net> wrote:
>
>Hi!
> I've been looking around for some realible and practical
> ways to design and wind air-core coils.
>
> I've been using formulas from handbooks, like ARRL handbook,
> and I find that the inductances of my coils are out by about
> 3% - 10%. According to the text books one should be able to get
> to 1%...
>
> Could others let me know what their experiences are in winding
> coils, what method and tools are using.

It seems to me that I recently read something in QST (Technical Correspondence, I think) about
this topic. Of course, I have a habit of bringing out the old issues and going over them again, so it could have been in an older issue. The author developed some new equations for calculating inductance and pointed out the errors in the old "reliable" formulas.

Maybe Zack will read this and remember. Otherwise, say the word and I'll try to find it again.

Regards, Wes -- N7WS

3234. Re: Program for coil windings

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <3v6jk4$rtm@usenet.interramp.com>
Source record: 111643

wnewkirk@iu.net (Bill Newkirk) wrote:

>
>i guess i might suggest reviewing the ARRL Handbook and other books.
>there was even an L/C slide rule calculator at one time (think i have one
>buried around here).

Bill, how archaic -- to suggest actually reading a book. I thought we hams were past all that and had become "modern". After all, we no longer have to "dip the plate and peak the grid", why should we have to actually read and understand something? :-)

Grant/NQ5T

3235. Re: Postscript files Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: hbrown@knicks.resd
Message-ID: <3v5q4c$k3c@morgan.vf.mmc.com>
Source record: 111644

Viny,

I have no experience with postscript yet but am planning a similiar endevor. I downloaded ghostscript from SimTel. If you have web access, you can find their postscript files at http://www.asc.oakland.edu/oak/SimTel/msdos/postscript.html

They have several ghostscript files there. One, gs261win.zip is for Windows and I am under the impression that it will allow you to print on non postscript printers such as your HP. I'll find out in a week or so. There other programs that may be more suitable listed in Simtel.

73, Harry, W3IIT

3236. Re: HF amp 4CX1000A help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3v5ql5$kig@newsbf02.news.aol.com>
Source record: 111645

ve6nap@cronus.oanet.com (Gerald Caouette) wrote:
>Am looking to home build a single tube 4CX1000A 160 - 6 Meter
>amplifier: Any suggestions as to circuit details and reading material
>would be apreciated Most of the information I have found deals with
>triodes or sweep tubes. I am also intrested in building a 4-1000A 160
>thru 10 meter amp and want to compare the simalarities and
>advantages of both tubes. thanks in advance to all that respond

Hi Gerald,

The 4CX1000A should work well on six meters, but I am afraid you will run into network and choke problems on one end (160) or the other (6). It is almost impossible to get a good plate choke from 160 through ten, let alone trying to include six! Plus the stray capacitances and lead lengths will kill performance on six unless you are very very careful.

There is as much in-correct as correct advice in amateur publications on amplifiers. I would get a copy of Eimacs publication "The Care and Feeding of Power Grid tubes" and read it carefully. I would also avoid witchcraft and voo-doo circuits.

For the 4CX1000 I would recommend copying Collins 30S1 circuit. Screen regulation, control grid regulation, and current protection is absolutely necessary if you want a good clean long lasting amplifier.

The Collins circuit was "borrowed" and published as a "Super Cathode Driven" amplifier, but be aware the circuit ONLY WORKS with a class AB1 tetrode or pentode, it will NOT perform correctly with triodes of ANY class, or tubes that draw ANY amount of control grid current such as 4-1000A or 4-400A tubes.

Used correctly, the Collins circuit reduces chances of damaging the grid and improves linearity. Used in incorrect applications it lowers linearity,
stability, and gain flatness. NEVER use the "Super Cathode" circuit with ANY triode or in any amplifier that produces control grid current!!!!!!

A second method I use involves a non-inductive (be SURE it is really non-inductive) resistor from the grid to ground and normal screen and bias voltages and connections. The value of the control grid resistor for class AB1 using this grid swamping resistor is given by the bias voltage squared over two times the driver power. The screen grid MUST be grounded with a very low HF through VHF impedance connection or the tube will be unstable. If you ground the screen correctly there is usually

no need for any parasitic suppression device with this tube.

The 4-1000A is a generally unstable tube because of the long internal grid connections, but is also a much more rugged tube in terms of control grid problems. I would use the 4-1000 in conventional grounded grid with ALL grids tied directly to the chassis with VERY short heavy leads. You should use a special parasitic suppressor with this tube. It is

usually be a real pain to stabilize because it trys to oscillate at low VHF
frequencies.

I would use a parallel resonant parasitic supressor tuned to the 60 to 80 MHz range, or a series parallel circuit consisting of a series 100 ohm R and 115 nanohenry inductance, and a 27 picofarad capacitor placed across a 4 turn 1/2 inch diameter #10 copper coil at the anode terminal of the 4-1000A tube.

That will give complete supression without unwanted heat or performance degradation on 15 and ten meters.

Most conventional carbon and metal film resistors have considerable internal inductance that renders them useless as a suppressor resistor in most applications. Either cut a sample component open and look at it or measure it on an impedance bridge (the MFJ-259 works great for this). If the resistance element is wound in a spiral the thing is usless for suppression. As far as I know only Allen Bradly still makes non-inductive 2 watt carbons, I can source them if you have trouble. Even the small grey metal films are too inductive for some suppression applications.

Good luck with your project. 73 Tom W8JI

3237. Re: Do vacuum tubes have shelf life?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3v5ql6$kih@newsbf02.news.aol.com>
Source record: 111646

>>>Will these tubes retain their vacuum if stored "properly"? I've heard that tubes get gassy, and perhaps some of my used tubes are in this condition but are still usable. Does the gassy characteristic get worse with time, or with usage?

Thanks,

73 Dave WB0GAZ dgf@netcom.com<<<

Dave,
Seal leakage can contaminate the tube with age. This is a real problem with some transmitting tubes like 3-500Z's. The getter that absorbs gas is on the anode, and is activated by heat. If you let a metal anode 3-500Z sit for several months and apply HV (and perhaps RF) the thing will often let out a loud bang and kill some components.

The 3-500Z anode has to be turned red once in a while to de-gas the tube. Some other tubes have the getter on the heater or catiode structure. They will de-gas without HV just by applying filament power for several hours.

But like so many thing in life, it all depends on your luck. A friend of mine (K8KAS) went to Dayton with me one year. I bought used 3-500s from a guy and Denny bought new ones that were the same age but never used. He stuck them in his amp and POW! it arced over. I used the used tubes for several years! ;-)

Ceramic tubes are better on the shelf. I am not sure about small receiving tubes since I have no experience with them, but I suspect they are less of a problem since the seal area is smaller and the voltages lower.

73 Tom

3238. Home made beer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: Jannie.Blomerus@diakonos.iafrica.com
Message-ID: <5db_9507262000@diakonos.iafrica.com>
Source record: 111647

DO you ever wanted do make your own brew??
EASY:
1 LITER BOTTLE
FILL WITH WATER (750 ML)
FILL WITH CORN (1 CUP FULL)
FILL WITH FOOD-ACID
ADD GRAPES, CURRENTS, AND APPLE PIECES
LET IT STAY FOR A MONTH

THERE YOU HAVE IT

--
|FMLYNET: Jannie Blomerus 8:79/0
|Internet: Jannie.Blomerus@diakonos.iafrica.com
|
| Standard disclaimer: The views of this user are strictly his own.

3239. Re: Factory Spec Pages on 4-1000A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3v5ql7$kii@newsbf02.news.aol.com>
Source record: 111648

Call Eimac/Varian at San Carlos, CA. They will send you the data free or
at a nominal cost. 73 Tom

3240. Re: Component performance in vacuum

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: robboma@aol.com
Message-ID: <3v5v27$lsl@newsbf02.news.aol.com>
Source record: 111649

In article <jathomasDC376A.CE5@netcom.com> jathomas@netcom.com (John A. Thomas) writes:
>Does anyone have any pointers to information of the performance or
>tolerance of electronic components in a vacuum? I'm interested in the
>behavior of transistors, dip-packaged IC's, carbon-film resistors and
>different types of capacitors.

If you have RF or microwave circuits you may also want to consider the effects of ionization and multipactor breakdown. E-mail me for more info.

Bob Masucci

3241. Source for Ics 1724 and/or 3724

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-26 00:00:00 UTC
From: tkayani@Legarto.Minn.Net
Message-ID: <3v5o34$60v@News.Minn.Net>
Source record: 111650
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Looking for a supplier of 1724 or 3724 Ics (Motorola make I think).
The sample I have is FPQ1724.

Thanks for any help. Please respond via direct e-mail.

--
==========
Twinix Systems Inc.
119 North Fourth Street,
Suite 508,
Minneapolis, MN 55401
Voice: 612-338-7170
Fax: 612-397-9417
e-mail:tkayani@legarto.minn.net
==========

3242. Re: VARIALBE DC POWER SUPPLY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <3v8mb8$m45@unisql.unisql.com>
Source record: 111651

Use an LM317 regulator IC. This gives you 1.7 to 37 volts at
up to 1.5 amps. Need more current out? Drive the base of a
2N3055 pass transistor with the output of the LM317 for 5 amps
and if that's not enough, feed the base of several paralleled
2N3055s with the emitter of the first 2N3055.

National Semi's Linear Databook has app notes on the LM317, as
does the Radio Shack semiconductor ref book. This is easy to build out of
surplus junk.

It should go without saying that you need a transformer and bridge
rectifier of adequate power-carrying capacity for your application,
as well as several thousand microfafads' worth of filter capacitors.
Protective circuitry is recommended as well.

Email me if you're still clueless or need a schematic.

Jim N6OTQ
Standard disclaimers apply.

3243. need opinions&pointers: tech: PR in urban areas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: kaba@alf.zfn.uni-bremen.de
Message-ID: <3v87uj$jkf@gina.zfn.uni-bremen.de>
Source record: 111652
Cross-posted to:
rec.radio.amateur.homebrew,alt.radio.digital,fido.ham-radio,rec.radio.amateur.digital.misc,uk.radio.amateur,de.comm.ham

Hi.
I writing my diploma thesis right now (it's about the theoretical
development of a PR network - protocols mainly)and I'll have to have a
section about the hardware as well. Unfortionately that's not my favorite
topic. :^(
The HW must be able to transmit digital data at, say, 1 to 10 MBit/s in a
range up to 5 to 10 km in urban areas (more in open terrain) using
omni-directional antennas.
I now thought, you tech-wizards would be able to tell me what the
transmitter/receiver schould look like, wich modulation I should
(theoretically ;^)) use and all such things wich must be considered.
Also I need pointers to widly available (scientific) litrature on these
questions, so I can give some references in my paper.

Please send answers as eMail or use the CC: field with follow-ups, 'cause
I'm on holiday for 3 weeks now, so I'll miss pure follow-ups.

Any help is really aprreciated!

Thanks, Kai
--
"Can you tell a green field from a cold steel rail? [...]
Do you think you can tell?" <Pink Floyd>
Uni: kaba@zfn.uni-Bremen.de + Home: kaba@wintermute.hb.north.de
Snail: Kai Bartels + c/o Jungnickl + Kohlmannstr. 1 + 28359 Bremen + FRG
(pgp-key on request!)

3244. Re: how do you make the 10MBit microwave link from the 2MBit link?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <3v88k8$98n@canyon.sr.hp.com>
Source record: 111653

Michael Lyon (mlyon@walrus.mvhs.edu) wrote:

: I have the 1991 ARRL handbook and i was interested in making this 2Mbit
: link. i have heard that this can be made into a 10MBit link somehow.I
: would like to know how it is done. Also if anyone has made this and
: interfaced it with ethernet i would like to hear some of the problems you
: encountered while building this and interfacing it to ethernet.

Please see:

```
|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| ftp://col.hp.com/hamradio/packet/n6gn/index.html |
| |
|-----------------------------------------------------------------------|
```

There is a brief section there about running the 2 Mbps h/w faster.

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

3245. Power MOSFET's needed -- MTP15N05EL --

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: jbarry@intercim.com
Message-ID: <3v8bg9$653@stratus.skypoint.net>
Source record: 111654

I am in need of some power MOSFET's. Any of the following types will do..

(MTP 15N 05 EL) or 12N or 10N either 05 or 06 but must be EL.

Any quantity up to 50 could be used.

Please reply to:

jbarry@intercim.com

Jim Barry WA0AXB

Tnx.

3246. August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: jkbe@zeus
Message-ID: <DCE3sE.M50@nntpa.cb.att.com>
Source record: 111655

Just in case others are interested....

The EPROM image for the CMOS Keyer in August QST is not available from ARRL or the author. Also, according to the author, the security bit is set in the microcontroller which would prevent anyone from duplicating the chip.

Does this bother other builders? I'm sure the ARRL frequents this newsgroup and would be interested in how you feel.

John

3247. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <3v8vhs$oes@unisql.unisql.com>
Source record: 111656

Does it bother others that the software is copy-protected?

If I had written a _commercial_ program, I'd want it protected
from free use and from unauthorized modification, and I'd like
to get paid for it. This isn't inconsistent with commercially
available ham gear.

However, I feel it violates the spirit of experimentation and
"build-it-yourself" that ham radio used to be based on. Since
it's not a project I'd consider building, it doesn't affect me.
But if you're bent out of shape, it certainly is in your
interest to write the ARRL, the author, and the provider of the
programmed chip and express your feelings; and to urge others
to share their feelings. Maybe this would cause the ARRL not
to feature "read-only" firmware in construction projects.

Here's a thought -- my oldest ARRL handbook dates from the 1950s.
While many of the parts in those projects are available from one
source or another, most of the suppliers are long since out of business.
How would I be able to build this project in 20 years (if I choose to)
if the firmware's locked up and the company's out of business? Before
anybody says that's impossible that anyone would build a project from 1955,
take a look at how long we've been building 811A-based amps and then
look in the Ameritron catalog.

Jim N6OTQ.
Standard disclaimers apply.

3248. Re: Program for coil windings

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <3v910n$eau@ixnews3.ix.netcom.com>
Source record: 111657

In <DCDrno.4r@cup.hp.com> jholly@cup.hp.com (Jim Hollenback) writes:

>Now I understand my problem...I was dipping the grid and peaking the
>plate! No wonder those tubes wouldn't last long.
>
>73, Jim, WA6SDM

But think of all the money you saved on your heating bills...

Mike, KK6GM

3249. Re: Winding Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: jfw@proteon.com
Message-ID: <DCE0rv.193@proteon.com>
Source record: 111658

Ference Kish <fkish@world.net> writes:
>I'm using bakelite tubes for my formers and I mount those on a modified
>hand-drill. This way I have made coils with resonably uniform and firm
>windings. The lengths of my coils are always longer than twice their diameter.
>My real "problem" is not so much inaccuracy but the fact that the error is not
>constant. If I could find a relationship between inductance or physical
>dimensions and error then I could derive some for of correction factor and
>should then be able to "design" and wind the coils resonaby accurately.
>However, the range of errors is quite wide and that's what's bugging me.

Is the range of errors you see on attempts to reproduce exactly the same coil, or on attempts to produce coils of different dimensions? If the coils are supposed to have the same dimensions but don't have the same inductance, then there's obviously something non-repeatable in the way you're winding them. If you get repeatable results that just don't match the formula you're using, try this:

```
/*
* solenoid - program to calculate the inductance of a solenoidal coil of wire
*
* based on the Technical Correspondance article
* "Accurate Single-Layer-Solenoid Inductance Calculations" by Hank Meyer,
* W6GGV, from QST magazine April 1992 (pp 76-77) plus corrections not yet
* published as of May.
*
* usage:
* with no arguments, prompts for number of turns, coil length,
* coil inner diameter ("mandrel diameter"), and wire size or gauge.
* Enter wire gauge as #16 (or =16) for 16 AWG; enter wire size in
* inches as a number, or mils by suffixing number with m.
* with 4 arguments: number of turns, coil length, ID, wire size
* all specified as above.
* with something other than 0 or 4 arguments, displays a terse usage
* message.
*
* This program written by John Woods, jfw@funhouse.com, 19 May 1992.
* All Rights Reversed (K).
*
* Requires strtol() and strtod() which are common pre-ANSI library
* extensions, as well as being official ANSI functions. This isn't
* necessarily the best code in the world, but it works.
*/
#include <stdio.h>
#include <math.h>
#include <stdlib.h> /* for definition of strtol(), strtod() */
```

```
double awg_to_diam[] = { /* from ARRL Handbook 1992 pg. 35-6 */
0, /* AWG 0, not in table */
.2893, .2576, .2294, .2043, .1819, /* 1 - 5 */
.1620, .1443, .1285, .1144, .1019, /* 6 - 10 */
.0907, .0808, .0720, .0641, .0571, /* 11 - 15 */
.0508, .0453, .0403, .0359, .0320, /* 16 - 20 */
.0285, .0253, .0226, .0201, .0179, /* 21 - 25 */
.0159, .0142, .0126, .0113, .0100, /* 26 - 30 */
.0089, .0080, .0071, .0063, .0056, /* 31 - 35 */
.0050, .0045, .0040, .0035, .0031, /* 36 - 40 */
.0028, .0025, .0022, .0020, .0018, /* 41 - 45 */
.0016 /* 46 */
};

#define DEBUG(x)
/* #define DEBUG(x) x */

main(argc, argv)
char **argv;
{
/* inputs */
double N; /* Number of turns */
double b; /* length of coil */
double a; /* coil radius (measured to center of wire) */
double p; /* coil pitch == b/N */
double d; /* wire diameter */
int awg; /* AWG of wire */
char Nbuf[64], bbuf[64], abuf[64], dbuf[64], *av[5], **avp, *pt;
/* important calculated results */
double K; /* Nagaoka's constant */
double G; /* a correction factor */
double H; /* another correction factor */
/* helpful quantities */
double ln_4_over_B, B;
double a2_b2, ab_term;
/* oh yeah, the answer */
double inductance;

/* Get inputs */
if (argc != 1 && argc != 5) {
fprintf(stderr,"usage: solenoid number-of-turns length coil-inner-diam
#awg-or-wire-diameter\n");
exit(1);
}
if (argc == 1) {
avp = av;
printf("N (number of turns) ");
if (fgets(Nbuf, 64, stdin) == NULL) exit(1);
av[0] = Nbuf;
printf("b (length, inches) ");
if (fgets(bbuf, 64, stdin) == NULL) exit(1);
av[1] = bbuf;
```

```
printf("a (coil inner diameter) ");/* will correct later */
if (fgets(abuf, 64, stdin) == NULL) exit(1);
av[2] = abuf;
printf("wire size (mils or #awg) ");
if (fgets(dbuf, 64, stdin) == NULL) exit(1);
av[3] = dbuf;
} else
avp = argv+1;
N = strtod(avp[0], &pt);
if (*pt && *pt != '\n') {
fprintf(stderr,"bad format for N: %s\n", avp[0]);
exit(1);
}
b = strtod(avp[1], &pt);
if (*pt && *pt != '\n') {
fprintf(stderr,"bad format for b: %s\n", avp[1]);
exit(1);
}
a = strtod(avp[2], &pt) / 2;
if (*pt && *pt != '\n') {
fprintf(stderr,"bad format for a: %s\n", avp[2]);
exit(1);
}
if (avp[3][0] == '#' || avp[3][0] == '=') {
awg = (int)strtol(&avp[3][1], &pt, 10);
if (*pt && *pt != '\n') {
fprintf(stderr,"bad format for d: %s\n", avp[3]);
exit(1);
}
if (awg < 1) {
fprintf(stderr,"using awg 1\n");
awg = 1;
} else if (awg > 46) {
fprintf(stderr,"using awg 46\n");
awg = 46;
}
d = awg_to_diam[awg];
} else {
d = strtod(avp[3], &pt);
if (*pt == 'm') { /* mils */
d /= 1000.;
} else
if (*pt && *pt != '\n') {
fprintf(stderr,"bad format for d: %s\n", avp[3]);
exit(1);
}
}
/* a should really be mean coil radius, not mandrel radius */
a += d/2;
```

```
p = b/N;

/* now we are ready to roll */
G = 1.25 - log(2. * p / d);
H = ((((-.83/N - 2.5)/N + 3.8)/N - 2.5)/N+1)*.336 + .004;
DEBUG( printf("G = %f\nH = %f\n", G, H); )
/* short or long coil? */
if (2*a/b > 1) {
/* short */
double B2, B4;
B = b / (2 * a);
ln_4_over_B = log(4. / B);
DEBUG( printf("ln 4/B = %f\n", ln_4_over_B); )
B2 = B*B;
K = ((5./1021.*(ln_4_over_B-109./120.)*B2
- 1/64.*(ln_4_over_B - 2./3.))*B2
+ 1/8.*(ln_4_over_B + 1/8.))*B2
+ ln_4_over_B - .5;
K *= M_2_PI * B; /*note: M_2_PI is 2/pi from <math.h>*/
} else {
ab_term = a/b;
K = 1 - 8./3.*M_1_PI * ab_term;
a2_b2 = ab_term * ab_term;
K += ((((147./128.*a2_b2 - 35./64.)*a2_b2 + 5./16.)*a2_b2
- .25)*a2_b2 + .5)*a2_b2;
}
DEBUG( printf("K = %f\n", K); )
/* payoff time */
inductance = 5.08 * M_PI*M_PI * a * K * N * N/ (b / (2*a))
- 10.2 * M_PI * N * (G+H) * a;
printf("inductance is %.4fnH\n", inductance);
}
```

3250. Re: direct digital synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: jperale@ibm.net
Message-ID: <3v8o37$14a7@news-s01.ca.us.ibm.net>
Source record: 111659

```
In article <DC91wL.A1@eskimo.com>, dalex@eskimo.com (Dave Alexander) says:
>
>
>would some kind soul please point the way to some net sites
>that have info on direct digital systhesis.
>
>printed material would be of help also
>
>thanks dave kg7zq
>
>
```

Hello! you can find some information in QST March 1993, August 1994 and May 1995. Now I'm building a DDS VFO based in HSP45102PC, similar of described by WB0VNE in QST May 95. Another good source is the Answerfax service of Harris Semiconductor (HSP45102 application sheets). You can access via http://www.harris.com.

```
Good luck

Juan M. Perales, EA6NP
```

3251. Re: Program for coil windings

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: jholly@cup.hp.com
Message-ID: <DCDrno.4r@cup.hp.com>
Source record: 111660

Grant H Youngman (us007699@interramp.com) wrote:
: wnewkirk@iu.net (Bill Newkirk) wrote:

: >
: >i guess i might suggest reviewing the ARRL Handbook and other books.
: >there was even an L/C slide rule calculator at one time (think i have one
: >buried around here).

: Bill, how archaic -- to suggest actually reading a book. I thought we
: hams were past all that and had become "modern". After all, we no longer
: have to "dip the plate and peak the grid", why should we have to actually
: read and understand something? :-)

: Grant/NQ5T

Now I understand my problem...I was dipping the grid and peaking the
plate! No wonder those tubes wouldn't last long.

73, Jim, WA6SDM

3252. want 1.2Ghz rx and tx kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: ak165@lafn.org
Message-ID: <1995Jul27.193224.25024@lafn.org>
Source record: 111661

I am looking for any 1.2Ghz RX and TX radio kis. any information is welcome. Thank.

3253. Re: JAN811A, need more info on these tubes....?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: caf@omen.com
Message-ID: <DCCM91.KG1@omen.com>
Source record: 111662

In article <3up930$fp0@nuclear.microserve.net>,
WB3U <jackl@pinetree.microserve.com> wrote:
>various versions and ask their opinion. Personally, now that U.S. tubes
>are available again, I wouldn't consider anything else. The savings to

Sounds great. Who? What types? Do they make a 6E5 too?
--
Chuck Forsberg WA7KGX caf@omen.COM 503-621-3406 FAX:-3735
Omen Technology Inc "The High Reliability Software"
Author of YMODEM, ZMODEM, Professional-YAM, ZCOMM, GSZ and DSZ
TeleGodzilla BBS: 503-621-3746 FTP: ftp.cs.pdx.edu pub/zmodem

3254. how do you make the 10MBit microwave link from the 2MBit link?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: mlyon@walrus.mvhs.edu
Message-ID: <3v7874$a4d@news.arc.nasa.gov>
Source record: 111663

I have the 1991 ARRL handbook and i was interested in making this 2Mbit link. i have heard that this can be made into a 10MBit link somehow.I would like to know how it is done. Also if anyone has made this and interfaced it with ethernet i would like to hear some of the problems you encountered while building this and interfacing it to ethernet.

Thank You,
Mike Lyon
--
//////////////////////
| Mike Lyon |
|Amateur Radio Callsign|
| KE6MRE |
| E-Mail Address |
|mlyon@walrus.mvhs.edu |
\\\\\\\\\\\\\\\\\\\\\\

3255. Re: Winding Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-27 00:00:00 UTC
From: mkelly@brisbane.DIALix.oz.au
Message-ID: <3v6tub$8ol$1@brisbane.DIALix.oz.au>
Source record: 111664

Ference Kish <fkish@world.net> writes:

>Hi!
> I've been looking around for some realible and practical
> ways to design and wind air-core coils.

> I've been using formulas from handbooks, like ARRL handbook,
> and I find that the inductances of my coils are out by about
> 3% - 10%. According to the text books one should be able to get
> to 1%...

> Could others let me know what their experiences are in winding
> coils, what method and tools are using.

> regards, ference

While you're all feverishly looking up sources, does anyone know
a formula for air-cored toroids? I wish to make a high power coil
for feeding an end-fed dipole and wire is cheap and toroids aren't.
Thanks in advance.
Murray Kelly. vk4aok.

3256. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: Ken Mason <Ken_r_Mason@ccm.fm.intel.com>
Message-ID: <3vb3mk$ria@mcd1.fm.intel.com>
Source record: 111572

jkbe@zeus (John_Bednar) wrote:
>
>
> Just in case others are interested....
>
> The EPROM image for the CMOS Keyer in August QST is not available
> from ARRL or the author. Also, according to the author, the security
> bit is set in the microcontroller which would prevent anyone from
> duplicating the chip.
>
> Does this bother other builders? I'm sure the ARRL frequents this
> newsgroup and would be interested in how you feel.
>
>
> John

I've built a microcontroller (8031) keyer from an 73 article. The
firmware was available from a BBS. I downloaded it and found that the
schematic did not match what the firmware was expecting. I also
found multiple bugs in the code.

I modified the schematic and modified the code to remove the bugs and
add features that I wanted (firmware messages, straight key mode,
more speeds, long space mode, MS message mode.....).

If the code was not available I could never find the bugs (the
bugs were hard to find, IE it "seems to work"), or add other
functions. I seriously doubt that anybody had built it from
scratch without consulting the author or the 73 magazine editors.

Ken
KC6TEU

3257. Re: need opinions&pointers: tech: PR in urban areas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: brunne@ira.uka.de
Message-ID: <3vb83o$b4p@nz12.rz.uni-karlsruhe.de>
Source record: 111573
Cross-posted to:
rec.radio.amateur.homebrew,alt.radio.digital,fido.ham-radio,rec.radio.amateur.digital.misc,uk.radio.amateur,de.comm.ham

Kai Bartels (kaba@alf.zfn.uni-bremen.de) wrote:
: Hi.
: I writing my diploma thesis right now (it's about the theoretical
: development of a PR network - protocols mainly)and I'll have to have a
: section about the hardware as well. Unfortionately that's not my favorite
: topic. :^(
: The HW must be able to transmit digital data at, say, 1 to 10 MBit/s in a
: range up to 5 to 10 km in urban areas (more in open terrain) using
: omni-directional antennas.
: I now thought, you tech-wizards would be able to tell me what the
: transmitter/receiver schould look like, wich modulation I should
: (theoretically ;^)) use and all such things wich must be considered.
: Also I need pointers to widly available (scientific) litrature on these
: questions, so I can give some references in my paper.

: Please send answers as eMail or use the CC: field with follow-ups, 'cause
: I'm on holiday for 3 weeks now, so I'll miss pure follow-ups.

: Any help is really aprreciated!

10 Mbit/s und 10km Reichweite in Stadtbebauung!!!! Dann rechne Dir mal
aus, was so einSignal fuer eine Bandbreite belegt!! Und dann ueberlegmal
dass du einige Watt brauchst, um die Reichweite in bebauten Gebieten zu
erreichen. Das ist absolut realitaetsfern!

Tip: Schau Dir mal die technischen Grundlagen vom GSM-Netz (D-Netz) an
oder auch E Netz (kenn' ich nicht) ... da wird mit allen technischen
Tricks gearbeitet und Du kommst auf max gesicherte 9600 Bit/s !!!!!

Gruss
Hajo
: Thanks, Kai
: --
: "Can you tell a green field from a cold steel rail? [...]
: Do you think you can tell?" <Pink Floyd>
: Uni: kaba@zfn.uni-Bremen.de + Home: kaba@wintermute.hb.north.de
: Snail: Kai Bartels + c/o Jungnickl + Kohlmannstr. 1 + 28359 Bremen + FRG
: (pgp-key on request!)

--

Hajo Brunne brunne@ira.uka.de | CB250RS RACING
Informatik Rechner Abteilung (IRA) | rrr#17
Universitaet Karlsruhe; 76128 Karlsruhe ; Germany | keep on riding

http://www.ira.uka.de/~brunne

3258. 3-500z and base wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: Conrad Farlow <conrad@g0ruz.demon.co.uk>
Message-ID: <255456323wnr@g0ruz.demon.co.uk>
Source record: 111574

Hello I'm looking for a 3-500z and base new or used for a 6m amp.
--
73 de Conrad G0RUZ
email conrad@g0ruz.demon.co.uk
Packet Radio G0RUZ @ GB7WRG.#19.GBR.EU
"A sucessful eme'r is the one who wastes the least electricity"

3259. Re: need opinions&pointers: tech: PR in urban areas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: Tim@mikebray.demon.co.uk
Message-ID: <806959469snz@mikebray.demon.co.uk>
Source record: 111575
Cross-posted to:
rec.radio.amateur.homebrew,alt.radio.digital,fido.ham-radio,rec.radio.amateur.digital.misc,uk.radio.amateur,de.comm.ham

In article <3vb83o$b4p@nz12.rz.uni-karlsruhe.de>
brunne@ira.uka.de "Hajo Brunne" writes:

> 10 Mbit/s und 10km Reichweite in Stadtbebauung!!!! Dann rechne Dir mal
> aus, was so einSignal fuer eine Bandbreite belegt!! Und dann ueberlegmal
> dass du einige Watt brauchst, um die Reichweite in bebauten Gebieten zu
> erreichen. Das ist absolut realitaetsfern!
>
> Tip: Schau Dir mal die technischen Grundlagen vom GSM-Netz (D-Netz) an
> oder auch E Netz (kenn' ich nicht) ... da wird mit allen technischen
> Tricks gearbeitet und Du kommst auf max gesicherte 9600 Bit/s !!!!!
>

Please tell me if I am wrong, but isn't this a uk.* group ????????

--
Tim Bray

Amateur Radio callsign - G7UBQ@GB7GCW.#19.GBR.EU
World Jamboree Holland 1995 - The Ridings Troop 1045
Email - Tim@mikebray.demon.co.uk
Thor VSU, Huddersfield, UK - Thor@mikebray.demon.co.uk

3260. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <806886273.AA03020@hamlink.mn.org>
Source record: 111576

Hi Murray,
I too am playing around with an end fed antenna, and would like to know
more about yours.
72 Bob WB0POQ

Technology is OUT of control.....

3261. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: sefranek@iii2.iii.net
Message-ID: <3vaobv$ef2@iii2.iii.net>
Source record: 111577

John,
This has been hashed over YEARS ago, read the archives.
The author chooses NOT to give away his work, I respect that.
On the other hand, I "do" Motorola micros, so I could write the
code in a day or so. Curtis doesn't give away it's silicon design.

Tom

--
Thomas C. J. Sefranek WA1RHP Work: 508-425-2200 Home: 508-425-6672

3262. WTB: antenna tuner parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: alspaugh@gold.gvg.tek.com
Message-ID: <3vaut0$jtq@gv-gate.gvg.tek.com>
Source record: 111578

Where can I buy high power components that could
be used to build a home brew antenna tuner:
split stator capacitors
variable inductors
insulators
stepping motors
etc...

Ron Alspaugh, W6NKS
alspaugh@gold.gvg.tek.com

3263. fm transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: rpoulard@adsnet.com
Message-ID: <3vbhdk$3d7@news.adsnet.com>
Source record: 111579

i want to build a fm transmitter but I don't know where to begin. I'm
new to radio and i need some help.
roger

3264. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jul28.165537.1103@ke4zv.atl.ga.us>
Source record: 111580

In article <DCE3sE.M50@nntpa.cb.att.com> jkbe@zeus (John_Bednar) writes:
>
>The EPROM image for the CMOS Keyer in August QST is not available
>from ARRL or the author. Also, according to the author, the security
>bit is set in the microcontroller which would prevent anyone from
>duplicating the chip.
>
>Does this bother other builders? I'm sure the ARRL frequents this
>newsgroup and would be interested in how you feel.

I have mixed feelings about this sort of practice. On the one hand,
the firmware is the heart of this project, and the author has a
right to profit from its development via selling programmed chips.
On the other hand, QST is an educational service and its articles should
reflect that by fully disclosing how projects work, which in today's
microcoded world means including source to any programmed bits.

Ideally, I'd always want sources available for any microprocessor
controlled project. In reality, however, I'd rather know about these
products than not know, so publishing the articles is still of value.
I do think, however, in a case like the present one that the article
really should have been labeled a product review rather than a construction
project.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3265. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: aa005@torfree.net
Message-ID: <DCFw76.97r.0.bloor@torfree.net>
Source record: 111581

John_Bednar (jkbe@zeus) wrote:

: The EPROM image for the CMOS Keyer in August QST is not available
: from ARRL or the author. Also, according to the author, the security
: bit is set in the microcontroller which would prevent anyone from
: duplicating the chip.

: Does this bother other builders? I'm sure the ARRL frequents this
: newsgroup and would be interested in how you feel.

Yes, it bothers me. But what realy gets to me is that I looked at the design/features and at several points said to myself "that is so stupid, why didn't they do...." (for example the difference in price between the various serial EEROMs is now so low, why didn't they go for a larger EEROM, or at least have the option of using different sizes?). Now, anyone who want to do a better CMOS Keyer 3 has to start from square one, grumble.

In essance the QST write-up is just a multi-page ad. for a new hardware product (ie: the pre-programmed chip). Now, I don't mind multi-page, highly favorable reviews of products. I don't mind when Icom, or Kenwood, etc., buy multi-page ads.. I can live with firms that write articals about their new kits, but also provide enough info. that you could build the radio, etc., without puchasing anything from the kit firm. What does annoy me is these sorts of multi-page "editorial" ads for a product that force to buy from the author of the artical if you want to do anything useful.

How about QST (and the other magazines) bring in a policy along the lines of "If a component in a project is only available from ONE source, then the author of the artical can NOT have a financial interest in the component source". This way there is no threat of there being a percieved conflict of interest.

Colin McGregor - VE3ZAA

3266. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: dstone@bnr.ca
Message-ID: <3vb87f$dp9@nrtphba6.bnr.ca>
Source record: 111582

John_Bednar (jkbe@zeus) wrote:

: The EPROM image for the CMOS Keyer in August QST is not available
: from ARRL or the author....

: Does this bother other builders? I'm sure the ARRL frequents this
: newsgroup and would be interested in how you feel.

Not a bit - the developer(s) deserve the credits...

--

****
* *
* dstone@bnr.ca Research Triangle Park, NC *
* WB4ETY *
* *
* Danny "Miscreant" Stone: *
* A Professional Grouch AND *
* Misanthrope in Training... *
* *
* "Don't Blame Me, Blame the Testosterone!" *
* *
****

3267. NEW HAM RADIO-REMOTE CONTROL PRODUCT OFFERED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: Marshall Craw <mcraw@halcyon.com>
Message-ID: <Pine.ULT.3.91.950728211456.2559D-100000@chinook.halcyon.com>
Source record: 111583

I am pleased to announce a new product offered by Positive Time Systems
called the RCS-I. This is a radio controller that connects to any VHF/UHF
transceiver and can issue x-10 commands. The unit also has an alarm
input, a listen feature, a short voicmail box, and responds to all
commands in a pleasant female voice. The system IDs with your recorded
voice and call sign.

This description doesn't do the product justice, so
please check out the new homepage at :

http://www.halcyon.com/pos.time.sys/top

or send email for more information.

Thank You,

Marshall Craw <mcraw@halcyon.com>
Positive Time Systems
North Bend, WA

3268. Swap New Pair of Svetlana 4CX400A for pair of 8875

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: wa1kqh@sled.ultranet.com
Message-ID: <wa1kqh.19.0008452F@sled.ultranet.com>
Source record: 111584

Have a Dentron MLA-2500B that uses two of the 8875 transverse cooled triodes that need replacement. I thought the 4CX400s might make an interesting conversion but if somebody wants to swap it would be easier.

Mike Keller
WA1KQH

3269. Re: Do vacuum tubes have shelf life?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <3vbb5k$733@news1.inlink.com>
Source record: 111585

In article <3v9hah$1cu@clarknet.clark.net>, wilder@clark.net says...
>
>David Feldman (dgf@netcom.com) wrote: BRIEFLY: Old tubes get gassy?
>
>Yep, I have heard that larger audio power amplifier tubes and RF
>power tubes get gassy. I am 63 and still have tubes from high school
>days; save for now; MY RETIREMENT YEARS. I figure they are light
>weight and fit in boxes on the very top shelf where I would not
>store something heavy. I kept them over the years. However, now
>that I am here and retired I have found a new love; the transistor.
>
>Maybe someday, I will work on the SP-600JX, 32V2, R388, and two
>others that I don't recall the model. 73, Dick, K3DI
>
I don't know enough of the technical reasons as to why old tubes fail, but can say from experience that at least 70% of the glass tubes I saved failed within moments of using them. On the other hand, I have several metal tubes, some from WWII period that still work fine, even after similar length storage times.

It seems that the higher power rating of transmitting tubes, and the higher heater rating of receiving tubes is directly proportional to their shelf life. As virtually no tube rated for HV was useable and a few of the medium voltage tubes worked and most of the low voltage tubes were fine. The really really old gandy dancers seemed to all be OK, or at least the ones that I still had old Hallicrafters equipment to test them in.

Gary

3270. Re: Source for Ics 1724 and/or 3724

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <3va5v6$ogf@news1.deltanet.com>
Source record: 111665
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Tahir Kayani (tkayani@Legarto.Minn.Net) wrote:
: Looking for a supplier of 1724 or 3724 Ics (Motorola make I think).
: The sample I have is FPQ1724.

: Thanks for any help. Please respond via direct e-mail.

: --

Most of the Motorola stuff that have numbers like MPQ2222A are not ICs but
quad transistors in a DIP package.

--
#================PGP key available upon request=====================#
John Lundgren - Elec Tech - Info Tech Svcs	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St. at Bristol \ Santa Ana, CA 92706	or @pop.rancho
Standard Disclaimers Apply (Blah-Blah...)	.cc.ca.us
#======"He who toys with the most dies, wins." Dr. Kevorkian? =======#

3271. Re: Do vacuum tubes have shelf life?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: wilder@clark.net
Message-ID: <3v9hah$1cu@clarknet.clark.net>
Source record: 111666

David Feldman (dgf@netcom.com) wrote: BRIEFLY: Old tubes get gassy?

Yep, I have heard that larger audio power amplifier tubes and RF power tubes get gassy. I am 63 and still have tubes from high school days; save for now; MY RETIREMENT YEARS. I figure they are light weight and fit in boxes on the very top shelf where I would not store something heavy. I kept them over the years. However, now that I am here and retired I have found a new love; the transistor.

Maybe someday, I will work on the SP-600JX, 32V2, R388, and two others that I don't recall the model. 73, Dick, K3DI

3272. JAN811A, need more info on these tubes....?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: dayj@ozemail.COM.AU
Message-ID: <1995JUL28.7571@ozemail.com.au>
Source record: 111667

My experience with 811A's is this:

Many of the 'Penta' brand tubes are pretty unreliable. I have had best success with the 811A premium tubes from RF Parts in San Marcos (SanDiego) they are fully tested, including RF testing if you want, and they have types fully inspected for use in horizontal mounting configurations.

I have a vested interest in this, as an amateur dealer I sell a lot of linears using 811A's (Ameritron and Vectronics). For some time I had lots of problems with the Chinese tubes, until I got onto the RF Parts ones.

They also offer a Russian version of the tube at a higher price. I haven't tried this yet. But I think next time I order tubes I will get a set and see if they are any better.

FYI, their details are: RF Parts, San Marcos CA, ph (619)774-0700, orders on 1-800-737-2787, FAX (619)744-1943 Chinese 811A's $38.90/matched pair, $58.35/matched triplets or $77.80/matched quad.

73's ... John Day VK3ZJF
(dayj@ozemail.com.au or CIS 100236,2364)

3273. ICOM IC-R70 operator manual needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: s923505@minyos.xx.rmit.EDU.AU
Message-ID: <3van8a$opd@aggedor.rmit.EDU.AU>
Source record: 111668

I have an old ICOM IC-R70 with no operator manaul, though it's working great.
I would like to know if any body has such manaul. I'll pay the cost of
copy and postage.

Thank you

Somkiat.

3274. Re: VARIALBE DC POWER SUPPLY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: sefranek@iii2.iii.net
Message-ID: <3vao49$ec6@iii2.iii.net>
Source record: 111669

Actually Jim,
You'll find better regulation with PNP paralleled with
the 3 pin regulator. The be drop makes the regulation poor in the
conventional 3055 circuits. Better still, a power FET driven by a
723.

Tom

--
Thomas C. J. Sefranek WA1RHP Work: 508-425-2200 Home: 508-425-6672

3275. Re: VARIALBE DC POWER SUPPLY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <3vavek$2f6@unisql.unisql.com>
Source record: 111670

True, the circuit you mention with the paralleled PNP gives better regulation.
There's a benefit you didn't mention -- using a TO-3 PNP pass transistor, the
case of the transistor is at ground potential and doesn't require insulating
from the heatsink.

The rig I described it incredibly simple and easy to put together from
junk or from Radio Shack parts (same thing, IMHO). Regulation is adequate
for most simple ham radio/experimemter projects. As soon as I start finding power FETs in
the dumpster, I'll improve my "cheap and easy" power supply.

Jim N6OTQ
Standard disclaimers apply.

3276. Homebrew 2m CW circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-28 00:00:00 UTC
From: BDONALDSON@HNS.COM
Message-ID: <1995Jul28.143355.6410@hns.com>
Source record: 111671

Any suggestions on where one might find a schematic of a 2m CW xmiter?

Brian, KF6BL

3277. Re: HF amp 4CX1000A help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-29 00:00:00 UTC
From: DMARSH@us.oracle.COM
Message-ID: <9507290008.AA22355@prodpyr1.us.oracle.com>
Source record: 111586

> Good luck and let me know you you get on. If you want (or anyone else wants), > I could e-mail a list of 2m ish 1000A ish amp references, after I've found at > home.
>
>
> dave kirkby G8WRB.

Dave;
I for one would be interested in you references. I would also be interested in the feasability of Homebrewing VHF amps. I realize that the voltages are very high and although I have been messing around with building I have yet to work with such voltages.
I would appreciate it if someone could give me the general idea of the scope of such a project. Are components readily available? How do I avoid blowing up EXPENSIVE power tubes?
You know little details like that!

73 de N8TUT

Doug :-{o

----------.----------.----------.----------

. Douglas E. Marsh | | Oracle Services .
. (513) 629-2229 V-Mail | | 65 East State Street .
. (614) 460-3508 Office | I Brake for | Suite 1000 .
. (614) 464-1466 Fax | Electrons | Columbus, OH 43215 .
. | | .
. InterNet Address .----------. Amateur Radio .
. dmarsh@us.oracle.com | Too much is never enough. | N8TUT .
----------.----------.----------

3278. Re: need opinions&pointers: tech: PR in urban areas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Jul29.044656.3930@ke4zv.atl.ga.us>
Source record: 111587
Cross-posted to:
rec.radio.amateur.homebrew,alt.radio.digital,fido.ham-radio,rec.radio.amateur.digital.misc,uk.radio.amateur,de.comm.ham

In article <806959469snz@mikebray.demon.co.uk> Tim@mikebray.demon.co.uk writes:
>In article <3vb83o$b4p@nz12.rz.uni-karlsruhe.de>
> brunne@ira.uka.de "Hajo Brunne" writes:
>
>> 10 Mbit/s und 10km Reichweite in Stadtbebauung!!!! Dann rechne Dir mal
>> aus, was so einSignal fuer eine Bandbreite belegt!! Und dann ueberlegmal
>> dass du einige Watt brauchst, um die Reichweite in bebauten Gebieten zu
>> erreichen. Das ist absolut realitaetsfern!
>>
>> Tip: Schau Dir mal die technischen Grundlagen vom GSM-Netz (D-Netz) an
>> oder auch E Netz (kenn' ich nicht) ... da wird mit allen technischen
>> Tricks gearbeitet und Du kommst auf max gesicherte 9600 Bit/s !!!!!
>>
>
>Please tell me if I am wrong, but isn't this a uk.* group ????????

Look at the newsgroups header. *One* of the groups to which this
message was crossposted is a uk.* group, but there's also a de
group, a fido group, an alt group, and two of the rec.radio worldwide
groups. I thought only Americans were supposed to be monolingual.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3279. M/C mic & headset

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-29 00:00:00 UTC
From: rogersmith@iquest.net
Message-ID: <DCI1ID.E7M@iquest.net>
Source record: 111588

I'm looking for ideas on how to construct an in-the-helmet mic/earphone setup for my fullface motorcycle helmet. I have a Alinco DJ-180 H.T. and have tried using Alinco's VOX lapel/earplug unit without success. Even on PTT the mic was too sensitive and the earpiece was too "squeeky", so all either side could hear was distortion.

Any suggestions would be appreciated ! ..... Roger N9PMC

3280. Re: Power MOSFET's needed -- MTP15N05EL --

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-29 00:00:00 UTC
From: jphipps@aztec.asu.edu
Message-ID: <3vcc9v$i35@news.asu.edu>
Source record: 111589

As far as I know, all of those numbers are current and any Motorola distributor should be able to supply you with the quantity you want.

You may have to wait a bit, as there is an industry shortage of Power MOSFET silicon, but get your order in. Better yet, call Motorola marketing in Phx. The switchboard number is (602) 244-6900, ask for Power Marketing, and see if they can't check their distributors for the parts you want.

3281. Re: need opinions&pointers: tech: PR in urban areas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-29 00:00:00 UTC
From: Tim@mikebray.demon.co.uk
Message-ID: <807024960snz@mikebray.demon.co.uk>
Source record: 111590
Cross-posted to:
rec.radio.amateur.homebrew,alt.radio.digital,fido.ham-radio,rec.radio.amateur.digital.misc,uk.radio.amateur,de.comm.ham

In article <806959469snz@mikebray.demon.co.uk>
Tim@mikebray.demon.co.uk "Tim Bray" writes:

>
> Please tell me if I am wrong, but isn't this a uk.* group ????????
>

Sorry.

I didn't realise that the original message was crossposted.

I'll check more carefully in future.

Thanks to all the people that pointed it out.

--
Tim Bray

Amateur Radio callsign - G7UBQ@GB7GCW.#19.GBR.EU
World Jamboree Holland 1995 - The Ridings Troop 1045
Email - Tim@mikebray.demon.co.uk
Thor VSU, Huddersfield, UK - Thor@mikebray.demon.co.uk

3282. Re: [?] TV -> Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-29 00:00:00 UTC
From: kurtf@panix.com
Message-ID: <3ves18$1ce@news1.panix.com>
Source record: 111591
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <3v0vr9$nnp@freenet.vancouver.bc.ca>,
rdc@freenet.vancouver.bc.ca says...
>
>----- Update from original poster -----
>From the replies I've received this is 'where we are now':
>

Back in the early '80s our company built and sold a 1/3 octave analyzer
built around the Commodore PET and some early Trinitron tubes. If you
have any specific questions, I will try to address them

--
Kurt Feneberger {`For my purpose holds, to sail beyond the sunset, }
DunsGate Inc { and the baths of all the western stars, until I die.' }
Systems - NYC { Tennyson, via Heinlein }

3283. Re: August qst cmos keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-29 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <807060001.AA03043@hamlink.mn.org>
Source record: 111592

Nope, can't say that I agree. I think a hobby publication is an
appropriate place to bring forth new technology, even if it is
"software". Also to claim proprioitary use of said software I feel is
justified. No one is forcing any of us to buy into this keyer, or the
magazine for that matter.
Not liking the article, or the fact that they don't want you rolling
your own, is one thing, but this is the way software/hardware makers
make a living, just like you or I.
To suggest otherwise I feel is a dis-incentive to free enterprize.
Bob WB0POQ

Technology is *OUT* of control......

3284. M/C mic & headset

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-29 00:00:00 UTC
From: ~name@wem.org
Message-ID: <9507292001281031@wem.org>
Source record: 111593

Path: holonet!colossus.holonet.net!news.sprintlink.net!dorite!news
From: rogersmith@iquest.net (~name)
Subject: M/C mic & headset
Message-ID: <DCI1ID.E7M@iquest.net>
Sender: news@iquest.net (News Admin)
Organization: IQuest Network Services
Date: Sat, 29 Jul 1995 22:37:24 GMT

I'm looking for ideas on how to construct an in-the-helmet mic/earphone setup for my fullface motorcycle helmet. I have a Alinco DJ-180 H.T. and have tried using Alinco's VOX lapel/earplug unit without success. Even on PTT the mic was too sensitive and the earpiece was too "squeeky", so all either side could hear was distortion.

Any suggestions would be appreciated ! ..... Roger N9PMC

3285. Re: Power MOSFET's needed -- MTP15N05EL --

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-29 00:00:00 UTC
From: john.phipps@wem.org
Message-ID: <9507292001281032@wem.org>
Source record: 111594

Path: holonet!colossus.holonet.net!news.sprintlink.net!cs.utexas.edu!asuvax!
news.asu.edu!aztec.asu.edu!jphipps
From: jphipps@aztec.asu.edu (JOHN PHIPPS)
Newsgroups: rec.radio.amateur.homebrew
Subject: Re: Power MOSFET's needed -- MTP15N05EL --
Date: 29 Jul 1995 04:09:35 GMT
Organization: Arizona State University
Message-ID: <3vcc9v$i35@news.asu.edu>

As far as I know, all of those numbers are current and any
Motorola distributor should be able to supply you with the
quantity you want.

You may have to wait a bit, as there is an industry shortage of
Power MOSFET silicon, but get your order in. Better yet, call
Motorola marketing in Phx. The switchboard number is (602) 244-
6900, ask for Power Marketing, and see if they can't check their
distributors for the parts you want.

3286. Re: Realistic TRC-465 --> 10m?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-30 00:00:00 UTC
From: Conrad Farlow <conrad@g0ruz.demon.co.uk>
Message-ID: <585334557wnr@g0ruz.demon.co.uk>
Source record: 111595

For what its worth I sucessfully built the 4cx1000a 2m pa from the arrl handbook.The use of grounded screen is a very good idea,not only from the view point of stability but also a good base is hard to find or very expensive.You can probably find one with a damaged screen bypass cap and fabricate your own base.I think it will be very tricky to get a bandspread(term???) of 160-6m.There was a design in the arrl handbook for a 4cx1000 on 6m I seem to remember that the output coils inductance was varied by compression and expansion.I think its a very good idea and saves on a high voltage variable cap.The nice thing about the 4cx1000 is the low drive requirements.I can get well over 1.8kw with 25 watts of drive into a dummy load of course on 2m.I dread to think what gain you could achive on 6m.This gain makes for low tolerance of feedback paths so careful construction is necessary. If it were me I would use the 4cx1000a on 6m and get a big triode for the hf amp.
73 de Conrad G0RUZ
email conrad@g0ruz.demon.co.ukPacket
Radio G0RUZ @ GB7WRG.#19.GBR.EU

3287. Re: August qst cmos keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-30 00:00:00 UTC
From: Garry Foster <gmfoster@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950730115922.21311L-100000@grape.epix.net>
Source record: 111596

On Sat, 29 Jul 1995, Bob Liesenfeld wrote:

;> Nope, can't say that I agree. I think a hobby publication is an
;> appropriate place to bring forth new technology, even if it is
;> "software". Also to claim proprioitary use of said software I feel is
;> justified. No one is forcing any of us to buy into this keyer, or the
Well Qst is much more than a magizine. It is the publication of the
national ARRL organization. The magizine is the journal which comes with
membership. As such it should have different/higher standards than other
for profit publications. As a mater of fact I can't just not publish the
maggizine. And the fact of the mater is that in these types of
situatations I would more than likely get the pre-programed part if I was
to build the article. However as any future repair is out of the question
as the part will not be available in the future I wouldn't consider
building this project. There are enough things to buy that you can't
obtain ther repair parts that I'm not about to knowingly build any more.

> magazine for that matter.
> Not liking the article, or the fact that they don't want you rolling
> your own, is one thing, but this is the way software/hardware makers
> make a living, just like you or I.
Again thats all well and good but it shouldn't be in the journal of the
of the national association. Be great in 73 but the purpose of QST is not
to promote one individuals profits. It is much like the articles that
have been in some of the hobby magizines that show a part as box and when
you get the project they have sanded the designator off the chip. This
would have never been accepted in QST.

> To suggest otherwise I feel is a dis-incentive to free enterprize.
> Bob WB0POQ
>
> Technology is *OUT* of control......
>
>
>
>
Garry WB0NNO
73

3288. Needed:Schematic For FT901DM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-30 00:00:00 UTC
From: generad@epix.net
Message-ID: <3vgec0$2ib@grape.epix.net>
Source record: 111597

Path: grape.epix.net!usenet
From: generad@epix.net
Newsgroups: rec.radio.amateur.equipment
Subject: Needed: Scematic for FT901DM
Date: 30 Jul 1995 17:05:21 GMT
Organization: epix.net

I need a scematic for a Yaesu FT 901 DM HF Transceiver
(Power Supply section).
Can anyone help? It will be appreciated greatly. (Post or E-Mail)
Gene R. (K2LYU)

3289. Undeliverable Mail

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-30 00:00:00 UTC
From: CITGATE@ccn.ge.COM
Message-ID: <n1405008229.70114@ccn.ge.com>
Source record: 111598

Unknown Microsoft mail form. Approximate representation follows.

Message: Ham-Homebrew Digest V95 #227
Sent: Sat, Jul 29, 1995 8:21 AM
To: CheesmanDave
On Server: Mail 12 Corp. Woods
Date: Sun, Jul 30, 1995 2:23 PM
Reason: Could not be delivered because the destination Microsoft Mail server could not be found.

3290. Re: August qst cmos keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-30 00:00:00 UTC
From: Garry Foster <gmfoster@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950730210435.5931B-100000@mango.epix.net>
Source record: 111599

On 31 Jul 1995, David Negaard wrote:

> Garry> the purpose of QST is not to promote one individuals
> Garry> profits.
>
> Is this as opposed to the profits of a corporation? I notice that
> there are an awful lot of articles that show the technical details of
> commercial equipment for which there is one ultimate source, namely
> Kenwood or Icom.
I have never seen any article in QST posing as a construction project written by ICOM or Kenwood or even Heath in thier day. Product reviews yes. Product reviews written by the company posing as a construction article , no. If you have any examplles please referance them. I have a pretty good source of QSTs.

And it was in this case an individual. A large company would have been just as bad.

I mean QST wouldn't even publish articles using a PCB unless you made the artwork available. At least that was my understanding. If it wasn't policy it has been custom for many years. You might have to send to the ARRL for it but the artwork was available.

I guess my point is is this a product or a construction article? In my own mind I can't accept it being both and believe the differance is key. If its a product then let you obtain it from the manfacture and then write of your experances. If its a construction article then let you build ,expand, modify or whatever and let the author write it up.

73 Garry
Wb0nno

3291. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-30 00:00:00 UTC
From: dbeach@kean.ucs.mun.ca
Message-ID: <1995Jul30.085630.1@noah>
Source record: 111600

In article <DCE3sE.M50@nntpa.cb.att.com>, jkbe@zeus (John_Bednar) writes:
>
> Just in case others are interested....
>
> The EPROM image for the CMOS Keyer in August QST is not available
> from ARRL or the author. Also, according to the author, the security
> bit is set in the microcontroller which would prevent anyone from
> duplicating the chip.
>
> Does this bother other builders? I'm sure the ARRL frequents this
> newsgroup and would be interested in how you feel.
>
>
> John

It does "sort of" bug me! I agree that no one should be able to take
the firmware code and sell a bunch of programmed MPUs BUT in the usual
spirit of amateur radio, I think that making the code available for
"personal use" is appropriate. Another responder suggested that the
article be labelled as a product review rather than a construction
article - also a reasonable suggestion, since without the code,
the project is useless.

Many other magazines has articles on MPU-based projects and make the
code availle via BBSs, etc, and I bet that the authors still sell
a lot of pre-programmed units. My vote goes for making the code
available for "personal" (not commercial) use or else don't give
the article the honour of being a "do-it-yourself" piece.

David Beach VO2BD

3292. Re: Dipper

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <3vjp9f$23h@news.duke.edu>
Source record: 111472

kell@mpac.jsc.nasa.gov (Ted Kell) wrote:

>Saturday, at a local Hamfest/fleamarket I purchased a dipper. This thing

>I know about the use of a dipper to check the resonant frequency of L-C
>circuits. I also know about using one as frequency source. What other
>neat uses of a dipmeter are there? Also, this unit has a place for audio
>out. It came with an earplug, It may be dead, but the jack is still
>live. What is the audio out for?

The dipper will work as a simple receiver. If you had some noise (AM)
in a transmitter somewhere, you could listen to it to find out where
it was coming from. You'd probably set the meter adjust knob to
minimun in order to use it that way. Checking the various stages by
pulling the tubes out one by one. You remember what a tube is, don't
you? 8-)

You can check crystals for activity with a dipper. You can prune an
antenna to get it close to resonance with the help of a dipper. You
can check to see if an RF choke is doing what it should do at the
frequency that you're going to use it at. A buddy of mine used his
dipper to check the resonance of a big washtub once. It worked like a
big cavity resonator.

Jim

3293. Re: id old part please

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.807231617.15178.jwicklun@mycroftxxx.halcyon.com>
Source record: 111473

In article <3v2o7m$nkq@newstand.syr.edu>, <dwjurkat@rodan.syr.edu> writes:
>
> I have some old memory chips (early '80s) and need the pinout for them.
> DRAM part no. 4264-20. I believe they are 64K x 1, 200 ns, tri-state.
> My data book lists the 4164 (64k x 1) and the 4256 (256k x 1).
> Is the pinout the same as either of these and which timing diagrams should
> I use. I only need to read and write, but not nibble and page modes.
> Thanks, dj.
>
> ps - the chips came from an old PC.
>
>
If memory serves, the 4264 has the same pinout as the older 4164. The 4264
does have some internal differences, but the basics are the same for simple
read and write cycles.

I think that I have some of those around somewhere too.....Jay

3294. re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <1a6_9508061528@mba.mba.org>
Source record: 111474

ian.mitchell@research.utas.edu.au (Ian Mitchell) is wondering
why the low cost shortwave receivers have tuneable BFO's while
the more expensive ones have a LSB/USB switch.

I would think cost has a lot to do with it. If you assume that
the switch selected BFO's are crystal controlled, then the cost
of the crystals is not warranted for inexpensive sets. IN the
early days, I'm sure all BFO's were tuneable, and then only later
did crystal control arrive. Thinking about it now, crystal controlled
BFO's probably didn't show up in amateur receivers till receivers
intended for SSB hit the market, and they were of course the
expensive receivers. The low end receivers have basically stayed
the same.

One reason for going to crystal control of a BFO was the ease of
switching between the two sidebands. When the receivers started
getting sharp filters intended for SSB, you wanted the BFO right on
the slope to take advantage of the sharpness of the filter. If
the BFO's had stayed tuneable, you'd always have to keep fiddling
a bit each time you changed sidebands, to get that exact spot.

And yes, your thought about the selectivity of the receiver probably
does play a part. The cheaper receivers would tend to have filters
with not so sharp curves, and there is not the need to get the BFO
right at a certain point.

When you start using a receiver with the relatively wide bandwidth
intended for AM broadcast, you you could put the BFO right in the
middle of the passband and you wouldn't even have single signal
selectivity. It would be like a direct conversion receiver in that
you'd get the audio image, but with better dynamic range due to
there being selectivity, albeit wide, between the antenna and the
product detector. A tuneable BFO in this case would have the effect
of a fine tuning control, just as tuning the "BFO" in a direct
conversion receiver tunes it across the band.

I have thought of the possibility of building a "hybrid" receiver,
where the first mixer would be fed with a synthesizer with something
like 5KHz steps (it's easier to build a quiet synthesizer as the
tuning steps get bigger), then put it through an FM-type crystal
filter at 10.7MHz, and either put a direct conversion receiver
after that or a second mixer with a 5KHz tuning range to take it
down to lower frequency final IF where there is a narrow filter
and product detector. It would be a way of getting a relatively
simple general coverage receiver, but with the advantages of
synthesizer tuning.

I remember seeing one receiver in QST from about 1958 or so (the year before I was born, so I read it a number of years later) which was a single conversion six meter receiver. It used in the IF a then relatively new item, a manufactured crystal filter in the HF range, and having something like a 4KHz bandwidth. It used a crystal controlled BFO, which makes sense since it's easier keeping a crystal on frequency than an LC-tuned oscillator. But the BFO was right in the middle of the IF. The idea being that the filter was wide enough for things like CW and even SSB that you could tune the receiver until you got the right beat note and everything would be fine.

I hope that helps, and I'm glad you found the 10.245MHz crystals. I'm not sure how the Australian dollar converts to Canadian these days, but the price you mention sounds not too expensive, which is the right price.

Michael VE2BVW
--
| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

3295. New Ham TV Web page!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: forsberg@cts.com
Message-ID: <DCKIoF.GF7@crash.cts.com>
Source record: 111601
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

To all,

There is a new WWW page that contains information regarding Amateur
TeleVision (ATV). It is for the ATN (Amateur Television Network) club
in southern California courtesy of KB6MMF. If you have always wanted
to know what goes on in ATV then come and check out what is happening.
Also drop us a line to the email addresses list on the page about what
is happening with your ATV club. If there are any other ATV home pages
let us know so that we can add a link. Come and find out about the
least known and most excitting part of Ham radio. The address is:

http://www.realm.net/~jpawluk/KB6MMF.html

73's and See Ya on the air. Bruce WB6IZG

3296. Re: need opinions&pointers: tech: PR in urban areas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DCKn4H.J81@hpqmoea.sqf.hp.com>
Source record: 111602
Cross-posted to:
rec.radio.amateur.homebrew,alt.radio.digital,fido.ham-radio,rec.radio.amateur.digital.misc,uk.radio.amateur,de.comm.ham

Tim Bray (Tim@mikebray.demon.co.uk) wrote:

: Please tell me if I am wrong, but isn't this a uk.* group ????????

Oui, c'est vrai!

A little proof that we aren't all monolingual and disinterested in
anything (DXpeditions and cards excluded) beyond our shores, seems like
a good thing to me.

: Thor VSU, Huddersfield, UK - Thor@mikebray.demon.co.uk

Thor? sounds recent. I'm from Almondbury, originally, moved N of
the Border 20 years ago, used to be involved with the Crofters VSU.

Cheers
David GM4ZNX

3297. Current balun

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: mkelly@brisbane.DIALix.oz.au
Message-ID: <3vg7dpmgl1@brisbane.DIALix.oz.au>
Source record: 111603

I have read about current baluns made from a length of coax fitted
with many small toroids as a *balun* and have wondered why, if they
are so effective, somebody doesn;'t make a cable with the ferrite
built right in to the outer jacket.

A small amount of ferrite powder (available) of high Q would stop
flow of RF currents in a mis-match situation right from the start.

The effectiveness of toroids is proportional to the radius / against
the diam of the conductor. ie the closer the better. Hard to get closer
than the outside shield. Then you could summarise the total effect
as being like a great long stack of toroids between the benerator
and the load. (sorry about the typing!!)

In this situation a little hi Q would go a long way. To suppress
RF that is. Putting the ferrite right on the outer shield would stop
skin currents dead. The Coax would work as theory predicts, and
radiation reduced considerably. (?)

Does anyone know of such a product? I know that ferrite powder
is cheap and can't figure why, with all the interest in
current baluns, it isn't available. We all know we rarely have
a perfect match generator/load and any help would be appreciated!

Esecially with the neighbours I have.

Thoughts please?

Murray Kelly vk4aok

3298. Re: August qst cmos keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: negaard@draagen.graceland.edu
Message-ID: <NEGAARD.95Jul30194212@draagen.graceland.edu>
Source record: 111604

>>>>> "Garry" == Garry Foster <gmfoster@grape.epix.net> writes:

Garry> On Sat, 29 Jul 1995, Bob Liesenfeld wrote:

Bob> Nope, can't say that I agree. I think a hobby publication is an
Bob> appropriate place to bring forth new technology, even if it is
Bob> "software". Also to claim proprioitary use of said software I
Bob> feel is justified. No one is forcing any of us to buy into this
Bob> keyer, or the [...]

Garry> Well Qst is much more than a magizine. It is the publication of
Garry> the national ARRL organization. The magizine is the journal
Garry> which comes with membership. As such it should have
Garry> different/higher standards than other for profit
Garry> publications.

I've read magazines that do have different or higher standards. They
don't accept free evaluation hardware, they don't accept advertising,
and they struggle, but I have little doubt of their integrity. While
I approve of the ARRL and enjoy QST immensely, I am less sure of their
freedom from bias. Bias is not a great evil, IMO, but it is something
I always want to know about.

Garry> As a mater of fact I can't just not publish the maggizine. And
Garry> the fact of the mater is that in these types of situatations I
Garry> would more than likely get the pre-programed part if I was to
Garry> build the article. However as any future repair is out of the
Garry> question as the part will not be available in the future I
Garry> wouldn't consider building this project. There are enough
Garry> things to buy that you can't obtain ther repair parts that I'm
Garry> not about to knowingly build any more.

I'd say the decision to build the project or not is always up to you.
I'm fairly frustrated that the code isn't available, myself, but I
consider that to be the producer's prerogative, and I don't grudge him
that. And I'm glad that QST chose to publish it, because it gave me
some ideas.

Bob> [...] magazine for that matter. Not liking the article, or the
Bob> fact that they don't want you rolling your own, is one thing, but
Bob> this is the way software/hardware makers make a living, just like
Bob> you or I.

Garry> Again thats all well and good but it shouldn't be in the
Garry> journal of the of the national association. Be great in 73 but
Garry> the purpose of QST is not to promote one individuals
Garry> profits.

Is this as opposed to the profits of a corporation? I notice that there are an awful lot of articles that show the technical details of commercial equipment for which there is one ultimate source, namely Kenwood or Icom.

It is much like the articles that have been in some of
Garry> the hobby magizines that show a part as box and when you get
Garry> the project they have sanded the designator off the chip. This
Garry> would have never been accepted in QST.

Bob> [...]
--
o David Negaard o negaard@graceland.edu
o Help Desk Technician o http://www.graceland.edu/~negaard
o 700 College Avenue o linux-phile
o Lamoni, IA 50140 o 73 de KB0PXK

3299. Re: August qst cmos keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <3vhgh5$52f@parsifal.nando.net>
Source record: 111605

Garry Foster <gmfoster@grape.epix.net> wrote:
> I have never seen any article in QST posing as a construction project
> written by ICOM or Kenwood or even Heath in thier day. Product reviews
> yes. Product reviews written by the company posing as a construction
> article , no. If you have any examplles please referance them. I have a
> pretty good source of QSTs.
>
I posted on this thing before, but I want to state that my feelings are
about the same as Gerry's. I also feel strongly that an author has
the right and privilege to prevent copying his product, but this was
NOT a construction article. Even the cover of the magazine had a
misleading statement - "three simple projects to build this weekend"
Well, by the time I order this semi-kit, the weekend would be over
and gone! If this continues, I may have to re-think my membership
in ARRL. Anyone know how to retract my life membership?

73 de W3FPR
Don

3300. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: Jimi Petulla <musicbiz@earthlink.net>
Message-ID: <3vhiob$phk@mars.earthlink.net>
Source record: 111606

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EMAIL Address: musicbiz@earthlink.net

3301. Re: Winding coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <3vhpkl$f27@pipe2.nyc.pipeline.com>
Source record: 111607

About coils in general... I have built a few dipoles involving coils.
When they are placed at a hight current/low-voltage point they can become lossy/lousy. [near the center of a dipole/ at the base of a mobile whip(common)]
When they are placed at a low current/high voltage point (at the end of a dipole/at the tip of a whip) they tend to act more like a capacitance. Also in this case you will find that mathematically the amount of inductance needed may approach a very large number.
I like to place my dipole shortening coils right at the middle of each of the dipole legs as a very "happy" compromise between these extremes.
Anthony G. Catalano WW2W

3302. Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <3vhpu2$ffg@pipe2.nyc.pipeline.com>
Source record: 111608

I wonder If we can post scanned drawings, scematics etc. in this newsgroup?

I would post them as an attached *.uue file that would have to
be uue-decoded back into a pcx or a gif file.
Anthony G. Catalano WW2W

3303. Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: ian.mitchell@research.utas.edu.au
Message-ID: <3vhlvb$7u0@franklin.cc.utas.edu.au>
Source record: 111609

Has anyone noticed that the low cost SW receivers use a variable
BFO for SSB reception, whilst the more expensive ones have a USB
LSB switch?

Is this because of the bigger frequency tuning steps in the lower
cost receivers? Or does it have something to do with the bandwidth
of the IF filter for SSB?

Also, I would like to thank all those who have responded to my
questions so far, thank you! BTW, I have found a good source of
10.245MHz crystals in Australia. You can get them from Hy-Q International
Australia Ph (03) 9562 8222 for $1.80 each + tax.

Ian

3304. Looking for source of toroid cores & ferrite beads

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: herbr@netcom.com
Message-ID: <herbrDCKGro.K6B@netcom.com>
Source record: 111610

I am on amajor crusade to eliminate rfi coming from my computers that is getting into the HF rigs. I am looking for a good source of toroid beads, snap on chokes, and ferrite cores for fighting this stuff.

I have some information on Palomar Engineering, and Radio Shack, but there products seem to be over priced (I think).

Does anyone out there know of any good sources for these types of products with really good pricing?

Any help would be appreaciated.

Thanks.

--
herbr@netcom.com

3305. Re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: Garry Foster <gmfoster@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950731081441.15723B-100000@mango.epix.net>
Source record: 111611

On 31 Jul 1995, Ian Mitchell wrote:

;> Has anyone noticed that the low cost SW receivers use a variable
;> BFO for SSB reception, whilst the more expensive ones have a USB
;> LSB switch?
;>
;> Is this because of the bigger frequency tuning steps in the lower
;> cost receivers? Or does it have something to do with the bandwidth
;> of the IF filter for SSB?
;>
;> Also, I would like to thank all those who have responded to my
;> questions so far, thank you! BTW, I have found a good source of
;> 10.245MHz crystals in Australia. You can get them from Hy-Q International
;> Australia Ph (03) 9562 8222 for $1.80 each + tax.
;>
;> Ian
;>
;>
;>

Well in a nutshell because the bfo is much cheaper to produce.\,
therefore its used on the lower cost rtecievers.

Actually I should say tunable bfo. Most of the lsb/usb switches are just
selecting two bfo frequencys. However to be switch selected they must be
quite stable and match the if. Also as you suggust with wider tunning
steps a variable bfo can fill in the steps to give the effect
of continous tunning for sideband.

Garry(WB0NNO)

3306. Re: August qst cmos keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: negaard@draagen.graceland.edu
Message-ID: <NEGAARD.95Jul31083847@draagen.graceland.edu>
Source record: 111612

>>>>> "Garry" == Garry Foster <gmfoster@grape.epix.net> writes:

Garry> On 31 Jul 1995, David Negaard wrote:

>> the purpose of QST is not to promote one individuals profits.
>> Is this as opposed to the profits of a corporation? I notice that
>> there are an awful lot of articles that show the technical details
>> of commercial equipment for which there is one ultimate source,
>> namely Kenwood or Icom.

Garry> I have never seen any article in QST posing as a construction
Garry> project written by ICOM or Kenwood or even Heath in thier
Garry> day.

Okay, bad example (;->=). Oops...

Garry> Product reviews yes. Product reviews written by the company
Garry> posing as a construction article , no. If you have any
Garry> examplles please referance them. I have a pretty good source of
Garry> QSTs.

Me, too. The library my office is in has about the last million
years' worth of QSTs on the shelves (I'm exaggerating, natch!).

Garry> And it was in this case an individual. A large company would
Garry> have been just as bad.

If it's bad, I agree. I think the same standards _ought_ to be
applied to everyone. I don't think it necessarily is, however. Just
my opinion, of course; your mileage may vary.

Garry> I mean QST wouldn't even publish articles using a PCB unless
Garry> you made the artwork available. At least that was my
Garry> understanding. If it wasn't policy it has been custom for many
Garry> years. You might have to send to the ARRL for it but the
Garry> artwork was available.

Working from memory I may be mistaken, but a couple of months ago I
did some extensive reading of back issues of QST looking for
construction projects (I started with the then most current issue and
worked backward about thirty years), and I seem to remember several
articles which had pre-programmed EPROMs that were only available from
one source. While I don't recall if any (or all) were written by the
programmer, I distinctly remember thinking on at least a couple of
occasions "Well, it's been x years, and I'll bet the address isn't
even any good any more, and I doubt seriously if the author still has
EPROM code...or EPROMs, for that matter."

I'm not trying to get into a contest with you; but I have a different opinion on this issue. To me the project is a construction project, though it would take a braver soul than me to try to duplicate it completely, since I'm a pretty awful programmer. OTOH, I might attempt it just for the challenge of it, since the author gives a pretty complete description of the functions implemented.

I'm in the same boat with another project that I'm much more committed to. I want to build an OptoSCC card for packet under Linux, and I have the schematics and text articles, and even parts-placement diagrams. What I _don't_ have is artwork, or a source for the programmable logic array it uses, or the programming information for the PLA. I spent a lot of time and effort trying to get the designer's e-mail address, and finally succeeded, but haven't received a response from him on my request for information/help.

In this case I'd consider buying the board and PLA from the guy (I think the board is two-sided), but I can't get a response back.

On a side note, I wonder how the author of the software for the keyer would be respond to the proposal to release code for a simpler-minded version of the keyer for free, so that people could get a functional keyer without buying from him, and if they liked it they could buy an upgrade. That might tempt me both to build it, to tinker it (if such were my inclination), to replace the EPROM with his if I liked it and wanted more functionality, etc.

Garry> I guess my point is is this a product or a construction
Garry> article? In my own mind I can't accept it being both and
Garry> believe the differance is key. If its a product then let you
Garry> obtain it from the manfacture and then write of your
Garry> experances. If its a construction article then let you build
Garry> ,expand, modify or whatever and let the author write it up.

Garry> 73 Garry Wb0nno
--
o David Negaard o negaard@graceland.edu
o Help Desk Technician o http://www.graceland.edu/~negaard
o 700 College Avenue o linux-phile
o Lamoni, IA 50140 o 73 de KB0PXK

3307. Re: Dipper

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <807232235snz@lfheller.demon.co.uk>
Source record: 111613

In article <kell-3107951045490001@toad.jsc.nasa.gov>
kell@mpac.jsc.nasa.gov "Ted Kell" writes:

> Saturday, at a local Hamfest/fleamarket I purchased a dipper. This thing
> is old, the markings on the box mention a frequency range of 400 Kcps to
> 280Mcps. It appears to have had a number of owners, one in Beaumont, TX
> and a another with a VK call that are obvious. It still works tho, and
> still has all of its coils. I have a couple of questions about its use.
> I know about the use of a dipper to check the resonant frequency of L-C
> circuits. I also know about using one as frequency source. What other
> neat uses of a dipmeter are there? Also, this unit has a place for audio
> out. It came with an earplug, It may be dead, but the jack is still
> live. What is the audio out for?

With the dipper power off, they can often be used as a wavemeter. The audio
out might be from an RF detector, so you can hear the modulation when using
it as a wavemeter.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3308. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: aa005@torfree.net
Message-ID: <DCKyGt.DuB.0.bloor@torfree.net>
Source record: 111614

DB Wilhelm (w3fpr@nando.net) wrote:
: jkbe@zeus (John_Bednar) wrote:
: >
: >
: > Just in case others are interested....
: >
: > The EPROM image for the CMOS Keyer in August QST is not available
: > from ARRL or the author. Also, according to the author, the security
: > bit is set in the microcontroller which would prevent anyone from
: > duplicating the chip.
: >
: > Does this bother other builders? I'm sure the ARRL frequents this
: > newsgroup and would be interested in how you feel.
: >
: What bothers me is not the fact that THIS keyer has propriotary
: microcode, but that QST presented a "Construction" article that
: the builder has no choice but to order the part(s) from a single
: source.

I can tolerate the single source bit, but not where the author of the
item has a financial interest in the source. For example I could live
with an item by an Intel engineer about a weird but very usefull chip
only available from Motorola. What I cann't stand is a person who whites
an item about a chip that you can only get from the author.

: I would like to see a functional equivalent keyer published that
: provided similar functions and made the source code as well as the
: compiled version available so we hardware (and firmware) hacks
: would have a guide to start with when we don't have the time or ambition
: to do the whole thing from scratch.

Agreed.

: In the spirit of ham radio, lots of us have shared our code with
: others - remember freeware. I think we would further the state of
: the art with ham radio a lot more by encouraging experimentation
: like playing with the code for a keyer than the published alternative
: of just buying the thing and soldering the parts and creating a box
: to put it in.

Putting stuff out under a copyleft (ie: the Free Software Foundation's
copywright) would be good.

Colin McGregor - VE3ZAA

3309. Dipper

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: kell@mpac.jsc.nasa.gov
Message-ID: <kell-3107951045490001@toad.jsc.nasa.gov>
Source record: 111615

Saturday, at a local Hamfest/fleamarket I purchased a dipper. This thing is old, the markings on the box mention a frequency range of 400 Kcps to 280Mcps. It appears to have had a number of owners, one in Beaumont, TX and a another with a VK call that are obvious. It still works tho, and still has all of its coils. I have a couple of questions about its use. I know about the use of a dipper to check the resonant frequency of L-C circuits. I also know about using one as frequency source. What other neat uses of a dipmeter are there? Also, this unit has a place for audio out. It came with an earplug, It may be dead, but the jack is still live. What is the audio out for?

Ted
KC5CUW

3310. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: gay@sfu.ca
Message-ID: <3vj13l$fkn@seymour.sfu.ca>
Source record: 111616

In article <3vhpu2$ffg@pipe2.nyc.pipeline.com>,
acatalan@nyc.pipeline.com (Anthony G. Catalano) wrote:
>I wonder If we can post scanned drawings, scematics etc. in this
newsgroup?
>
>I would post them as an attached *.uue file that would have to
>be uue-decoded back into a pcx or a gif file.
>Anthony G. Catalano WW2W

If it's something you drew yourself, rather than scanned, why not post
in HPGL. Most drawing programs have HPGL output, and it's all ascii, so
no need to encode.

3311. Re: Power MOSFET's needed -- MTP15N05EL --

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: fas@exu.ericsson.se
Message-ID: <3vj93a$2la@cnn.exu.ericsson.se>
Source record: 111617

[No readable article body recovered]

3312. Re: 2.5 mm stereo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: Oz@SwRI.EDU
Message-ID: <3vjjlg$606@sun2.ccf.swri.edu>
Source record: 111618

> Does anyone have a source for 2.5 MM stereo jack?
>
> --Jim

The last batch I bought came from MCM Electronics in Ohio (Dayton?).
MCM is a division of the same company that owns Newark (Premier
Electronics).

Oz@SwRI.edu (Rich Osman) SwRI didn't say it, I did.
(210) 522-5050 (w) (210) 699-1302 (h;v/msg/fax)

3313. Re: August qst cmos keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <807202985.AA03054@hamlink.mn.org>
Source record: 111619

I guess we will have to agree to disagree on the funtion and standing of
the magazine and it's contents.
Just for the record, I did order the keyer, and I think it's really
nifty. Hope none of the bits leak out...
72
Bob WB0POQ

Technology is out of control.......

3314. Subscription

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: maher@ssd.fsi.COM
Message-ID: <Q01D15C2@d57004>
Source record: 111620

```
Request a subscription to Ham-Homebrew.
TNX
Hugh Maher N5AVT
```

3315. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-07-31 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.807231076.13412.jwicklun@mycroftxxx.halcyon.com>
Source record: 111621

In article <DCE3sE.M50@nntpa.cb.att.com>, <jkbe@zeus> writes:
> Newsgroups: rec.radio.amateur.homebrew
> Path: news.halcyon.com!nwfocus1.wa.com!uunet!in1.uu.net!tank.news.pipex.net!pipex!swrinde!sgigate.sgi.com!enews.sgi.com!lll-winken.llnl.gov!fnnews.fnal.gov!gw1.att.com!nntpa!zeus!jkbe
> From: jkbe@zeus (John_Bednar)
> Subject: August QST CMOS Keyer 3
> Message-ID: <DCE3sE.M50@nntpa.cb.att.com>
> Sender: news@nntpa.cb.att.com (Netnews Administration)
> Nntp-Posting-Host: zeus.cnet.att.com
> Organization: AT&T
> X-Newsreader: TIN [version 1.2 PL2]
> Date: Thu, 27 Jul 1995 19:36:12 GMT
> Lines: 13
>
>
> Just in case others are interested....
>
> The EPROM image for the CMOS Keyer in August QST is not available
> from ARRL or the author. Also, according to the author, the security
> bit is set in the microcontroller which would prevent anyone from
> duplicating the chip.
>
> Does this bother other builders? I'm sure the ARRL frequents this
> newsgroup and would be interested in how you feel.
>
>
> John
>
It certainly bothers me. I think of QST in somewhat the same light that
I would look at the IEEE proceedings; as a publication to share and
distribute state of the art information to the benefit of all. As such,
if QST publishes a construction article, then all of the pertinent inform-
ation needs to be included. If it is simply a review article of something
that can be purchased, then publish it as such, and let the construction
details be included with the purchased materials.

A similar situation occurred a few months ago when QST published a microwave
receiver article that included everything but the PCB pattern. The only way
to build the rcvr was to buy the board, because it included several microstrip
components that were not shown on the schematic.

I hope that this trend does not get any worse.....73 de KI7RH

3316. Tek 453 manual wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <3vm5ao$4e0@mrnews.mro.dec.com>
Source record: 111475
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Wanted: service manual for Tektronix 453 oscilloscope (older model portable,
dual-trace, 50 MHz, part solid-state, part "Nuvistor").
Will pay any reasonable copying and mailing costs.

-Tom Randolph N1OOQ randolph@est.enet.dec.com
or, if you're in New England: (508) 756 4520 and leave a message...

3317. Re: Dipper

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: benjy@benjy.cc.vt.edu
Message-ID: <3vl78q$m4i@solaris.cc.vt.edu>
Source record: 111476

Speaking of dippers, I recently purchased a B&W Little Dipper
at a hamfest. Can anyone tell me what the "Diode" switch
position is for?

73 de Benjy
--
Benjy Cline, AC4XO, Ph.D.
Virginia Tech Computing Center
benjy@benjy.cc.vt.edu
http://benjy.cc.vt.edu:1951/~benjy/

3318. Re: JAN811A, need more info on these tubes....?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <3vkg2c$cn9@nuclear.microserve.net>
Source record: 111477

caf@omen.com (Chuck Forsberg WA7KGX) wrote:
>In article <3up930$fp0@nuclear.microserve.net>,
>WB3U <jackl@pinetree.microserve.com> wrote:
>>various versions and ask their opinion. Personally, now that U.S. tubes
>>are available again, I wouldn't consider anything else. The savings to
>
>Sounds great. Who? What types? Do they make a 6E5 too?

The 811A's I was referring to are advertised in QST by ARS Electronics,
PH: (818) 997-6279. RF Parts may also have a U.S. version, but I haven't
called them to ask.

My post was specific to 811A's and I have no information for sources of
new, U.S. 6E5's or similar tubes.

73,

Jack WB3U

3319. Re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <3vka4f$c8b@usenet1.interramp.com>
Source record: 111478

Garry Foster <gmfoster@grape.epix.net> wrote:
>
>
>On 31 Jul 1995, Ian Mitchell wrote:
>
>;> Has anyone noticed that the low cost SW receivers use a variable
>;> BFO for SSB reception, whilst the more expensive ones have a USB
>;> LSB switch?
>;>
snip ...

>Well in a nutshell because the bfo is much cheaper to produce.\,
>therefore its used on the lower cost rtecievers.
>
>Actually I should say tunable bfo. Most of the lsb/usb switches are just
>selecting two bfo frequencys. However to be switch selected they must be
>quite stable and match the if. Also as you suggust with wider tunning
>steps a variable bfo can fill in the steps to give the effect
>of continous tunning for sideband.
>
> Garry(WB0NNO)
>

Yes ... and no. Most 'high end' transceivers now include a variable CW offset feature -- implemented in a complicated way to give the effect of a very simple feature -- variable BFO frequency.

Fixed frequency BFO's are not always the best answer, nor do they necessarily reflect "higher cost" as far as the receiver is concerned.

Another good place where they can be used to advantage is in tailoring the audio passband response in a filter-type SSB generator. Placement of the BFO frequency relative to the filter passband gives more or less highs/lows in the transmitted signal

A good, stable, variable BFO could easily be more expensive to produce than a plain-jane oscillator with a couple of switchable crystals for sideband selection. And is much more versatile.

Grant/NQ5T

3320. Re: M/C mic & headset

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1995Aug1.064839.2464@grian.cps.altadena.ca.us>
Source record: 111479

~name@wem.org (~name) writes:

>Path: holonet!colossus.holonet.net!news.sprintlink.net!dorite!news
>From: rogersmith@iquest.net (~name)
>Subject: M/C mic & headset
>Date: Sat, 29 Jul 1995 22:37:24 GMT

>I'm looking for ideas on how to construct an in-the-helmet mic/earphone
>setup for my fullface motorcycle helmet. I have a Alinco DJ-180 H.T. and
>have tried using Alinco's VOX lapel/earplug unit without success. Even
>on PTT the mic was too sensitive and the earpiece was too "squeeky", so
>all either side could hear was distortion.

>Any suggestions would be appreciated ! ..... Roger N9PMC

I used a Honda CB-400 Hawk for commuting for a year back around 1981.
The radio was a Midland 13-509 crystal-controlled 220mhz unit (packaged
like a 12-channel CB radio), and I used a slide mount on the handlebars.
I ran mobile only for about 6 weeks before I had a accident, and I
figured safe commuting and life & limb preservation was more important
than ham radio. Also my car was going back together rather well, and
I could see getting back on four wheels rather quickly.

Anyway, I used a spare mic element embedded into the pad of the chin
guard, and a contact speaker attached to the helment with hot-melt glue.
I specifically hunted up a duplicate cartrigde and duplicated the mic
wiring so that electrically itlooked identically like a hand mic.
The contact spealker takes a bit of explanation: there are speaker
drivers without cones that are designed to bolt to walls and turn
the walls into speakers. I used one of those on teh helmet itself.

I cut the wires to the starter button, and spliced in a dpdt toggle
switch, with the wipres going to the switch and the contacts of one side
going to the original starter wiring, and the contacts of the other side
going to the PTT leads. This gave me a easy to reach PTT.

Make sure that you use a pull-apart connector on the helmet headset -
the last thing you need if you have to abandon bike is to be tied to it
by your helmet. A molex like what is used for the power connector on a
3.5" floppy is just right. The ones like are on a 5.25" floppy are a
little too tight fitting for me.

Make sure you waterproof all teh equipment and wiring - even if you are
in a dry area. My rule of thumb is that if it is waterproof, then it's
probably dustproof.

I'd be interested in how things work out.

- -

3321. Re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: Garry Foster <gmfoster@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950801115252.8495D-100000@grape.epix.net>
Source record: 111480

On 1 Aug 1995, Grant H Youngman wrote:

;> Garry Foster <gmfoster@grape.epix.net> wrote:
;> >On 31 Jul 1995, Ian Mitchell wrote:
;> >
;> >;> Has anyone noticed that the low cost SW receivers use a variable
;> >;> BFO for SSB reception, whilst the more expensive ones have a USB
;> >;> LSB switch?
;> >;>
;> snip ...>
:> >Well in a nutshell because the bfo is much cheaper to produce.\,
;> >therefore its used on the lower cost rtecievers.
;> >
;> >Actually I should say tunable bfo. Most of the lsb/usb switches are just
;> >selecting two bfo frequencys. However to be switch selected they must be
;> >quite stable and match the if. Also as you suggust with wider tunning
;> >steps a variable bfo can fill in the steps to give the effect
;> >of continous tunning for sideband.
;> >
;> > Garry(WB0NNO)
;> >
;>
;> Yes ... and no. Most 'high end' transceivers now include a variable CW
;> offset feature -- implemented in a complicated way to give the effect of
;> a very simple feature -- variable BFO frequency.
;>
;> Fixed frequency BFO's are not always the best answer, nor do they
;> necessarily reflect "higher cost" as far as the receiver is concerned.
;>
;> Another good place where they can be used to advantage is in tailoring
;;> the audio passband response in a filter-type SSB generator. Placement
;> of the BFO frequency relative to the filter passband gives more or less
-;-> highs/lows in the transmitted signal;
;>;;
;> A good, stable, variable BFO could easily be more expensive to produce
;> than a plain-jane oscillator with a couple of switchable crystals for
;> sideband selection. And is much more versatile.
;>
;> Grant/NQ5T
This may all be true Grant but the question waas why do cheap recievers
have BFO and good recievers have selectable sidebands.
TYhe answer is that cheap recievers have cheap bfo because they are
cheaper and work better with limited recievers. They certianly don't have
bfo's because they are more complex and cost more.

And switchable frequency beat oscilators don't work at all unless you
have very fine tunning steps 100 Hz min and 10 Hz preferable

The best selectable sidebands change the filters not the beat frequency.

Garry
WB0NNO
Actually anymore gome of the real expensive recievers change the software
to select the sidebands with a DSP unit running at the last IF.

3322. Looking for source of toroid cores & fer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: MUENZLERK@uthscsa.edu
Message-ID: <01HTJYCHJP5I00CU92@uthscsa.edu>
Source record: 111481

herbr@netcom.com (Herb Rosenberg) writes:

<snip>
>Does anyone out there know of any good sources for these types of
>products with really good pricing?

Try Amidon Associates. They advertise in most of the ham publications.

I think their address is:
Amidon Associates
12033 Otsego St.
North Hollywood CA 91607

Kevin, WB5RUE
muenzlerk@uthscsa.edu

3323. Re: Dipper

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: Garry Foster <gmfoster@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950801120517.8495E-100000@grape.epix.net>
Source record: 111482

On 1 Aug 1995, Ben E. Cline wrote:;

;> Speaking of dippers, I recently purchased a B&W Little Dipper
;> at a hamfest. Can anyone tell me what the "Diode" switch
;> position is for?
;>
;> 73 de Benjy

For using it as a passive wave meter. Use it with power off to check for the pressance of RF.

Garry

Don Josnsons book "40 + years of HF Mobleing" has a reprint of one of the clasic Grid Dippers operatung manual. Probablly worth the price of the book which is about 15.00 from world radio. I've only glanced at that section but it looks like it really gets into the use of a grid dipper.

3324. CMOS Superkeyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: w4qo@america.NET
Message-ID: <Pine.SV4.3.91.950801141410.23713A@atl1.america.net>
Source record: 111483

While you guys argue the merits of the whole thing being in QST in something other than a product review (I'm not sure how I find out about it if it's not in there), several folks have ordered and constructed the project. Our club used the orginal SK2 as a club project and had barrels of fun making it. Out of about 30 I know were constructed, no one ever brought up that they felt slighted because they didn't have the code. The orginal was in 1990 ? QST and it is absolutely the best keyer I have ever found. Of course, I made many constructional variations in the packaging - 1 1/2 x 2 x 2 1/2 inch bud case polished off on a buffing wheel to shine line a mirror. A set of 3 AAA batteries last about a year in regular operating. We had about 30 variations on the packaging and everyone enjoyed showing them off at the club. BTW I plan to order the SK3 and install it in one of my QRP rigs. I suspect that the proceeds from the SK2 of which I think about 5000 were sold, probably had something to do with their producing the SK3. An occasional proprietary code project as good as this one certainly seems fine to me.

73/72/jim/w4qo

3325. Re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug1.142213.21795@ke4zv.atl.ga.us>
Source record: 111484

In article <3vhlvb$7u0@franklin.cc.utas.edu.au> ian.mitchell@research.utas.edu.au (Ian Mitchell) writes:
>Has anyone noticed that the low cost SW receivers use a variable
>BFO for SSB reception, whilst the more expensive ones have a USB
>LSB switch?
>
>Is this because of the bigger frequency tuning steps in the lower
>cost receivers? Or does it have something to do with the bandwidth
>of the IF filter for SSB?

While the coarse tuning steps of some of the cheap synthesized radios make a tunable BFO convienent, that doesn't apply to those using analog tuning (and RIT could be added as easily instead). The real reason they use a BFO is that it is a *cheap* way to convert an AM only radio to quasi-SSB reception. Since most cheap SW receivers are primarily intended for SW broadcast reception, which is AM, tacking a BFO in there adds a "feature" without costing the manufacturer much. (Of course with the broad filters used in an AM rig, you really don't get *single* sideband reception. The image frequency is still in the passband of the IF filter.)

A quality SSB receiver will have a narrow IF filter with a good shape factor so that only one sideband will be received at a time. Since the filter is matched to the signal, there is only one frequency on which the carrier re-injection oscillator can work for USB, and one other frequency for LSB, so switched crystal oscillators are generally used instead of a tunable BFO. The IF filter is generally the single most expensive component in a quality receiver, a couple of crystals are cheap by comparison, and their stability means you'll always be on the proper slope of the IF filter for the mode selected.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3326. Re: August qst cmos keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug1.142532.21874@ke4zv.atl.ga.us>
Source record: 111485

In article <807202985.AA03054@hamlink.mn.org> Bob.Liesenfeld@f100.n282.z1.fidonet.org (Bob Liesenfeld) writes:
>I guess we will have to agree to disagree on the funtion and standing of
>the magazine and it's contents.
> Just for the record, I did order the keyer, and I think it's really
>nifty. Hope none of the bits leak out...

Speaking of keyers, has anyone built the keyer on the cover of the June issue of 73? It's a alarm clock, keyer, and code reader all in one, and it's also based on a preprogrammed microcontroller you have to buy from the author.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3327. Re: Dipper

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug1.144048.22086@ke4zv.atl.ga.us>
Source record: 111486

In article <3vl78q$m4i@solaris.cc.vt.edu> benjy@benjy.cc.vt.edu (Ben E. Cline) writes:
>Speaking of dippers, I recently purchased a B&W Little Dipper
>at a hamfest. Can anyone tell me what the "Diode" switch
>position is for?

A dipper can also be used as a wavemeter to measure the frequency of
an operating source if the oscillator is stopped and the coupled RF
is rectified and fed to the meter instead. That's what the diode
position does. When used this way, you tune for a peak on the
meter instead of a dip.

You can also use your dipper as a crude frequency meter with the oscillator
running, if it has a headphone output. Just tune it near an operating signal
source while listening for a "beat" note on the headphone. Zero beat, and read
the frequency off the scale.

In either wavemeter or frequency meter mode, the dipper will act as a
crude receiver for AM modulation, so you can use it as a modulation
monitor too.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3328. Re: Do vacuum tubes have shelf life?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <3vm0gq$t9c@news.vcd.hp.com>
Source record: 111487

I have tested 450TL's built before WWII, and they are perfect. Also,
other glass xmitting tubes, such as 100TH/TL, 813, etc, which have been
lying around for decades and still unused. They were all perfect, and the
transconductance and characteristic curves were within specs. I have
also found new, unused (in original boxes) receiving tubes, such as as the
30, 41, etc. They likewise tested like new. I have
concluded that the shelf life of these kinds of tubes is INDEFINITE. Tubesdo
not normally become "gassy" except through the outgassing of the internal parts
due to elevated temperature. That is why xmitting tubes are pumped down while
their elements are red-hot (by passing large currents thru them). It is
fun to test these tubes, and plot their characteristics. I have contemplated
making my own tube out of parts from broken ones, and pumping it down
and resealing the glass envelope. "Final here uses a W6JL-1 triode, OM"....

73,
Don, W6JL

3329. Easy 2m reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: lumkes@cae.wisc.edu
Message-ID: <3vm1sh$pps@news.doit.wisc.edu>
Source record: 111488

Looking for an easy to build circuit plan for a 2m reciever. Just
something to get me started in homebrewing and such that I can monitor
the local repeater signals. References to mag articles, chips, anything...

Thanks alot,
John Lumkes
lumkes@cae.wisc.edu
KB9JIT

3330. Re: CMOS Superkeyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3vlump$get@abyss.West.Sun.COM>
Source record: 111489

In article <Pine.SV4.3.91.950801141410.23713A@atl1.america.net>,
Jim Stafford-W4QO <w4qo@america.NET> wrote:
>While you guys argue the merits of the whole thing being in QST in
>something other than a product review (I'm not sure how I find out about
>it if it's not in there), several folks have ordered and constructed the
>project. Our club used the orginal SK2 as a club project and had barrels
>of fun making it. Out of about 30 I know were constructed, no one ever
>brought up that they felt slighted because they didn't have the code. The
>orginal was in 1990 ? QST and it is absolutely the best keyer I have ever
>found. Of course, I made many constructional variations in the packaging
>- 1 1/2 x 2 x 2 1/2 inch bud case polished off on a buffing wheel to shine
>line a mirror. A set of 3 AAA batteries last about a year in regular
>operating. We had about 30 variations on the packaging and everyone
>enjoyed showing them off at the club. BTW I plan to order the SK3 and
>install it in one of my QRP rigs. I suspect that the proceeds from the
>SK2 of which I think about 5000 were sold, probably had something to do
>with their producing the SK3. An occasional proprietary code project as
>good as this one certainly seems fine to me.

Certainly, as I am fond of pointing out, you don't have to know
what is inside a black box to use it effectively. However, the
Super Keyer II and III both frustrated me in that the internals
are completely obscured. Most black boxes I use have data which,
at the minimum, describes the internal architecture. I generally
look at QST construction articles as a way to learn; I can learn
much without building something by looking at the diagrams and
reading the text. I learned nothing about building a CPU based
keyer from reading how to use the SKII/III.

I personally think one of the areas that amateurs are falling
behind the most is in embedded system design and development.
This is probably why the omission of any design notes at all
for the SKII/III irritates me the most; here's a project that
could spark interest and learning in many amateurs about a
very important technology, but it won't spark any learning
to speak of.

If I had more time, I'd love to develop some ham widget and
article for QST, which exposes how embedded processors are
used, and how a design can be implemented partly in hardware
and partly in software. I'd also love to see QST increase
the standards for construction articles to always require
a description of the internal operation of any "black box".

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

3331. Super CMOS III keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: adams@chuck.dallas.sgi.com
Message-ID: <3vm4md$lo4@murrow.corp.sgi.com>
Source record: 111490

Gang,

I bought the above, received it in short order, assembled
it in about an hour, and have it on the air. A fan of
the CMOS II and now the CMOS III.

I don't remember seeing too many people complain about
the Curtis 8044ABM chip being from a single source with
no internals given out, yet it's used in a lot of rigs.
Also used in keyer kits and used in other projects at
around $17-$19 US per chip.

I've seen the arguments on both sides about the article in QST,
but let's look at the big picture. If you had spent several
hundreds of hours refining the program and debugging and
getting opinions of others on timings, message storing,
board layout, and paying Motorola the big bucks to get
the chips made up, wouldn't you do the same thing? It
may look like a weekend project but it's not. Just look
at the documentation, it's pretty good. No assembly
instructions, but hey, we're radio amateurs here.

I'll pay you a $58 for the same thing with the source
code. Would you sell? You'll be out more than that
for the development, time, and parts.

I'll tell you what, the circuits already there, let's
have a race to see who can reproduce the code. Any
takers? BTW I'm not in the race, I'll stand back and
watch. Unless someone has a lot of time on their hands
I don't think this project will get done. Just let the
rest of know when you start and when you finish.

Going back to the ARRL and QST. Just how much of the
magazine is advertising? A lot and it will have to
remain that way for them to keep printing it monthly.
The race between ARRL, 73, CQ, and the others is for
advertising dollars. There is no getting around it.
Besides, where else are you going to find out what's
new and the prices (except for the "CALL for QUOTE"). :-)

I've done a keyer using the 8051/8031 series but I
went with EPROM and RAM, thus more board space and
more power consumed. I learned from the project and
I will let it go later and will post it on the qrp-l group.
This means schematics, PC board, and code listing. Such

a project will take up too much room to publish. Oh you say, just put the code at an ftp site, but what about the guys/gals not on the "superhighway"? It's just too much trouble for most authors and there are always those readers and subscribers that say they can do it better, faster, and cheaper. Fine. Just do it. (I think that's Nike's slogan).

The point: I see a lot of "consumers", but few will become "producers" and fewer will give it away.

Wayne Burdick, N6KR, designer of the NorCal 40a and the NorCal Sierra has a PIC based keyer due out in October that also serves as a freq counter to output via audio the last three digits of the frequency (thus another reason to learn the code). It is a commercial venture and a neat idea. Few will know about it and fewer will wind up with it as it doesn't "plug and play" in the Yaesu's, Kenwood's, etc. I'm sure you won't see the source code anywhere either. We know what happens to source code.

Another note: on parts and availability thereof. I see an ever dwindling supply of parts except from Mouser, DigiKey, and a few others. If you go back even 10 years in QST, 73, and others you'll have difficulty in finding some of the parts. Look for a cheap source of the larger electrolytics at high voltages! It's part of life in the technology driven era of mankind. We also keep losing yearly the small businesses that are operated on small margins from the garages of America and other countries. The "big" industries are just making it too cheap to be a consumer and as a result generate more and more so called "appliance operators", individuals who operate the equipment but only know a small part of how the system works. Not a complaint on my part, just an observation. Mail order is expensive anyway - just look at the cost of just a first class stamp now in the US. UPS and Fed-X aren't cheap either. Add in phone expenses, ... You get the point.

They can take the soldering iron from my cold dead hand. Build 'til you die and homebrewing is still alive and well. Same for kit building as long as they make 'em. I still have a Heathkit SB-104A in the box. It'll be the last one.

dit dit (soap box off - flame suit on)

--
Chuck Adams K5FO CP-60 adams@sgi.com

3332. Re: direct digital synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: bgart@iadfw.net
Message-ID: <3vm5kk$fdd@jupiter.WichitaKS.HMPD.COM>
Source record: 111491

dalex@eskimo.com (Dave Alexander) wrote:
It's not an electronic version but there is a good article in the
March 95 QST "A High-Performance Hybrid Frequency Synthesizer" Which
covers DDS.

Brad

>would some kind soul please point the way to some net sites
>that have info on direct digital systhesis.

>printed material would be of help also

>thanks dave kg7zq

3333. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: jeff.sumberg@sailboard.com
Message-ID: <8AE5336.012E0009C7.uuout@sailboard.com>
Source record: 111492

In article <3vhpu2$ffg@pipe2.nyc.pipeline.com>,
acatalan@nyc.pipeline.com (Anthony G. Catalano) wrote:

AG>I wonder If we can post scanned drawings, schematics etc. in this
AG>newsgroup?

and in <3vj13l$fkn@seymour.sfu.ca>, gay@sfu.ca (Ian Gay) responded:

IG>If it's something you drew yourself, rather than scanned, why not post
>in HPGL. Most drawing programs have HPGL output, and it's all ascii, so
>no need to encode.

This is something I've wondered myself. If we do some homebrew project,
can we share it with others in this newsgroup? So far I've only seen
people talk about homebrew, but never share any plans.

I've just designed and built a voice keyer for my shack using a digital
voice module available at Radio Shack for $19. With the addition of a
few additional parts you have a complete voice keyer that will key the
rig by itself, uses your station's mic for input, and records/plays up
to 10 seconds of clean audio. The project is similar to the April '95
QST article to build a "$15" voice keyer, but I think my design is a
bit nicer :)

I'd be happy to post the schematic here or to anyone that wants it, if
there is interest. I can make HPGL or Laserjet output files. I don't
think I can create a .PCX file though.

--
-===-
| 73 de N2VYU, Jeff, in Ringwood New Jersey (Fn21) |
| Email: jeff.sumberg@sailboard.com ** Packet: N2VYU @ WA2SNA.NJ.USA.NA |
| Advanced class - WAC on RTTY - Ramapo Mountain Amateur Radio Club |
-===-

* 1st 2.00 #32s * .

3334. Re: Looking for source of toroid cores & ferrite beads

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: mkelly@brisbane.DIALix.oz.au
Message-ID: <3vl4ogdau1@brisbane.DIALix.oz.au>
Source record: 111493

Champlain Cable / 802) 655-2121 ph and 802) 655-2025
make ferrite loaded PC cables to suppress radiation

Steward Ferrites of Chattanooga make a line of ferrite hoods

etc for 9- 15-35 pin D line plugs.
Ph 615) 867-4100 or fax 615)867-4102

Hope this is some help.
Murray Kelly vk4aok

3335. Re: Do vacuum tubes have shelf life?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: horowitz@nosc.mil
Message-ID: <1995Aug1.231541.14396@nosc.mil>
Source record: 111494

Didn't tubes have lots of "getter" in them as well? Wonder what it was made of?

3336. QEX Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: jonw@chch.planet.co.nz
Message-ID: <3vm17a$kn7@vesta.chch.planet.co.nz>
Source record: 111495

I am looking for the address and fax number of QEX magazine so I can subscribe. I am particularly interested in an article published in the June 1993 edition on measuring SINAD with DSP.

Any help would be appreciated.

Cheers Jonathan

3337. Re: CMOS Superkeyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-01 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <Pine.SUN.3.91.950801214549.18608A-100000@peach.epix.net>
Source record: 111496

Well I hope you feel that way when itr fais and he got tired of fooling with it. Besides the profits of the 5000 you refer too was made with the code bring available.

Ramsy(Ramsey) has made 1000 of kits but I sure hope they don't become QST's idea of a construction article.

Garry 73

3338. Undeliverable Mail

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: NonDelivery_MailManager-MDIL02N1@email.mot.COM
Message-ID: <"Macintosh.*.PRMD=MOT.ADMD=MOT.C=US."@MHS>
Source record: 111497

Message: Ham-Homebrew Digest V95 #231
Sent: Tue, Aug 1, 1995 8:45 AM
To: Wilson-EJW012 Jim
On Server: FL08_MS_Mail_11
Date: Tue, Aug 1, 1995 8:55 PM
Reason: Could not be delivered because the destination Microsoft Mail server could not be found.

3339. Vision by microwave

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: billb@eskimo.com
Message-ID: <DCnrqA.Gw7@eskimo.com>
Source record: 111498

I'm working on a microwave camera using mechanical scanning and an old cop-radar detector. This is strictly at the hobbyist level. I hope to be able to record slowscan stills of conductive objects scattered about in a transparant insulating environment. Should be interesting. Anyone here ever heard of such a thing? Microwave mavens have any advice? I'd like to eventually try something better than 10GHZ, if I can find a source for emitter and detector devices.

--
.....uuuu / oo \ uuuu.....,.....
William Beaty voice:206-781-3320 bbs:206-789-0775 cserv:71241,3623
EE/Programmer/Science exhibit designer http://www.eskimo.com/~billb/
Seattle, WA 98117 billb@eskimo.com SCIENCE HOBBYIST web page

3340. GTO Thyristors/source needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: FJEX69A@prodigy.com
Message-ID: <3vmq0c$18l0@usenetw1.news.prodigy.com>
Source record: 111499

I'm designing an off-line convertor to provide plate potential for several other devices and I need a source for gate turn-off SCRs. These need to be able to switch about 10 A avg and be able to tolerate at 750 V peak-reverse.

If you know of a dealer or distributor which can sell these in small quantities, please reply by your choice of means.

thank you for your attention.

73, Jeff AC4AQ/NNN0FBG

3341. Re: Easy 2m reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <3vmol2$osr@newshost.lanl.gov>
Source record: 111500

Ramsey Electronics has a 2M tunable FM receiver kit that
would be difficult to purchase parts separately for the
money: 29.95. 1-800-446-2295 item "FR-146"

I built their 220 version and it works quite well.
--
********** Jim Devenport WB5AOX **************
* PO Box 445, McIntosh NM 87032 *
* 505-832-1462 weekends, 667-1055 workdays *
* http://nis-www.lanl.gov/~jdport/ *
****

3342. Re: Winding Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: Ference Kish <fkish@world.net>
Message-ID: <NEWTNews.807376557.27697.fkish@ausnet.world.net>
Source record: 111501

>
> It seems to me that I recently read something in QST (Technical
Correspondence, I think) about
> this topic. Of course, I have a habit of bringing out the old issues and
going over them
> again, so it could have been in an older issue. The author developed some
new equations for
> calculating inductance and pointed out the errors in the old "reliable"
formulas.
>
> Maybe Zack will read this and remember. Otherwise, say the word and I'll
try to find it
> again.
>
> Regards, Wes -- N7WS
>

YES, PLEASE
regards, ference

3343. Re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <3vmshc$elk@usenet1.interramp.com>
Source record: 111502

Garry Foster <gmfoster@grape.epix.net> wrote:
>

>This may all be true Grant but the question waas why do cheap recievers
>have BFO and good recievers have selectable sidebands.
>TYhe answer is that cheap recievers have cheap bfo because they are
>cheaper and work better with limited recievers. They certianly don't have
>bfo's because they are more complex and cost more.

I don't understand. You don't need fixed frequency BFO's to have selectible sidebands. Many radios use one BFO and have TWO filters, one for LSB, one for USB. You kind of missed the point. At 455KHz (typical IF frequency) fixed frequency BFOs are more stable, but that doesn't mean there is something inherently more costly or "better"in a fixed frequency scheme. At lower IF frequencies (50,60 KHz) crystal controlled BFOs are not all that practical anyway -- and the BETTER gear that used these frequencies provided control over the BFO frequency.

>
>And switchable frequency beat oscilators don't work at all unless you
>have very fine tunning steps 100 Hz min and 10 Hz preferable
>
Patently untrue.

>The best selectable sidebands change the filters not the beat frequency.

Some receivers do this as I stated above. BUT, there is still good reason to have the BFO frequency variable under operator control for the reasons of audio response setting that I stated in my first reply.
>
> Garry
> WB0NNO
>Actually anymore gome of the real expensive recievers change the software
>to select the sidebands with a DSP unit running at the last IF.
>

Interesting, isn't it. We're back to the PHASING method of sideband generation/detection again. Only difference between these "real expensive" units and the early sideband rigs of the 50's is a wee more sophistication in the application of Norgaards principles of the phasing method.

Grant

3344. Re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <3vn04p$jhi@pipe4.nyc.pipeline.com>
Source record: 111503

On 31 Jul 1995 in article <Why variable BFO?>,
'ian.mitchell@research.utas.edu.au (Ian Mitchell)' wrote:

>Has anyone noticed that the low cost SW receivers use a variable
>BFO for SSB reception, whilst the more expensive ones have a USB
>LSB switch?
>
>Is this because of the bigger frequency tuning steps in the lower
>cost receivers? Or does it have something to do with the bandwidth
>of the IF filter for SSB?
The el-cheapo BFO is simply a carrier injected into the AM detector.
I did the equivilent with an AM only portable SONY simply by placing my
grid-dip
meter around 455khz nearby. Opposite sideband rejection was non-existent.
A true USB/LSB receiver implements a narroband filter where the incoming
455khz
signal is shifted a bit up or down acordingly by mixing one of two crystals
(usb/lsb)
to provide the needed selectivity to reject the opposite sideband.
This method of true ssb reception is much more expensive to manufacture
than the
simple BFO method that usually works ok untill a nearby or opposite
sideband signal
appears.
Anthony G. Catalano WW2W

3345. Re: Vision by microwave

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: snorris@netcom.com
Message-ID: <snorrisDCnzCq.HwG@netcom.com>
Source record: 111504

In article <DCnrqA.Gw7@eskimo.com>, William Beaty <billb@eskimo.com> wrote:
>I'm working on a microwave camera using mechanical scanning and an old
>cop-radar detector. This is strictly at the hobbyist level. I hope to be
>able to record slowscan stills of conductive objects scattered about in a
>transparant insulating environment. Should be interesting. Anyone here
>ever heard of such a thing? Microwave mavens have any advice? I'd like
>to eventually try something better than 10GHZ, if I can find a source for
>emitter and detector devices.
>
>
>--
>.....uuuu / oo \ uuuu.....,.....
>William Beaty voice:206-781-3320 bbs:206-789-0775 cserv:71241,3623
>EE/Programmer/Science exhibit designer http://www.eskimo.com/~billb/
>Seattle, WA 98117 billb@eskimo.com SCIENCE HOBBYIST web page

I've used one before. It was a 94GHz millimeter-wave imaging system. A little higher in frequency than you're doing, but the same idea. It also was a mechanical scanning design due to the single reciever design. At 10 GHz though, I don't think you'll see much. The 94 GHz system that I worked with used 94GHz frequency because of the fact that 94GHz happens to be a frequency that passes through normal atmospheric conditions with less attenuation than most other frequencies. Also the human body happens to emit in the 94GHz region as well. It is similiar to the 3-5 um and 8-12 um infrared-bands, but with far less resolution due to the lower frequency, but it can peneterate things that IR cannot, such as fog and even thin walls perhaps. The images that we got were very poor by todays CCD camera standards. You could make out forms such as people, cars, animals, and buildings but beyond that no further recognition was possible. So at 10 GHz I think your going to be very disappointed, but it does sound like a fun project and I wish you the best of luck.

E-mail me if you want to know any further details,

Sean

Sean Norris snorris@netcom.com RF Engineer
--KE6BTE-- Loyalty, above all else. San Diego, CA

3346. Re: QEX Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: hremijn@zeelandnet.nl
Message-ID: <3vmuoo$29j@news.zeelandnet.nl>
Source record: 111505

In <3vm17a$kn7@vesta.chch.planet.co.nz>, jonw@chch.planet.co.nz (Jonathon Woodward) writes:
>I am looking for the address and fax number of QEX magazine so I can
>subscribe. I am particularly interested in an article published in the
>June 1993 edition on measuring SINAD with DSP.
>
>Any help would be appreciated.
>
>Cheers Jonathan
>
>
QEX is published by the ARRL, I guess you can find their address somewhere.
Henk

Henk Remijn Systems engineer at
PA3EOB (JO11WM) Cargill Wet Milling
Hansweert, The Netherlands Bergen op Zoom
E-mail: hremijn@zeelandnet.nl The Netherlands
pa3eob@pi8goe.ampr.org

3347. VHF/UHF XTAL CW XMITTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: ejacksch@bnr.ca
Message-ID: <3vnvsn$85m@bcrkh13.bnr.ca>
Source record: 111506
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I'm interested in building a low power crystal controlled CW transmitter for
for the 2m, 220 MHz, or 70cm bands. (radio to operate on one freqency only...
the 220 band would be nice, but I'm interested in the others as well).

The application is a low speed data link involving microcontrollers and
PC's...I want to keep it as small, light, and inexpensive as possible.

I'd appreciate any leads on schematics, plans, kits, etc.

Thanks,
Eric.
VE3 XEJ

(mail replies appreciated)
ejacksch@entrust.com
jacksch@tenebris.com

3348. ROTOR - Channel master - old tv salvage

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: dan drumm <drumm>
Message-ID: <3vonnm$3ho@koala.uwec.edu>
Source record: 111507
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

Ground score!
I found an antenna rotor, but have little not no info.

Does anyone have/use/know about the channel master crown. I got
it from someone who was reroofing --complete with tripod for the
roof, but I do not have the controler, and I do not even know the
voltage it needs (my guess is 12v). All I can see are the three
wires used to control it.

It is real old, but fits nicely into me new budget; it was free.

..any help or references appreciated.

Dan Drumm
N9VOX (general is comming real soon now, but I like this call!)
drumm@uwec.edu

Wishing you and extra hour each day.

3349. Radio Module Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: Robert Clegg <Castle@aladdin.co.uk>
Message-ID: <3vopmp$mqj@alpha.aladdin.co.uk>
Source record: 111508

```
Wanted: The R/F Module (M57737) For Yaesu FT720R
Send Via: castle@aladdin.co.uk
```

3350. Old GE UHF HT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: rwilcox@newton.cacky.com
Message-ID: <DCoq4w.I2M@iglou.com>
Source record: 111509

All

I have aquired an old GE UHF HT. It doesnt have a model number
but it has the number 121A MP1 Series. It has 2 channels in the 450 Mhz
range. Can this be converted to Amateur use? Is it as simple as changing
crystals. How hard would it be to build a VFO to replace the crystal.

Gary Wilcox
KE4VUN
rwilcox@newton.cacky.com

3351. Re: Program for coil windings

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: daw@world.std.com
Message-ID: <DCoqs1.KrE@world.std.com>
Source record: 111510

```
10 REM SOLENOID COIL DESIGN
20 REM
30 REM FORMULA FROM ARRL HANDBOOK FOR AIR-WOUND COILS
40 REM
50 REM
60 REM
70 REM
80 REM
90 REM
100 DIM PT(40)
110 REM
120 REM Initialize wire table info (also from ARRL Handbook)
130 REM
140 PT(1) = 1 / .3
150 PT(2) = 1 / .265
160 PT(3) = 1 / .235
170 PT(4) = 1 / .215
180 PT(5) = 1 / .196
190 PT(6) = 1 / .175
200 PT(7) = 1 / .155
210 PT(8) = 7.6
220 PT(9) = 8.600001
230 PT(10) = 9.600001
240 PT(11) = 10.7
250 PT(12) = 12
260 PT(13) = 13.5
270 PT(14) = 15
280 PT(15) = 16.8
290 PT(16) = 18.9
300 PT(17) = 21.2
310 PT(18) = 23.6
320 PT(19) = 26.4
330 PT(20) = 29.4
340 PT(21) = 33.1
350 PT(22) = 37
360 PT(23) = 41.3
370 PT(24) = 46.3
380 PT(25) = 51.7
390 PT(26) = 58
400 PT(27) = 64.9
410 PT(28) = 72.7
420 PT(29) = 81.6
430 PT(30) = 90.5
440 PT(31) = 101
```

```
450 PT(32) = 113
460 PT(33) = 127
470 PT(34) = 143
480 PT(35) = 158
490 PT(36) = 175
500 PT(37) = 198
510 PT(38) = 224
520 PT(39) = 248
530 PT(40) = 282
540 REM
550 REM
560 REM
570 PI = 3.14159
580 REM
590 REM
600 INPUT "Do you need to calculate the inductance frist (y/n/q)"; A$
601 IF A$ = "y" THEN A$ = "Y"
602 IF A$ = "n" THEN A$ = "N"
603 IF A$ = "q" THEN A$ = "Q"
610 IF A$ <> "Q" THEN GOTO 630
620 STOP
630 IF A$ <> "Y" THEN GOTO 700
640 INPUT "Capacitor (pf)"; C
650 INPUT "Frequency (mHz)"; F
660 L = 1000000! / (4 * PI * PI * F * F * C)
670 PRINT "Inductance ="; L; "microhenries."
680 GOTO 1010
690 REM
700 REM
710 REM
720 REM
730 REM
740 REM
750 REM
760 REM
770 REM
780 REM
790 REM
800 REM
810 REM
820 REM
830 REM
840 REM
850 REM
860 REM
870 REM
880 REM
890 REM
900 REM
910 REM
```

```
920 REM
930 REM
940 REM
950 REM
960 REM
970 REM
980 REM
990 REM
1000 INPUT "Desired Inductance (uHy) "; L
1010 INPUT "Coil diameter (inches) "; D
1020 INPUT "Turns per inch (or wire gauge if negative) "; P0
1030 IF P0 < 0 THEN P = PT(-P0): ELSE P = P0
1040 R = D / 2
1050 REM L = r * r * n * n / (9 * r + 10 * n / p)
1060 REM solved for n:
1070 REM 0 = r * r * n * n - L * 9 * r - L * 10 * n / p
1080 A = R * R
1090 B = -L * 10 / P
1100 C = -L * 9 * R
1110 REM solve quadratic equation (-b + sqr(b*b - 4 * a * c)) / (2 * a)
1120 N = -B / (2 * A) + SQR(B * B - 4 * A * C) / (2 * A)
1130 N = 10 * N
1140 N = INT(N)
1150 N = N / 10
1160 PRINT "For an inductance of"; L; "uHy on a"; D; "inch dia. form, wind"; N;
1170 PRINT "turns "
1180 IF P0 < 0 THEN PRINT "of #"; -P0; "wire.";
1181 ELSE PRINT "at"; P0; "turns per inch.";
1190 W = N / P
1200 W = W * 100
1210 W = INT(W)
1220 W = W / 100
1230 PRINT " Coil will be"; W; "inches long."
1240 GOTO 600
```

3352. Re: need opinions&pointers: tech: PR in urban areas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: mkl@rob.cs.tu-bs.de
Message-ID: <mkl.807367527@duesentrieb>
Source record: 111511
Cross-posted to:
rec.radio.amateur.homebrew,alt.radio.digital,fido.ham-radio,rec.radio.amateur.digital.misc,uk.radio.amateur,de.comm.ham

DB Wilhelm <w3fpr@nando.net> writes:

>Tim@mikebray.demon.co.uk (Tim Bray) wrote:
>>
>> > Tricks gearbeitet und Du kommst auf max gesicherte 9600 Bit/s !!!!!
>> Please tell me if I am wrong, but isn't this a uk.* group ????????
>Sorry Tim, this is a hr.* (that's Ham Radio) group, and it comes in
>all languages. OTOH, my version of "Netequette" says that English
>is the more commonly understood language and use of a newsgroup
>should be in the most commonly understood form. To do otherwise
>is a waste of bandwidth, and should have been sent as e-mail.

This thread is crosposted to several newsgroups
(rec.radio.amateur.homebrew, alt.radio.digital, fido.ham-radio,
rec.radio.amateur.digital.misc, uk.radio.amateur,de.comm.ham) (where
is the hr.* ?). Not everybody realizes crossposting, and since there
is a german newsgroup included, the original poster should expect
responses in german, too.

73, Mario
--
Mario Klebsch, DG1AM, M.Klebsch@tu-bs.de +49 531 / 391 - 7457
Institut fuer Robotik und Prozessinformatik der TU Braunschweig
Hamburger Strasse 267, 38114 Braunschweig, Germany

3353. Coil data for Rhode's QST article

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: kirkland@bnr.ca
Message-ID: <3vnuo3$8tk@bcarh8ab.bnr.ca>
Source record: 111512

Does anyone know the coil data, i.e. coil forms, used in the circuits described by Rhode in his March 95 QST article "A High-Performance Hybrid Frequency Synthesizer"? The winding data is there but there is no information on the coil forms.

Bill Kirkland
VE3JHU

3354. Project idea (WAS: Re: CMOS Superkeyer 3)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: negaard@draagen.graceland.edu
Message-ID: <NEGAARD.95Aug2094931@draagen.graceland.edu>
Source record: 111513

>>>>> "Dana" == Dana Myers <myers@West.Sun.COM> writes:

Dana> In article <Pine.SV4.3.91.950801141410.23713A@atl1.america.net>,
Dana> Jim Stafford-W4QO <w4qo@america.NET> wrote:
>> [...]

Dana> [...] I personally think one of the areas that amateurs are
Dana> falling behind the most is in embedded system design and
Dana> development. This is probably why the omission of any design
Dana> notes at all for the SKII/III irritates me the most; here's a
Dana> project that could spark interest and learning in many amateurs
Dana> about a very important technology, but it won't spark any
Dana> learning to speak of.

On this note, I remember seeing a page or two on the Baycomm Web
server discussing a modem that had been implemented with a
microcontroller and software...three chips total, I think. I couldn't
find it the last time I visited, but the idea intrigued me. If I only
knew a _little_ more than I do, I'd be interested in using this method
to implement the modems I'm hoping to need to go with the OptoSCC I'm
hoping to have. In fact, I'd be interested in doing this even without
knowing a little more: I can follow simple instructions...

Dana> If I had more time, I'd love to develop some ham widget and
Dana> article for QST, which exposes how embedded processors are used,
Dana> and how a design can be implemented partly in hardware and
Dana> partly in software. I'd also love to see QST increase the
Dana> standards for construction articles to always require a
Dana> description of the internal operation of any "black box".

Ditto. And if anyone has any references that might point the way for
a project like the one mentioned above (I'm especially interested in
PSK satellite modes, but would be intrigued by almost any
implementation), please let me know.

Dana> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
Dana> * (310) 348-6043 | mine and do not necessarily *
Dana> * Dana.Myers@West.Sun.Com | reflect those of my employer *
--
o David Negaard o negaard@graceland.edu
o Help Desk Technician o http://www.graceland.edu/~negaard
o 700 College Avenue o linux-phile
o Lamoni, IA 50140 o 73 de KB0PXK

3355. Re: August qst cmos keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: jkbe@zeus
Message-ID: <DConxE.EpF@nntpa.cb.att.com>
Source record: 111514

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: Speaking of keyers, has anyone built the keyer on the cover of the
: June issue of 73? It's a alarm clock, keyer, and code reader all in
: one, and it's also based on a preprogrammed microcontroller you have
: to buy from the author.

: Gary
The question is...can you duplicate the microcontroller or get the
eprom image from their BBS? That's what steams me the most about the
QST article. Many can duplicate the QST keyer for much less than $55.00
but the author(s) and/or Idiom Press locked out that possibility. Having
the source code isn't necessary to duplicating the keyer and that
doesn't appear to be the prevailing issue of this thread.

John

3356. FM 900

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: st95169a@pilot.stu.cowan.edu.au
Message-ID: <3vo44e$10ch@bluering.cowan.edu.au>
Source record: 111515

I'm posting this for a friend with no net access, excuse me if i'm vague (his topic, not mine)

My friend is looking for the source code/file for a Philips FM 900 radio. He tells me to write that it's 8602 source code.

Ring any bells with anyone?

Please reply via email to st95169a@pilot.stu.cowan.edu.au

Thanks,

Gary.

3357. Re: Current balun

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: sefranek@iii2.iii.net
Message-ID: <3vohvl$7n1@iii2.iii.net>
Source record: 111516

Well Murray,
Do you expect the cable manufacturers to be :
Should they "know" what frequency your going to use their cable for?
Should they "know" what length to make your cable?
Should they "know" what power level your going to use?
Should they "know" what attenuation you consider adequate?

The torroid materials have a frequency range!
They have a finite power handling ability/volume!
They have finite attenuation characteristics.

Enough?

Tom

--
Thomas C. J. Sefranek WA1RHP Work: 508-425-2200 Home: 508-425-6672

3358. Re: August qst cmos keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: sefranek@iii2.iii.net
Message-ID: <3voi6m$7r4@iii2.iii.net>
Source record: 111517

Hey clue-less ones!

Read the archives!

If you continue to clutter this group with the same old tired arguments...
I'm gonna post a rumor I heard about Cregg Shargold, a dying boy...

:)

Tom

--
Thomas C. J. Sefranek WA1RHP Work: 508-425-2200 Home: 508-425-6672

3359. Good SPICE book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: scott@seas.smu.edu
Message-ID: <3vopks$j7c@giant.seas.smu.edu>
Source record: 111518

Would someone please recommend a good book for
a beginner SPICE user? Thanks!

3360. Longwave Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <3vovg7$ju8@newsbf02.news.aol.com>
Source record: 111519

It was my understanding that some segment of the longwave band had been set aside for license-free experimentation, provided you stayed under a certain power level. In fact, I have vague memories of an article for such a transmitter in a back issue of Radio Electronics (or some similar magazine).

Does any one know the rules regarding longwave experimentation? Is there a web site for this sort of data? Please email any responses.
PFZouave@aol.com
Pete Friedrichs
*** Common Sense Is Not That Common ***

3361. Re: Old GE UHF HT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <3vo7qb$b5i@newshost.lanl.gov>
Source record: 111520

Yes, it is as easy as changing crystals.... but you will
have to align the transmitter and receiver RF &
oascillator/driver stages for best sensitivity and output.
If the original frequency is between 450 and 460 MHZ this
is likely all you'll have to do. If it is much above 460
MHZ you may well not be able to align it to specs without
modifying it by changing capacitance values in various
stages in which case you'll certainly want a repair manual
for it. Depending on what model GE it is, it may be one of
the series that employs a completely separate receiver and
transmitter, that might make it easily made into a low
power repeater.
VFO's of course are possible but very hard to keep stable
enough for satisfactory operation at these frequencies.
The necessary VFO output might be as low as 36 MHZ but
since it is multiplied in frequency by subsequent stages
whatever instability or error occurs is also multiplied by
a like amount.
--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* 505-832-1462 weekends, 667-1055 workdays *
* http://nis-www.lanl.gov/~jdport/ *
****

3362. Need Cardwell Condensor Co. info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: skulyov@freenet.columbus.oh.us
Message-ID: <3vp296$2mv@acme.freenet.columbus.oh.us>
Source record: 111521

Hi gang,

I'm looking for the address or fax of Cardwell Condensor Co.
which produced air vary capacitors.

Appreciate for any help.

73! Sergei
AA8OT, UA3AP

3363. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: Grover Cleveland <groverc@gvgadg.gvg.tek.com>
Message-ID: <3vohta$q63@gv-gate.gvg.tek.com>
Source record: 111522

Can someone please point me to the qrp mailing list?

73 de WT6P

3364. Re: Easy 2m reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <807390884snz@lfheller.demon.co.uk>
Source record: 111523

In article <3vm1sh$pps@news.doit.wisc.edu>
lumkes@cae.wisc.edu "John Lumkes" writes:

> Looking for an easy to build circuit plan for a 2m reciever. Just
> something to get me started in homebrewing and such that I can monitor
> the local repeater signals. References to mag articles, chips, anything...

You can build a single chip 2m Rx with the Philips TDA7000. It will be
out of spec. but I got one to receive 2m packet without any problems. They
are intended for VHF/FM broadcast reception.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3365. Re: Super cmos iii keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <807387649.AA03074@hamlink.mn.org>
Source record: 111524

No flames here. Could not have said it better myself.
Bob WB0POQ

Technology is *OUT* of control.....

3366. Re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: ian.mitchell@research.utas.edu.au
Message-ID: <3vp2b8$qpr@franklin.cc.utas.edu.au>
Source record: 111525

In article <3vn04p$jhi@pipe4.nyc.pipeline.com>, acatalan@nyc.pipeline.com says...
>The el-cheapo BFO is simply a carrier injected into the AM detector.
>This method of true ssb reception is much more expensive to manufacture
>than the simple BFO method that usually works ok untill a nearby or opposite
>sideband signal appears.
>Anthony G. Catalano WW2W

Ok, does that mean in a low cost receiver with a not so narrow IF filter, a fixed frequency BFO (frequency set to middle of IF) could be used to resolve an SSB signal, regardless of which side band the signal is on, as long as there are no other nearby signals?

And presumably small tuning steps would be a necessity.

Thanks, Ian

3367. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-02 00:00:00 UTC
From: dbeach@kean.ucs.mun.ca
Message-ID: <1995Aug2.110432.1@noah>
Source record: 111526

I realize that the 'CMOS Superkeyer III' exchange and QST bashing is almost reaching the flogging a dead horse stage so I think I will pursue a slightly different aspect - what I would like to see.

I believe the Voice-Track Repeater Controller (QST June & July 95) is a example of what QST MPU-based 'construction' articles (product reviews are a different matter) should be like. Preprogrammed EPROMs, disks with the source code and and PCBs are available from the author at a reasonable cost. The code is also available from the ARRL as are the PCB templates. The code is free for personal, non-commercial use. Similar comments apply to the Talking Morse Code Practice Computer (QST July 94).

Bravo to these authors for sharing their work with their amateur friends! I would bet that most people who construct these will likely buy parts from the authors anyway despite the availability of the code - $15-20 for the pre-programmed EPROM is not a bad deal. And, kits are a great convenience for those of us in the boonies. The experimenters among us still have the opportunity fiddle the code and blow EPROMs if they wish.

How would I like things to be - ideally?

1) Take a specific project for a specific MPU (e.g. keyer with memory)

2) Make available algorithms as well as source code to aid understanding and to aid transfer to another MPU or modified hardware platform.

3) Write modularized code/algorithms so that one can more easily add/subtract features that one wants (You do want a programmed practice mode? You don't? OK- your choice!)

4) Post everything on the ARRL BBS for free distribution for non-commercial use and modification (heck, some people might even allow commercial use!)

So, anybody out there willing to write public domain code for something like a simple keyer with memory, a more deluxe keyer, a Morse code 'de-coder' (as in a recent 73 Am Rad article) or even a keyer plus decoder plus digital freq display for QRP rigs? Who knows what someone might develop!

Anyway, I can't 'put up' the code because I am not (at this point) a programmer so I will do my best to 'shut up' on further discussion - but no promises!

David Beach VO2BD

3368. Dentron tuner (instruction / pay too much?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: dan drumm <drumm>
Message-ID: <3vrine$q44@koala.uwec.edu>
Source record: 111527
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I bought a Dentron (model <something> jr.) antenna tuner for $30.00 US.
at a hamfest. Did I pay too much?

I was going to use it with a heath HW100, -- now I know I also need
an swr meter. oops, here comes yet another purchase. Nevertheless,
I would gratefully pay cost + postage + thank-you-very-very-much for
the photocoppied manual.

Other than that, I would like to just get a quick overview on how to
get up and running with the thing. It has one meter, and two knobs:
(and no instructions):

#1 transmitter match a,b,c,d,e,f... switch.
#2 antenna match variable.

The back has tx in, ant out, ballenced out, and unballenced out.

any help greatly appreciated. If you have the manual, please contact me
at drumm@uwec.edu.

Thanks!

Dan Drumm
N9VOX

Wishing you an extra hour each day!

3369. Re: Dentron tuner (instruction / pay too much

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: steve6920@aol.com
Message-ID: <3vs1np$i65@newsbf02.news.aol.com>
Source record: 111528
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Hi Dan,
If that is the tuner I am thinking about, it has a meter on the front which indicates relative power (with a pot on the back to adjust sensitivity.
I have used the Dentron tuners for several years (both the Jr. Tuner and the much larger MT-2000A. I haven't had one bit of problems with them.
To operate the tuner, you set the bandswitch and then adjust both the transmitter and antenna capacitors for the best match. You can get a rough idea by adjusting for maximum background receiver noise. The settings will obviously change depending on the antenna you are using. The only rule of thumb is the lower the letter setting on the bandswitch, the more inductor you are switching in and the lower the operating frequency.

The is a post on the back for the single wire antenna to which you would hook a long wire or random wire antenna. If you are using balanced feedline, you would put a jumper between the single wire post and one post of the balanced output. There should be a dotted line on the back indicating where this jumper should be placed. In addition, if you are using the tuner on low frequencies and have a hard time matching the antenna, you may want to put this jumper in as the addition of the balun in the circuit will help tune low frequency long wires.
If you will verifiy you have the Jr. Monitor tuner, I have the manual and can copy it for you. You can send me E-mail with an address.
73's
Steve

3370. Re: Looking for source of toroid cores & ferrite beads

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <3vq234$sph@ixnews2.ix.netcom.com>
Source record: 111529

In <herbrDCKGro.K6B@netcom.com> herbr@netcom.com (Herb Rosenberg) writes:
>
>I am on amajor crusade to eliminate rfi coming from my computers that is
>getting into the HF rigs. I am looking for a good source of toroid
>beads, snap on chokes, and ferrite cores for fighting this stuff.
>
>I have some information on Palomar Engineering, and Radio Shack, but
>there products seem to be over priced (I think).
>
>Does anyone out there know of any good sources for these types of
>products with really good pricing?
>
>Any help would be appreaciated.
>
>Thanks.
>
>--
>herbr@netcom.com

Surplus stores, Herb, surplus stores. I have bought small bags of
large ferrite potting bobbins at surplus stores here in Houston at
prices from .25 to 1.25 each. Probably 10 cents on the dollar or
better. Then I put a small loop in the power cord or computer cable
and push it over the core of the bobbin. I may tape a ferrite bar over
the open end. Works fairly well. If you don't have a good selection
in a local electronics surplus store, buy a couple of electronic
hobbyist magazines and check the adds for the mail order surplus stores
such as Allright and All Electronics etc., etc...
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

3371. HF amp 4CX1000A help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: john.dilks@academia.com
Message-ID: <3896.1041.uupcb@academia.com>
Source record: 111530

Gerald Caouette asks:

-> Am looking to home build a single tube 4CX1000A 160 - 6 Meter
-> amplifier:

Gerald,
Your amp is in some of the older ARRL Handbooks, as I remember. I have a number of them. If you don't get help from others, send me some mail and I'll spend some time looking through them and I'll photocopy the article for you. But you might be better-off asking around your area for some of the older copies from your friends. You need to read more about amps if you are planning on building one. There is much to learn! ....>>> Be Careful! <<<....

73', John Dilks, K2TQN::::: john.dilks@academia.com

3372. coil winding program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: dick@netcom.com
Message-ID: <dickDCpwuq.I2E@netcom.com>
Source record: 111531

Here is a simple C program I threw together a few years back to save me the trouble of iterative calculations on a hand calculator. What else is a computer good for? I also bemoan the fact that very few programs are posted for the unix environment, so here is a little contribution. I hope this saves at least one coil-winder a little time...

```
/*

A simple coil calculation program based on the inductance formula
presented in the ARRL Handbook for many years. Artlessly coded by
Dick Arnold, W5VEC.

This program was written on a Sun workstation and compiles and runs
on SunOS 3.5 thru 4.1.3. Hopefully Solaris as well.

Close-wound single-layer coil calculation. To use, simply compile and
run. It's interactive, asking for wire gage if known, and target
inductance. It overshoots the target by one turn. You can fix this if
you want (what's a turn between friends?).

Totally standard disclaimers: not to be used in life-support systems,
military or other applications where loss of life may be incurred.
Change at will; don't ask for help -- I left customer support some
time ago...

*/

#include <stdio.h>

FILE *wfd;

char wfile[80] = {"coil.tmp"}; /* don't ya just hate hard coded stuff? */

main()

{
float dia, tgt, len;
float r,n,l;
int nmax, gauge, eflag;

/* get the variables */

eflag = 0;
printf("\nCoil Calculation Program\n\n");
printf("Enter:\n");
printf(" wire gauge: ");
scanf("%d",&gauge);
switch (gauge){
```

```
case 8: dia = 0.1285; break;
case 9: dia = 0.1144; break;
case 10: dia = 0.1019; break;
case 11: dia = 0.0907; break;
case 12: dia = 0.0808; break;
case 13: dia = 0.0719; break;
case 14: dia = 0.0640; break;
case 15: dia = 0.0571; break;
case 16: dia = 0.0508; break;
case 17: dia = 0.0453; break;
case 18: dia = 0.0403; break;
case 19: dia = 0.0363; break;
case 20: dia = 0.0320; break;
case 21: dia = 0.0285; break;
case 22: dia = 0.0254; break;
case 23: dia = 0.0226; break;
case 24: dia = 0.0201; break;
case 25: dia = 0.0179; break;
case 26: dia = 0.0159; break;
case 27: dia = 0.0142; break;
case 28: dia = 0.0126; break;
case 29: dia = 0.0113; break;
case 30: dia = 0.0100; break;
default: printf("Not in wire table\n");eflag = 1;
}
if(eflag == 1){
printf(" diameter of wire,inches: ");
scanf("%f",&dia);
}
printf(" target inductance, microhenries: ");
scanf("%f",&tgt);
printf(" coil radius, inches: ");
scanf("%f",&r);
printf("\n");
wfd = fopen(wfile,"w");
fprintf(wfd,"radius is %.2f wire dia = %.4f",r,dia);
if(eflag == 0)
fprintf(wfd," gauge = %d\n",gauge);
else
fprintf(wfd,"\n");

/* compute here */

nmax = 3000;
n = 0;
len=(dia*n);
l = ((r*n)*(r*n)) / (9*r + 10*len);

fprintf(wfd,"turns\t\tinductance\n");
while (tgt > l) {
```

```
n++;
len = (dia * n);
l = ((r*n)*(r*n)) / (9*r + 10*len);
fprintf(wfd,"%.0f\t\t%.2f\n",n,l);
if (n >= nmax) {
break;
}
}

if (n < nmax) {
printf("-------------------------------------------------\n");
printf("number of turns:\t%.0f\n",n);
printf("inductance:\t\t%.2f microhenries\n",l);
printf("coil length:\t\t%.2f inches\n\n",len);
}
else
printf("** values given are impractical **\n\n");

fclose(wfd);
exit(0);
}
```

3373. Re: Dipper

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: daveb@perth.DIALix.oz.au
Message-ID: <3vq6vm$56v$1@perth.DIALix.oz.au>
Source record: 111532

Leon Heller <Leon@lfheller.demon.co.uk> writes:

>In article <kell-3107951045490001@toad.jsc.nasa.gov>
> kell@mpac.jsc.nasa.gov "Ted Kell" writes:

>> Saturday, at a local Hamfest/fleamarket I purchased a dipper. This thing
>> is old, the markings on the box mention a frequency range of 400 Kcps to
>> 280Mcps. It appears to have had a number of owners, one in Beaumont, TX
>> and a another with a VK call that are obvious. It still works tho, and
>> still has all of its coils. I have a couple of questions about its use.
>> I know about the use of a dipper to check the resonant frequency of L-C
>> circuits. I also know about using one as frequency source. What other
>> neat uses of a dipmeter are there? Also, this unit has a place for audio
>> out. It came with an earplug, It may be dead, but the jack is still
>> live. What is the audio out for?

>With the dipper power off, they can often be used as a wavemeter. The audio
>out might be from an RF detector, so you can hear the modulation when using
>it as a wavemeter.

>Leon
>--
>Leon Heller, G1HSM | "Do not adjust your mind, there is
>E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
>Phone: +44 (0)1734 266679 | many years ago in Oxford.

Couple of points more...
1. The dipper can function as a rather rough super-regenerative receiver
using that audio output (there's no regen control - I did write "rough" :)
2. On my dipper at least, the frequency calibration changes slightly
between used powered, as an oscillator, and un-powered, as an absorption
wavemeter. The scale is calibrated as an oscillator.

But I still reckon they're an excellent thing to have around: not the
last word in accuracy (tune up your unknown circuit with the dipper
oscillating, then bring in the dipper on your main receiver to measure
the frequency exactly), but you can do a great deal with them, and they're
cheap. A lot of "bang for your buck".

--
David R. Brooks <daveb@perth.DIALix.oz.au> Tel/fax. +61 9 434 4280
"Government is not reason. It is not eloquence. It is a force.
Like fire, a dangerous servant and a fearful master." - G. Washington

3374. August QST CMOS keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: ptaber@xis.xerox.COM
Message-ID: <9507038074.AA807468194@xis.xerox.com>
Source record: 111533

I guess I have a hard time seeing the difference between a construction article that specs a Curtis keyer chip and one that specs a preprogrammed microcontroller. You have to buy it from a single source and you don't get to know what goes into that one part of the project. I don't see that as invalidating the actual constuction involved or make the article less "pure" than any other.

So the guy who makes the chip tells you how to use it. Big deal. We should be so unlucky as to have the makers of other devices provide simple projects that use them. What if Motorolla were to slip in an article on how to use their power transistors? Or if TI were to sneak in an easy DSP project? WHAT A NIGHTMARE! We Gotta stop this! We gotta write to our Drictors and ARRL HQ and prevent this!

On the other hand, if I developed the code for a project like this, I wouldn't publish it either. Not just for the millions and billions of dollars I'd make selling the part to helpless little hams, but because then I'd be limiting the complexity of the project and thus the support problems.

Stop those useful articles now!

>>>==>PStJTT

3375. Re: VARIALBE DC POWER SUPPLY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: gc@universe.digex.net
Message-ID: <3vqlli$aqc@universe.digex.net>
Source record: 111534

In article <3v3321$p75@kasey.umkc.edu>, JOHNSON <s965544@jinx.umsl.edu> wrote:
>I'd like to build a low-cost variable DC power supply that would produce
>4-40 volts DC at about 2amps. Could anyone help me with this project?
>

When designing your power supply you must consider power dissipation
requirements. Voltage regulator ICs are quite easy to use,
but you must consider voltage and current AND power dissipation limits.

For your requirements (4-40 VDC at 2 amps), suppose that the
voltage input to the regulator is 42 volts. Then the worst case
for power dissipation is (42 - 4) * 2 = 76 watts. That is a lot
of power to dissipate in a TO-3 case and will require a large heat
sink. I don't have my databooks here, so I am not sure that many
regulator ICs can even handle that much power.

Many regulator ICs are capable of shutting down in case of thermal
overload, but external pass transistors aren't that smart.

gc

3376. Re: VARIALBE DC POWER SUPPLY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3vqnm3$dri@solaris.cc.vt.edu>
Source record: 111535

In article <3vqlli$aqc@universe.digex.net>,
gc@universe.digex.net (Gary Chatters) wrote:
>In article <3v3321$p75@kasey.umkc.edu>, JOHNSON <s965544@jinx.umsl.edu>
wrote:
>>I'd like to build a low-cost variable DC power supply that would produce
>>4-40 volts DC at about 2amps. Could anyone help me with this project?
>>
>
>When designing your power supply you must consider power dissipation
>requirements. Voltage regulator ICs are quite easy to use,
>but you must consider voltage and current AND power dissipation limits.
>
>For your requirements (4-40 VDC at 2 amps), suppose that the
>voltage input to the regulator is 42 volts. Then the worst case
>for power dissipation is (42 - 4) * 2 = 76 watts. That is a lot
>of power to dissipate in a TO-3 case and will require a large heat
>sink. I don't have my databooks here, so I am not sure that many
>regulator ICs can even handle that much power.
>
>Many regulator ICs are capable of shutting down in case of thermal
>overload, but external pass transistors aren't that smart.

If a wide range is desired, the series regulator dissipation problem is
often solved by making the input voltage to the regulator change according
to the aproximate output desired. This is most often done by changing taps
on the 60Hz transformer that feeds the rectifier/filter at the input to the
regulator section. The supply would then have at least two ranges: "high",
which applies about 42V to the input of the regulator, and "low" using
about 21V. The switch that selects the transformer tap would also select
part of the feedback resistor so the output voltage is only adjustable to
values apropriate for that range (4-19V Low, 19-40V High). Automatic
selection could also be implemented, using a relay and a voltage comparator
on the output. This has the additional advantage of returning to "low"
input when the output is overloaded.

Worst case dissipation would occur when the lowest setting of the high
range is used, for example 19V. Then you have 2*(42-19) = 46W, which is a
considerable improvement, and probably low enough to use the regulator
alone with a good heat sink but with no need for a pass transistor. In
case of a shorted output on the high range, the regulator could overheat,
but its internal protection would prevent damage.

-Mike KD4QDM

3377. Optoisolator cross-reference help and PAL programming information

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: negaard@draagen.graceland.edu
Message-ID: <NEGAARD.95Aug3122626@draagen.graceland.edu>
Source record: 111536

I'm working on building the OptoSCC card designed by Henk Penk, PA0HZP, and intended for use with a variety of digital-mode modems. I've got the schematic, and I've located all the parts I need except for the optoisolator chip. It's specified in the bill of materials as a PC847, and I can't find this chip or an equivalent. I've e-mailed PA0HZP, but he may not be able to respond for any of a variety of reasons, so I'll try here. Can anyone help?

The other part of the project that's missing is the PAL used to decode the PC bus logic. It's a 20L10 and I can get the part, but I don't know how to program it. Maybe I'm confused, but one must program Programmable Array Logic, mustn't one?

I expect that I could figure what the program ought to be, given enough time and energy, but I thought I'd pursue a solution with those wiser, first (I hope you're all wiser than me, else the state of homebrew may be serious ;->=).

Is there any help available for me out there?

--
o David Negaard o negaard@graceland.edu
o Help Desk Technician o http://www.graceland.edu/~negaard
o 700 College Avenue o linux-phile
o Lamoni, IA 50140 o 73 de KB0PXK

3378. Radio Module Required

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: Robert Clegg <Castle@aladdin.co.uk>
Message-ID: <3vr4mm$2fk@alpha.aladdin.co.uk>
Source record: 111537

Wanted: M57737 P.A. Module for Yaesu FT-720R
This is also used as a 25w P.A. For a lot of marine VHF tx/rx's
Reply to castle@aladdin.co.uk
Cash Waiting.

3379. Tranciever Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: Robert Clegg <Castle@aladdin.co.uk>
Message-ID: <3vr4ro$2fk@alpha.aladdin.co.uk>
Source record: 111538

Urgently required, 2 metre/70cms dual band tranciever.
NOT Handheld.
Also
2 metre radio with SSB & minimum 25Watts RMS.
Reply to castle@aladdin.co.uk

3380. Wire formulas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DCr0Mu.uF@hpcvsnz.cv.hp.com>
Source record: 111539

Thanks to Richard Arnold for posting the c program to help figure coil winding info. I noted he used a case statement to access tabular wire info. Here are a couple formulas that folk might find useful to calculate wire diameter and approximate resistance in ohms per 1000 feet at 20C, as an alternative to entering a table.

The diameter formula is accurate to better than 0.1% (I doubt that manufacturing tolerances are ever this good), and the resistance error, a couple percent max for gauges from 0 to 30 or so, is about the same as a 5 degree C change in temperature (and it's almost dead on at 12 gauge), so should be fine for practical work.

d = 10^(-.05035*g - 0.4884)

r1000 = 10^(0.1*g - 1)

where

d = wire diameter in inches

r1000 = resistance of 1000 feet of wire at 20C, in ohms

g = AWG gauge number, from 0 to 40. You can substitute -1 for 00, -2 for 000, etc., to extend to even larger diameters. (I guess they might even be fine for gauges finer than 40, but the table in front of me doesn't go that fine.)

(It always amazes me how simple the constants in the R1000 formula are!)

73, K7ITM

3381. FBenterprises Web Page

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: radio@teleport.com
Message-ID: <radio.86.000C2189@teleport.com>
Source record: 111540

Just a quick announcement of FBenterprises new Web Page. FBenterprises sells Amateur Radio Publications, including Repeater Maps, and the full line of ARRL Publications (at a DISCOUNT!).

The URL for the page is:

http://www.teleport.com/~radio/ham.html

Thank you!

73!

Bob Martin N7JXN
FBenterprises

3382. August QST construction article wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: raateland@vyh.fi
Message-ID: <1995Aug3.221424@vyh.fi>
Source record: 111541

So there is all this commotion about a construction article in the August 1995 issue of QST that wasn't a construction article, but read this:

I don't get QST, but today I received an IDIOM Press Super CMOS Keyer III that I ordered after I read about it on the QRP-L list. Guess what, the Tutorial/Operating manual refers to 'the construction article', but all that is included in the manual is the schematic, no details about construction.

Well, having some experience with these kind of things, I don't expect much difficulty in putting the thing together, but if anybody has actually read the 'construction article' and found interesting details that would be good to be aware of before connecting the PC-board to anything else, I would very much like to know. I'm also interested to know what there is in the QST article about the workings of the keyer.

I have the 1994 ARRL Handbook, wherein there is a description (construction article?) of the CMOS Super Keyer II.

The local public library doesn't have QST, so I can't have a look at the article myself.

--... ...-- -.. . --- .... ..--- --.. .- --..
Arjen Raateland, SAS Support
Finnish Environment Agency
Helsinki, Finland
.-.-. -.-

3383. Internet address

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: SmillieK@imb.ic.gc.CA
Message-ID: <3020B139@mssmtp.istc.ca>
Source record: 111542

We do not have a valid internet address at Industry Canada for Tony Komljanec.

Thank you
Kimberley Wilson-Smillie
Corporate E-Mail Services
Industry Canada

From: Mailer-Daemon
To: Postmaster
Subject: Returned mail: User unknown
Date: Wednesday, August 02, 1995 9:58AM

----- Transcript of session follows -----
<<< HELO mail.ucsd.edu
<<< MAIL From:<owner-ham-homebrew@ucsd.edu>
<<< RCPT To:<komljanec.tony@istc.ca>
550 <komljanec.tony@istc.ca>... User unknown
<<< DATA

----- Message header follows -----
Return-Path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by ic.gc.ca (5.x/SMI-4.1)
id AA15686; Wed, 2 Aug 1995 09:58:08 -0400
Errors-To: ham-homebrew-relay@ucsd.edu
Received: by mail.ucsd.edu; id EAA11641
sendmail 8.6.12/UCSD-2.2-sun
Wed, 2 Aug 1995 04:30:29 -0700 for ham-homebrew-list
Errors-To: ham-homebrew-relay@ucsd.edu
Sender: ham-homebrew-relay@ucsd.edu
Precedence: List
Received: by mail.ucsd.edu; id EAA11632
sendmail 8.6.12/UCSD-2.2-sun
Wed, 2 Aug 1995 04:30:26 -0700 for ham-homebrew-ddist
Message-Id: <199508021130.EAA11632@mail.ucsd.edu>
Date: Wed, 2 Aug 95 04:30:25 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@ucsd.edu
Reply-To: Ham-Homebrew@ucsd.edu
Precedence: List
Subject: Ham-Homebrew Digest V95 #232
To: Ham-Homebrew@ucsd.edu

3384. ATV newsgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: jmiller@eyes.arizona.edu
Message-ID: <3vrlq8$u38@news.ccit.arizona.edu>
Source record: 111543

Is there a newsgroup where ATV is discussed? Can't seem to find one.
Tnx
joe KI7WV

3385. ATV Newsgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: jmiller@eyes.arizona.edu
Message-ID: <3vrlt8$u38@news.ccit.arizona.edu>
Source record: 111544

Is there an ATV newsgroup being discussed?

Joe KI7WV

3386. ATV Newsgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: jmiller@eyes.arizona.edu
Message-ID: <3vrluo$u38@news.ccit.arizona.edu>
Source record: 111545

Is there an ATV newsgroup being discussed?

Joe KI7WV

3387. 2 Mbit/sec 10GHz Microwave link

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: Mark Hillier <md_hill@cam.org>
Message-ID: <3vpaqa$5cg@nash.pubnix.net>
Source record: 111546

I am interested in the article in the 1990, 1991 ARRL Handbooks about a 10GHz high-speed data link.
The Handbook mentions that the original article appears in the December 1989 issue of Ham Radio Magazine.

Does anyone know where I might be able to get a copy of that article ?

Thanks,

Mark VE2HVW

3388. Re: Longwave Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: tkc@netins.net
Message-ID: <3vpd7v$sfb@insosf1.netins.net>
Source record: 111547

pfzouave@aol.com (PFZouave) wrote:

:>It was my understanding that some segment of the longwave band had been
:>set aside for license-free experimentation, provided you stayed under a
:>certain power level. In fact, I have vague memories of an article for such
:>a transmitter in a back issue of Radio Electronics (or some similar
:>magazine).

:>Does any one know the rules regarding longwave experimentation? Is there a
:>web site for this sort of data? Please email any responses.
:>PFZouave@aol.com
:>Pete Friedrichs
:>*** Common Sense Is Not That Common ***

Can't remember the freq. but the power was 100 mw with I think 50 ft
antenna...
The saving thing was that you have no restrictions on the receiving
ant.. Make it BIG :)
********** TKC **********

3389. Re: Longwave Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <3vpq2b$cb9@abyss.West.Sun.COM>
Source record: 111548

In article <3vpd7v$sfb@insosf1.netins.net>, TKC <tkc@netins.net> wrote:
>pfzouave@aol.com (PFZouave) wrote:
>
>:>It was my understanding that some segment of the longwave band had been
>:>set aside for license-free experimentation, provided you stayed under a
>:>certain power level. In fact, I have vague memories of an article for such
>:>a transmitter in a back issue of Radio Electronics (or some similar
>:>magazine).
>
>:>Does any one know the rules regarding longwave experimentation? Is there a
>:>web site for this sort of data? Please email any responses.
>:>PFZouave@aol.com
>:>Pete Friedrichs
>:>*** Common Sense Is Not That Common ***
>
>Can't remember the freq. but the power was 100 mw with I think 50 ft
>antenna...

Actually, the answer is 170-190KHz, maximum of 1W PA input, 15m
total length of antenna, feedline and grounding system.

>The saving thing was that you have no restrictions on the receiving
>ant.. Make it BIG :)

Or make it an active loop...

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

3390. Re: Longwave Transmitter ['lowfer' band]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: tvr@les.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Aug3000912@les.CNMAT.Berkeley.EDU>
Source record: 111549

pfzouave@aol.com (PFZouave) wrote:

:>It was my understanding that some segment of the longwave band had been
:>set aside for license-free experimentation, provided you stayed under a
:>certain power level. In fact, I have vague memories of an article for such
:>a transmitter in a back issue of Radio Electronics (or some similar
:>magazine).

:>Does any one know the rules regarding longwave experimentation? Is there a
:>web site for this sort of data? Please email any responses.
:>PFZouave@aol.com
:>Pete Friedrichs
:>*** Common Sense Is Not That Common ***

Can't remember the freq. but the power was 100 mw with I think 50 ft
antenna...
The saving thing was that you have no restrictions on the receiving
ant.. Make it BIG :)
********** TKC **********

My recent poking around the Internet has let me to conclude that 1750 meters
is governed by Part 15:

Sec. 15.217 Operation in the band 160-190 kHz.

(a) The total input power to the final radio frequency stage
(exclusive of filament or heater power) shall not exceed one watt.
(b) The total length of the transmission line, antenna, and
ground lead (if used) shall not exceed 15 meters.
(c) All emissions below 160 kHz or above 190 kHz shall be
attenuated at least 20 dB below the level of the unmodulated
carrier. Determination of compliance with the 20 dB attenuation
specification may be based on measurements at the intentional
radiator's antenna output terminal unless the intentional radiator
uses a permanently attached antenna, in which case compliance shall
be demonstrated by measuring the radiated emissions.

and that experimenters like ourselves are governed by:

Sec. 15.23 Home-built devices.

(a) Equipment authorization is not required for devices that are
not marketed, are not constructed from a kit, and are built in
quantities of five or less for personal use.
(b) It is recognized that the individual builder of home-built
equipment may not possess the means to perform the measurements for
determining compliance with the regulations. In this case, the

builder is expected to employ good engineering practices to meet
the specified technical standards to the greatest extent
practicable. The provisions of Sec. 15.5 apply to this equipment.

and the relevant part of that section reads:

Sec. 15.5 General conditions of operation.
...
(b) Operation of an intentional, unintentional, or incidental
radiator is subject to the conditions that no harmful interference
is caused and that interference must be accepted that may be caused
by the operation of an authorized radio station, by another
intentional or unintentional radiator, by industrial, scientific
and medical (ISM) equipment, or by an incidental radiator.
(c) The operator of a radio frequency device shall be required to
cease operating the device upon notification by a Commission
representative that the device is causing harmful interference.
Operation shall not resume until the condition causing the harmful
interference has been corrected.
...

According to Part 15, we are talking about intentional radiators, and
of course, you want to cease operating before 15.5(c) applies. Note also
that Part 15 doesn't talk about receiving antennas; that's a matter
between you and your local zoning authority...

Please see:

ftp://ftp.cs.buffalo.edu/pub/ham-radio/1750m.band

for further details, including an organization and journal for the 'lowfer'.

Part 15 is available from The U.S. House of Representatives Internet Law
Library Code of Federal Regulations [http://www.pls.com:8001/his/cfr.html
ask if you need help searching it].
-- KD6PAG

P.S. I'd be interested in hearing from any S.F. Bay Area lowfer's, if
there are any around who might help me get started. Anyone know which
issue of "73" or "QST" had the 'lowfer' project in the past few years?
I misplaced my copy.

3391. Re: Need Cardwell Condensor Co. info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: mtracy@mgate.arrl.org
Message-ID: <3vrckm$j77@mgate.arrl.org>
Source record: 111550

Sergei Kulyov (skulyov@freenet.columbus.oh.us) wrote:

: Hi gang,

: I'm looking for the address or fax of Cardwell Condensor Co.
: which produced air vary capacitors.

: 73! Sergei
: AA8OT, UA3AP

Cardwell Condenser Corporation
80 East Montauk Highway
Lindenhurst, Long Island, NY 11757

Phone: 516-957-7200
Fax: 516-957-7203

Best Regards, Michael Tracy, KC1SX, ARRL Technical Information Services
---
American Radio Relay League, Inc. Tel: 1-203-594-0200
225 Main Street Fax: 1-203-594-0259
Newington, CT 06111 Email: mtracy@arrl.org

3392. Looking for gears for Tempo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: Morgan.Ali@f6518.n124.z1.fidonet.org
Message-ID: <443_9508050655@woodybbs.com>
Source record: 111551

you can always retro fit some or make a new switch all together :)
--
|Fidonet: Morgan Ali 1:124/6518
|Internet: Morgan.Ali@f6518.n124.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

3393. Re: Good SPICE book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-03 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDCsqv2.M4s@netcom.com>
Source record: 111552

in <3vopks$j7c@giant.seas.smu.edu>, Scott Carpenter wrote:
: Would someone please recommend a good book for
: a beginner SPICE user? Thanks!

The Spice Book
Andrei Vladimirescu
John Wiley & Sons, 1994

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

3394. Re: Another Project Idea!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: rwa@cs.athabascau.ca
Message-ID: <3vtlrv$9jm@aurora.cs.athabascau.ca>
Source record: 111422

n7tcf@primenet.com writes:

>In <3vsc7n$5c2@hummin.sol.net>, garyk9gs@solaria.mil.wi.us (Gary Schwartz) writes:

>>Some might argue that the clock in a PC is notoriously innaccurate.
>>While this is certainly true, there are several shareware programs
>>available that will set the PC clock to WWV or the naval observatory
>>via modem. I use one such program about once a week. The call
>>costs about fifteen cents.

I run an NTP client on my pc (a clonebox 486), and as a result its clock is accurate to about +- 25 milliseconds at all times. That's one of the joys of running a un*x and having a PPP link to the internet :). See comp.protocols.time.ntp for more info. Without the NTP client, the pc gains two or three minutes a month and drifts wildly with temperature.

> I never realized the MFJ was so bad. I bought the Radio Shack
>1-1/2" face digital clock, with 12/24 hour format. Easy to read, but
>bulky. I reset it about twice a year. Of course it may vary from unit
>to unit.

There must be a lot of variation; an MFJ here loses about 12 to 13 seconds a month, while a $20 timex watch (which has a 24 hour display format option) is only 50 seconds slow after two years.

regards,
Ross ve6pdq
--
Ross Alexander, ve6pdq -- (403) 675 6311 -- rwa@cs.athabascau.ca

3395. Re: Another Project Idea!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: ddenter@bnr.ca
Message-ID: <3vtm0a$h5n@bcarh8ab.bnr.ca>
Source record: 111423

In article 5c2@hummin.sol.net, garyk9gs@solaria.mil.wi.us (Gary Schwartz) writes:
>
>Here's another project idea.
>
>I, like thousands of other hams, have one of those cheap MFJ dual clocks
>that never seems to be able to keep the correct time. Plus, I'm tired of
>having to reset it all the time.
>
>My idea is a clock that runs by itself, but gets its time set via the
>serial or parallel port of a PC. Perhaps the clock would reset itself to
>the computer time when the PC is first turned on and then once a day for
>those that leave their computer on all the time.
>
>Some might argue that the clock in a PC is notoriously innaccurate. While
>this is certainly true, there are several shareware programs available
>that will set the PC clock to WWV or the naval observatory via modem. I
>use one such program about once a week. The call costs about fifteen
>cents.
>

Why go to all this trouble, and then have to pay to update your clock?
Last time I checked CHU (the Canadian version of WWV) output a data burst
every minute or so for just this purpose.

There was a project designed some time ago with receiver, decoder, and
software for updating a machine running un*x. Last that I checked the
schematics/instructions/etc were available on the local ham fileserver
hydra.carleton.ca, somewhere in the anonymous ftp section. I haven't
built this thing yet, so I can't comment on how well it works.

regards,
Dean.

Dean Denter work -> ddenter@bnr.ca
VA3CDD play -> af580@freenet.carleton.ca
[[[[[[[[[[[[[[[[I speak only for myself]]]]]]]]]]]]]]]]

3396. Re: Another Project Idea!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: dkelly@iquest.com
Message-ID: <dkelly-0408952059500001@dkelly.iquest.com>
Source record: 111424

In article <3vsc7n$5c2@hummin.sol.net>, garyk9gs@solaria.mil.wi.us (Gary Schwartz) wrote:

> Here's another project idea.
>
> I, like thousands of other hams, have one of those cheap MFJ dual clocks
> that never seems to be able to keep the correct time. Plus, I'm tired of
> having to reset it all the time.
>
> My idea is a clock that runs by itself, but gets its time set via the
> serial or parallel port of a PC. Perhaps the clock would reset itself to
> the computer time when the PC is first turned on and then once a day for
> those that leave their computer on all the time.
>
> Some might argue that the clock in a PC is notoriously innaccurate. While
> this is certainly true, there are several shareware programs available
> that will set the PC clock to WWV or the naval observatory via modem. I
> use one such program about once a week. The call costs about fifteen
> cents.

Hey! None of that obscenity here! This is r.RADIO.a.h. If you're going to discuss such topics be so kind as to include a RADIO in the project. :-)

On the other hand, a notoriously cheap ham (aren't we all?) with internet access PAYS $0.15/week to set a clock when it can be done quite nicely over the net? For "free"?

73,
--
David Kelly N4HHE, n4hhe@amsat.org, dkelly@iquest.com
==
The human mind ordinarily operates at only ten percent of its
capacity -- the rest is overhead for the operating system.

3397. Schematic Draw Program Recommendations?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: nielw@ix.netcom.com
Message-ID: <3vsrso$m7a@ixnews3.ix.netcom.com>
Source record: 111553

I'm looking for a DOS or Windows based draw/CAD program that includes electronic symbols like inductors, transformers, caps, resistors and tubes.

Has anyone found one that allows resizing, rotation, "sticky" end points, vertical/horizontal alignment, etc?

Niel - WA5VLZ

3398. Another Project Idea!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: garyk9gs@solaria.mil.wi.us
Message-ID: <3vsc7n$5c2@hummin.sol.net>
Source record: 111554

Here's another project idea.

I, like thousands of other hams, have one of those cheap MFJ dual clocks that never seems to be able to keep the correct time. Plus, I'm tired of having to reset it all the time.

My idea is a clock that runs by itself, but gets its time set via the serial or parallel port of a PC. Perhaps the clock would reset itself to the computer time when the PC is first turned on and then once a day for those that leave their computer on all the time.

Some might argue that the clock in a PC is notoriously innaccurate. While this is certainly true, there are several shareware programs available that will set the PC clock to WWV or the naval observatory via modem. I use one such program about once a week. The call costs about fifteen cents.

The clock would have dual (12 hour local/24 hour UTC) displays (LCD).

Anyone want to take up the challenge??

73,
Gary K9GS
--

____
| |
| Gary Schwartz K9GS E-Mail: garyk9gs@solaria.sol.net |
| Society of Midwest Contesters Packet:K9GS@WA9KEC.WI.USA.NOAM |
| Greater Milwaukee DX Association Member |
|____|

3399. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: mulveyr@vivanet.vivanet.com
Message-ID: <3vrrgv$k6@vivanews.vivanet.com>
Source record: 111555

Anthony G. Catalano (acatalan@nyc.pipeline.com) wrote:
: I wonder If we can post scanned drawings, scematics etc. in this newsgroup?

: I would post them as an attached *.uue file that would have to
: be uue-decoded back into a pcx or a gif file.
: Anthony G. Catalano WW2W

No, this is a discussion group, and it would be considered rude,
especially since a large number of the people reading the group have to
pay for every byte that passes through their modems.

The generally approved method is to place the files on a public
FTP site, and post a notice in the relevant group as to its
availability.

Thank you, however, for asking. A lot of people wouldn't have gone to
the trouble. :-)

- Rich

3400. Re: Good SPICE book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: Gene Mason <gmason@iadfw.net>
Message-ID: <3vrv5p$35p@news.iadfw.net>
Source record: 111556

Hi...Try Borders books at Preston and Royal Ln...Saw several there recently.Also Book stop at Preston/Forest Ln, although the Book Stop at Town East has the best selection of technical books in Dallas...And don't ask me why! Maybe has to do with AT&T being close by. Good Luck... Gene

3401. Touch-tone DTMF interface to Macintosh needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: jefman@interlog.com
Message-ID: <3vsst0$1dl@gold.interlog.com>
Source record: 111557

Hi - has anyone built an interface to control a Macintosh computer through touch-tones? I want to be able to control a hypercard program remotely.

Ideally it would work in software; I'd send the audio into the microphone input an analyse the tones. I have a program for the Mac that does this, but I can't access the data from it. It just prints the numbers to the screen. I've tried to contact the author, but no luck so far... btw, I'm using an AV mac which has a DSP chip built-in.

Most likely I'll have to build a black box with a DTMF decoder chip in it, and send the output through the serial port. If anyone has done this, particularly to control Hypercard, I'd appreciate any advice. Thanks.

<jeff VE3-KYH

--

Jeff Mann - Information Consumer ___O___O__= --- jefman@utcc.utoronto.ca
___O___O__= --- jefman@interlog.com

3402. Re: Good SPICE book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: Gene Mason <gmason@iadfw.net>
Message-ID: <3vrv6f$35p@news.iadfw.net>
Source record: 111558

Hi...Try Borders books at Preston and Royal Ln...Saw several there recently.Also Book stop at Preston/Forest Ln, although the Book Stop at Town East has the best selection of technical books in Dallas...And don't ask me why! Maybe has to do with AT&T being close by. Good Luck... Gene

3403. Re: Longwave Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: jim.horner@minfox.com
Message-ID: <9508031906236221@minfox.com>
Source record: 111559

TK>pfzouave@aol.com (PFZouave) wrote:

TK>:>It was my understanding that some segment of the longwave band had been
TK>:>set aside for license-free experimentation, provided you stayed under a

TK>:>Does any one know the rules regarding longwave experimentation?

From the article "Ground Zero" (Popular Electronics-Oct.'94):

1750-Meter Experimenters' Band:
- 160-190 kHz - Max. power-1watt
- Max. antenna length-50 ft. including ground lead and transmission line
- Modulation-any
- Out of band emissions must be supressed by 20 dB.
The article suggests the following publication for further info:
(says it contains equiptment designs)

LOW and MEDIUM FREQUENCY SCRAPBOOK
from-Ken Cornell
225 Baltimore Ave., 107 pages
Point Pleasant Beach, $18.75 first class mail
NJ 08742
haven't seen it myself tho.....
jim

---
* OLX 2.1 TD * Use the mouse Luke -Obi Wan Gates-

3404. Re: Ham-Homebrew Digest V95 #231

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: dayj@ozemail.COM.AU
Message-ID: <1995AUG4.6982@ozemail.com.au>
Source record: 111560

Herb,

You give no indication of where you are!

In the USA call AMIDON ASSOCIATES in the Orange County (Santa Ana) area on (714)850-4660. They have the best range aorund.

John Day VK3ZJF

3405. Farnell SSG-2000 - help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: dayj@ozemail.COM.AU
Message-ID: <1995AUG4.6980@ozemail.com.au>
Source record: 111561

Hi,

I have a Farnell (UK) SSG-2000 synthesized signal generator which I want to control from the HPIB port. Does anyone have a user manual? All I need is the programming info, I do not need the whole thing. But -- It would be nice!

John Day VK3ZJF
dayj@ozemail.com.au or 100236,2364@Compuserve.com
Fax +61-3-9543-7238
Snail: PO Box 206, Oakleigh VIC 3166, Australia

3406. Looking for BUZ 332A specs/info.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: skulski@fermi.nsrl.rochester.edu
Message-ID: <1995Aug4.112218.1@fermi.nsrl.rochester.edu>
Source record: 111562
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Hi:
I have got a broken DC power supply, whose only problem
seems to be a blown BUZ 332A power FET transistor.
I tried to either buy such a transistor, or to find a replacement,
but weird enough I cannot find it in any catalog. I even asked
my friend in Europe to check it for me, but he could find
only BUZ 330 and BUZ 331. So, my questions are:

1. is there any US mail-order source, which would offer BUZ 332A?
2. what is the replacement for BUZ 332A (close replacement) ?
3. anybody knows the specs of BUZ 332A?

Please e-mail to skulski@nsrl.rochester.edu

Excuse me for taking bandwidth in this newsgroup. I could not
locate any other newsgroup dealing with electronic parts, this
one seemed to be the closest I could find.

Thank you in advance for info.

Wojtek

3407. Re: Dentron tuner (instruction / pay too much

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: steve6920@wem.org
Message-ID: <1991734713-950803184721@wem.org>
Source record: 111563

From: steve6920@aol.com (Steve6920)
Subject: Re: Dentron tuner (instruction / pay too much

Hi Dan,
If that is the tuner I am thinking about, it has a meter on the front
which indicates relative power (with a pot on the back to adjust
sensitivity.
I have used the Dentron tuners for several years (both the Jr. Tuner and
the much larger MT-2000A. I haven't had one bit of problems with them.
To operate the tuner, you set the bandswitch and then adjust both the
transmitter and antenna capacitors for the best match. You can get a
rough idea by adjusting for maximum background receiver noise. The
settings will obviously change depending on the antenna you are using.
The only rule of thumb is the lower the letter setting on the bandswitch,
the more inductor you are switching in and the lower the operating
frequency.

The is a post on the back for the single wire antenna to which you would
hook a long wire or random wire antenna. If you are using balanced
feedline, you would put a jumper between the single wire post and one post
of the balanced output. There should be a dotted line on the back
indicating where this jumper should be placed. In addition, if you are
using the tuner on low frequencies and have a hard time matching the
antenna, you may want to put this jumper in as the addition of the balun
in the circuit will help tune low frequency long wires.
If you will verifiy you have the Jr. Monitor tuner, I have the manual
and can copy it for you. You can send me E-mail with an address.
73's
Steve

---
* ChristNET Global Christian Network Reaching the world with the Gospel *
* Christ Connection World Headquarters Los Angeles, CA. (310) 398-7804 *

3408. Re: Do vacuum tubes have shelf life?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: ehramm@dk3uz.hanse.de
Message-ID: <DCsxID.2Mw@dk3uz.hanse.de>
Source record: 111564

horowitz@nosc.mil (Alan M. Horowitz) writes:

>Didn't tubes have lots of "getter" in them as well? Wonder what it was
>made of?

Magnesium or barium.

73, Eddi
--
dk3uz@db0hht.ampr.org - ehramm@dk3uz.hanse.de - DK3UZ@DB0HHT.#HH.GER.EU
Linux/m68k, the best U**x ever to hit an Atari!
Distribution of this message via the Microsoft Network is prohibited

3409. Re: Another Project Idea!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: n7tcf@primenet.com
Message-ID: <3vt4ct$cg1@nnrp2.primenet.com>
Source record: 111565

In <3vsc7n$5c2@hummin.sol.net>, garyk9gs@solaria.mil.wi.us (Gary Schwartz) writes:

>My idea is a clock that runs by itself, but gets its time set via the
>serial or parallel port of a PC. Perhaps the clock would reset itself to
>the computer time when the PC is first turned on and then once a day for
>those that leave their computer on all the time.
>
>Some might argue that the clock in a PC is notoriously innaccurate. While
>this is certainly true, there are several shareware programs available
>that will set the PC clock to WWV or the naval observatory via modem. I
>use one such program about once a week. The call costs about fifteen
>cents.

A good program to check out is Time Set availible on the Rancho Palo Verde
bbs. I can't get to the number right now but e-mail me and I'll have it.
The program dials NIST or the Naval Observatory. This is well done but
not unusual. It also provides a sync pulse on one pin of the parallel port to allow
other devices to be linked.
I never realized the MFJ was so bad. I bought the Radio Shack 1-1/2" face
digital clock, with 12/24 hour format. Easy to read, but bulky. I reset it about twice
a year. Of course it may vary from unit to unit.

Jim N7TCF

3410. Re: Another Project Idea!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <3vt9ok$a7r@solaris.cc.vt.edu>
Source record: 111566

In article <3vsc7n$5c2@hummin.sol.net>,
garyk9gs@solaria.mil.wi.us (Gary Schwartz) wrote:

[PC-settable clock idea snipped]

>Some might argue that the clock in a PC is notoriously innaccurate. While
>this is certainly true, there are several shareware programs available
>that will set the PC clock to WWV or the naval observatory via modem. I
>use one such program about once a week. The call costs about fifteen
>cents.

Why use the PC at all then? Build a modem into the clock! The Motorola MC 145444 (unfortunately listed for about $8 - $12, but still cheaper than a PC and modem) includes a DTMF dialer and a 300 baud modem. The chip uses 8 mA at 5V while active and can be shut down when not. Other companies make similar chips for "call-home" applications like this. There is a wide market for them considering devices like credit-card verifiers, utility meters, etc. You would probably need a relay/transformer to couple to the phone line, and likely some sort of FCC approval on the whole system.

Then the clock's serial port would be an *output* of accurate time, which the PC could obtain from the clock any time it needs to, without incurring any phone cost. Also the clock could be taken anywhere, plugged into a phone line, and set itself without needing any other hardware. The reset process could occur on a weekly or monthly schedule, or when the user requests it by pressing a button on the clock.

Another option would be to equip the clock with a serial port intended for input of the correct time from the PC as described, but also include in the clock's software a protocol to drive an external modem (such as an old Hayes Smartmodem 1200) to call in and get the time. Then you have clock+modem, rather than clock+modem+PC+software to do the same thing.

So many choices...

-Mike KD4QDM

3411. Want to build a power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: by668@FreeNet.Carleton.CA
Message-ID: <DCsn7z.76L@freenet.carleton.ca>
Source record: 111567

Hello,

I want to build a 13.5 Vdc 20 Amp.
I need someone to draw up the schematics and list of pieces,
I know some of you will say that it would cost less to buy one
but I already have many pieces that can probably be used,
so if there's a genius in that field around, i'd love to hear
from them...

Thanks many times...

Marc

3412. Re: Want to build a power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-0408951307500001@brockway-d229.sierra.net>
Source record: 111568

In article <DCsn7z.76L@freenet.carleton.ca>, by668@FreeNet.Carleton.CA
(Marc Buron) wrote:
> I want to build a 13.5 Vdc 20 Amp.
> I need someone to draw up the schematics and list of pieces,

Check out new and old editions of the ARRL Handbook for good examples...

3413. Schematics by BDL (:))

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: ai557@ccn.cs.dal.ca
Message-ID: <DCsxG2.IAB@cs.dal.ca>
Source record: 111569

Hi!
Some have been asking how to post schematics on the newsgroup.
One of my previous jobs was entering BDL files into an old Automatic
In-circuit Tester (Factron 770). BDL is Board Description Language.
Part one of each file is a parts list. Part two is a "net
list". Example (small part anyway!):

"VCC" IC1.14 IC2.16 C1.AN C2.AN J1.PLUS
"GND" IC1.7 IC2.8 C1.CA C2.CA J1.MINUS

The format is basically: "nodename" connections...

Needless to say, a '486 motherboard would live up to its name...
We sometimes called it _Bored_ Description Language (hi).

-Jeffy VE1BLL
...-._

3414. I Need a 27C011 EPROM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: mgillie@nando.net
Message-ID: <3vu0rk$j17@parsifal.nando.net>
Source record: 111570

Does anyone know where I can get a few 27C011-200 EPROMS. Looks like they are obsolete, so I'm hoping someone has a stash put away somewhere.

Thanks,

Miles
mgillie@nando.net

3415. Re: Current balun

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <3vtkoe$192@newsbf02.news.aol.com>
Source record: 111571

>Well Murray,
Do you expect the cable manufacturers to be :
>Should they "know" what frequency your going to use their cable for?
>Should they "know" what length to make your cable?
>Should they "know" what power level your going to use?
>Should they "know" what attenuation you consider adequate?

>The torroid materials have a frequency range!
>They have a finite power handling ability/volume!
>They have finite attenuation characteristics.

>Enough?

>Tom

Tom and Murray,

That is very true. The problem of power handling can be simplified to the voltage across each bead and the heating of the bead at that voltage on that frequency. For example, one popular string of beads balun has an equivilent parallel impedance of 1500 ohms R in parallel with 1500 ohms XL.

The resistance dissipates power, and while that balun may handle 1500 watts with a balanced 50 ohm termination, it certainly won't handle much power with a 500 ohm load or any antenna that has high voltage from the terminals to ground.

I've found that if space is available it is much cheaper to use an air wound balun than beads, and the power handling and choking impedance can be made higher.

Roy Lewallan posted some nice impedance data on baluns last month. It was good stuff.

Tom sure said it. Too many applications with too many variables involved for one fits all product.

73 Tom

3416. NEW HAM RADIO REMOTE CONTROL PRODUCT OFFERED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-05 00:00:00 UTC
From: Marshall Craw <mcraw@halcyon.com>
Message-ID: <Pine.ULT.3.91.950805064627.19432A-100000@chinook.halcyon.com>
Source record: 111425
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I am pleased to announce a new product offered by Positive Time Systems called the RCS-I. This is a radio controller that connects to any VHF/UHF transceiver and can issue x-10 commands. (X-10 is a power line standard for controlling devices throughout a building. Sears, Radio Shack, and others offer these compatible units)
The unit also has an alarm input, a listen feature, a short voicmail box, and responds to all commands in a pleasant female voice. The system IDs with your recorded voice and call sign. This description doesn't do the product justice, so please check out the new homepage at :

http://www.halcyon.com/pos.time.sys/top

or you may email us with you address so that we can promptly send you our brochure and newsletter.

NOTE: This product is intended for US voltages of 120 / 220 VAC. Another version will be offered to support other international power standards. Email for more information.

Thank You,

Marshall Craw <mcraw@halcyon.com>
Positive Time Systems
North Bend, WA

3417. Info. on Palomar

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-05 00:00:00 UTC
From: ultravis@ix.netcom.com
Message-ID: <3vvm08$atg@ixnews3.ix.netcom.com>
Source record: 111426

Hi all, just looking for some information on a company called
palomar which makes amps (Possible cb?) I've just received a 150 watt
amp which they make and would like to give it a good going over before
even considering its use for 10m. The Model #is tx-150.
Thanks for any help!

PS. Yes I know its a cb amp, but given my financial situation that
makes this unit as good as gold to me anyway!

Henry (Ke4wbw)

3418. Re: help needed with Colpits Osc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-05 00:00:00 UTC
From: athena1106@aol.com
Message-ID: <400nht$qc2@newsbf02.news.aol.com>
Source record: 111427

Make sure you have the right pins in the right place

3419. Re: Good SPICE book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-05 00:00:00 UTC
From: blair@mksol.dseg.ti.com
Message-ID: <400lm3$or7@mksrv1.dseg.ti.com>
Source record: 111428

Gene Mason (gmason@iadfw.net) wrote:
: Hi...Try Borders books at Preston and Royal Ln...Saw several there
: recently.Also Book stop at Preston/Forest Ln, although the Book Stop at
: Town East has the best selection of technical books in Dallas...And don't
: ask me why! Maybe has to do with AT&T being close by. Good Luck... Gene

On SPICE books:
The authors name is either banhaf or branhaf or something close. (Sorry,
I dont have it here). It's a great book and a quick read. It's written
for PSPICE, though. I dont know what platform the original poster uses.

On DFW Bookstores:
Check out Protech books (formerly taylors technical books) on
beltline just east of prestonwood mall. Big tore, good selection,
but full retail (ouch!).

Art.

--
"Television is chewing gum for the eyes" - Frank Lloyd Wright
Dont forget to vote in news.announce.newgroups !
My views dont express those of my employer, etc., etc.

3420. TMS 3802 IC Info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-05 00:00:00 UTC
From: mit@pavilion.co.uk
Message-ID: <400qtb$5j9@fitzherbert.pavilion.co.uk>
Source record: 111429

Has anyone any information on this IC TMS3802A or another TMS3812NC.
They are used as dividers in an organ note generator circuit, late
70/80's.

Please reply by EMAIL if you can

Thanks a lot.

Lawrence

3421. TMS3802 Divider IC Info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-05 00:00:00 UTC
From: mit@pavilion.co.uk
Message-ID: <400qte$5j9@fitzherbert.pavilion.co.uk>
Source record: 111430

Does anyone have any info or equivalenrt for TMS3802A (TO5 pack) or TMS3812NC (DIP), in organ note generator possible late 70's or ealy '80s vintage

Please reply by E-MAIL if you can

Thanks

Lawrence

3422. TMS3802 Divider Info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-05 00:00:00 UTC
From: mit@pavilion.co.uk
Message-ID: <400qtf$5j9@fitzherbert.pavilion.co.uk>
Source record: 111431

Does anyone have info on TMS3802 (TO-5) or TMS3812 (DIP) divider
circuits used in old style electronic organ note generators

Please reply via EMAIL if you can

Thanks

Lawrence

3423. Re: Optoisolator cross-reference help and PAL programming information

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-05 00:00:00 UTC
From: ajcummin@moose.uvm.edu
Message-ID: <1995Aug5.022643.17726@emba.uvm.edu>
Source record: 111432

David Negaard (Oberon-) (negaard@draagen.graceland.edu) wrote:
: I'm working on building the OptoSCC card designed by Henk Penk,
: PA0HZP, and intended for use with a variety of digital-mode modems.
: I've got the schematic, and I've located all the parts I need except
: for the optoisolator chip. It's specified in the bill of materials as
: a PC847, and I can't find this chip or an equivalent. I've e-mailed
: PA0HZP, but he may not be able to respond for any of a variety of
: reasons, so I'll try here. Can anyone help?

By looking at the schematic, you should be able to determine what you
need for an optoisolator - I'm guessing that it is nothing too exotic,
probably just a bipolar output...T.I. makes several, check your Digi_key
catalog.

: The other part of the project that's missing is the PAL used to decode
: the PC bus logic. It's a 20L10 and I can get the part, but I don't
: know how to program it. Maybe I'm confused, but one must program
: Programmable Array Logic, mustn't one?

Yes, you will need to program the PAL, and it is not a trivial process.
Tools exist for developing PAL programs, but they cost $$ - Can you get
away with just using logic gates???

: I expect that I could figure what the program ought to be,
given
: enough time and energy, but I thought I'd pursue a solution with those
: wiser, first (I hope you're all wiser than me, else the state of
: homebrew may be serious ;->=).

: Is there any help available for me out there?
: --
: o David Negaard o negaard@graceland.edu
: o Help Desk Technician o http://www.graceland.edu/~negaard
: o 700 College Avenue o linux-phile
: o Lamoni, IA 50140 o 73 de KB0PXK

--
=-=
Aaron Cummings "A little nonsense now and then is
Colchester, VT cherished by the wisest man..."
ajcummin@moose.uvm.edu -Willie Wonkka
KA1PYK
=-=

3424. 4-1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-05 00:00:00 UTC
From: wayne@nexus.interealm.com
Message-ID: <3vuvtb$s7t@nexus.interealm.com>
Source record: 111433

Looking for a Good homebrew HF amp with 4-1000 finale/working.
wa2kec
wayne@nexus.interealm.com

3425. Re: Longwave Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <401v6q$go0@pipe2.nyc.pipeline.com>
Source record: 111434

On Fri, 4 Aug 1995 in article <Re: Longwave Transmitter>,
'jim.horner@minfox.com (Jim Horner)' wrote:

>From the article "Ground Zero" (Popular Electronics-Oct.'94):
>
>1750-Meter Experimenters' Band:
>- 160-190 kHz - Max. power-1watt
>- Max. antenna length-50 ft. including ground lead and transmission line
---
I don't care what THAT book said. It was either a misprint or a typo on
your part....
because I respectfully must imform all that the limit of the combined
feedline and antenna
system for transmitting can only be a maximum of 15 (fifteen) feet.
If you live near salt water, use it as a ground and place the x-mitter
directly at
the base of the antenna. The vertical portion would then be 15 feet (
constructed with a copper ribbon/tubing or multi-wire to compensate for
R-loss) with a large capacity hat to bring the resonance down as far as
possible without having the outer perimeter of the capacity hat fall below
20% of the vertical portion of the antennas' vertical mast
Out of the 1 watt input to the antenna, consider yourself lucky if 50
milliwatts remain as the radiated portion. A cold winter night is the best
time to recieve VLF signals because of the few static crashes.
I remember reading about a small identifying paper having to be affixed
to the transmitter
with pertinent information on it. I will try to find the article/book that
I had read that from.
If ANYONE get a VLF transmitter on the air or would like to post a list of
vlf xmitters
that you can hear well please post it here. I'm sure 99.999 percent of that
stuff is homebrew.
It is also interesting that you literally can make up your own callsign/id
on there (trying not to duplicate an existing one) If you are allready a
ham you can use your call as it is very unlikely
that it is allready being used on vlf! Most IDs are 3 letters in lenght in
the entire vlf band.
A good idea for a vlf keyer would be a keyer that IDs with a qso number
that changes
every day so you can be sure that qsl report is a genuine one and get a
good picture of propagation...
I have also noticed that the vlf signals are all continuous AM keyed with
the identifying audio.
Enjoy. Anthony G. Catalano WW2W //"nothing is foolproof because fools are

so ingenious!" - unknown

3426. Re: Longwave Transmitter ['lowfer' band]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <401vhi$gpk@pipe2.nyc.pipeline.com>
Source record: 111435

On 03 Aug 1995 in article <Re: Longwave Transmitter ['lowfer' band]>,
'tvr@les.CNMAT.Berkeley.EDU (Tovar)' wrote:

>My recent poking around the Internet has let me to conclude that 1750
meters
>is governed by Part 15:
>
>Sec. 15.217 Operation in the band 160-190 kHz.
>
>(a) The total input power to the final radio frequency stage
>(exclusive of filament or heater power) shall not exceed one watt.
>(b) The total length of the transmission line, antenna, and
>ground lead (if used) shall not exceed 15 meters.

Can you please check if it is 15 feet or meters?
15 meters is about 30 feet, I doubt that they would allow that height.
hmmmm this just gets curioser and curiouser....
Anthony Catalano WW2W

3427. Re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <4021i5$h9f@pipe2.nyc.pipeline.com>
Source record: 111436

On 2 Aug 1995 in article <Re: Why variable BFO?>,
'ian.mitchell@research.utas.edu.au (Ian Mitchell)' wrote:

>Ok, does that mean in a low cost receiver with a not so narrow IF filter,
>a fixed frequency BFO (frequency set to middle of IF) could be used to
>resolve an SSB signal, regardless of which side band the signal is on,
>as long as there are no other nearby signals?
>
>And presumably small tuning steps would be a necessity.
First, yes but it would only be "clarified" if the original suppresed
carrier
frequency (converted) were to be adjusted to fall in the middle of the IF
to match
the fixed BFO frequency as your example gives.
By "as long as there are no othere signals" I mean it would still work, but
a
signal on "the other side" would not be selectively attenuated against
the desired signal in any way unless the shaping of such an IF filter were
offset
to favor one of the sidebands.
A direct-conversion receiver works EXACTLY as YOU have described above
except that there is no frequency conversion performed, although
technically
speaking the first "IF" is the AUDIO produced! (as you can imagine a fixed

bfo in a direct conversion receiver can become very boring feature- Ok for
WWV rec'pt.)
Anthony Catalano WW2W

3428. Re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <4022if$hi7@pipe2.nyc.pipeline.com>
Source record: 111437

On 2 Aug 1995 in article <Re: Why variable BFO?>,
'ian.mitchell@research.utas.edu.au (Ian Mitchell)' wrote:

>And presumably small tuning steps would be a necessity.
oops forgot to answer that one...
Sure, small tuning steps would be peachy-keen to have.
however it has nothing to do mathematically/electronically
with the radio being able to detect signals or not.
(to receive them well/correctly, yes-- I am nit-picking to make a point
only))
If a commercial SSB or AM station is X-mitting exactly on 11005khz
and you can tune in 1khz increments (on SSB mode) and your in luck.
If a ham is on 7.180.5 the closest you can get to his/her frequency
would be 500hz. In THAT case 100hz tuning resolution WOULD
be a very desirable feature in order to zero-beat that signal and
recover it's original intelligence. In my opinion 100hz resolution for a
digital
receiver in ssb mode should be the highest minimum resolution acceptable.
Anthony Catalano WW2W

3429. Re: Want to build a power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <4024gj$i21@pipe2.nyc.pipeline.com>
Source record: 111438

If you can, use power PNP transistors as the pass devices because using NPNs as pass
transistor place the load between from the emitter and ground. (affecting regulation)
The PNP configuration puts the load between the positive supply and the collector.
The collector, unlike the base and the emitter is the only non-controlling electrode
on a 3 leg xsistor.
(actually the same can be done with an NPN by reversing a few things and using an
positive groung isolated from the cabinet but its too confusing a project for a beginner)
Look for a schematic that uses a good reference source, not just a zener diode.
Reference groung at ONE common point: loops or ground voltage differences can
become significant in high-current power supplies.
At 20 amps use 4 pass transistors as a minimum to run cool and also use equalizing
resistors (.05 to .15ohms ??) at the output leg of each one in order to avoid just
one from "hogging" all the current, creating a hot-spot within that transistor.
Any regulated power supply for RF should us a METAL cabinet and the leads should be
RF-shorted to ground using a few capacitors (.01 .47 and a 1uf from positive to the
metal cabinet just befor exiting. The negative line may allready be directyl connected
to ground in most cases so bypassing won't be needed.
Fuse the 110 in and the 12v out!!!
If possible include an overvoltage circuit to protect your fed equipment from cooking. (a simple "crowbar" circuit.)
Meter, meter... use a meter.
Have fun & stay away from 3,000 volt B+ supply projects for now.
Anthony Catalano WW2W

3430. Current balun

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: mkelly@brisbane.DIALix.oz.au
Message-ID: <401bo3aer1@brisbane.DIALix.oz.au>
Source record: 111439

Thanks, Tom Sefranek, for your reply. Obviously there is some
confusion here, as we are talking apples and oranges. My fault
for not explaining further perhaps?

Just as old TV frame transformer ferrites are used for current
baluns at RF even tho their resonant frequency is at 15KHz the
resonance of EMI suppresive ferrites is mostly 'the lower, the
better'. The technique already exists. There are RF suppressive
computer cables available already and the extension to Coax is
logical.

The use of toroids is a poor solution really. The radius of the
toroids have a direct relationship to the effectiveness of RF
control. Halving the radius doubles the effect and to put ferrite
right up on the outside skin ia as close as one can get.

The other factor in toroids is the hight. In putting some ferrite in the plastic
the height is as long as the feeder. Not just the last 2 feet.
This would also have the benefit of increasing the surface area
to allow for heat disipation under total mismatch.

The need to go down from half inch to 1/4 inch coax to wind thru
a frame or toroid would be removed and the heating of its dielectric
and subsequent 'walking' of the center conductor removed. The feeder
could be half inch all the way with no expensive toroids to buy/fit.

To summarise:
The frequency range would be all RF but the higher freqs. would
be removed first.
Power handling should be high with an 'average' run of say, 10 m.
How much is 'enough'? Some is always better than none!
I would just like to see RF suppression at HF and VHF of legal
amateur powers for what should be a marginally more expensive
coax than we buy at the moment. The ferrite powder is cheap.
I know. I bought some. It is made for just this purpose - RF
suppresion on PC cables.

Think about it. And thanks for the come back.
Murray Kelly. vk4aok.

3431. Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: daveb@connect.net
Message-ID: <401inl$qkr@dallas1.connect.net>
Source record: 111440
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

I'm looking for some pointers to detailed work on modulating vco's and synthesizers for transmitters. I'm specificaly looking for more information on Dual port modulation for FSK data. Technical reports are fine, application notes, etc.

Thanks for any pointers

David Bengtson
Yes, these are my opinions
Looking for Old HP-41 Calculators and Accessories

3432. Uniden Plans wanted :) ..

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: flakey@ozemail.com.au
Message-ID: <401hjp$kbb@oznet03.ozemail.com.au>
Source record: 111441

lo'

can anyone tell me if you can get the schematic diagrams for the
Uniden Sundowner UHF CB from Uniden direct - or would anyone have the
schematics for the attachment mic&speaker ports ?

reply via email please :) .. flakey@ozemail.com.au

//flakey

3433. Re: Want to build a power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <402mj4$50q@solaris.cc.vt.edu>
Source record: 111442

In article <4024gj$i21@pipe2.nyc.pipeline.com>,
acatalan@nyc.pipeline.com (Anthony G. Catalano) wrote:
>If you can, use power PNP transistors as the pass devices because using
>NPNs as pass
>transistor place the load between from the emitter and ground. (affecting
>regulation)
>The PNP configuration puts the load between the positive supply and the
>collector.
>The collector, unlike the base and the emitter is the only non-controlling
>electrode
>on a 3 leg xsistor.
>(actually the same can be done with an NPN by reversing a few things and
>using an
>positive groung isolated from the cabinet but its too confusing a project
>for a beginner)

Although using a common-emitter configuration for the pass transistor has some advantages, the main disadvantage is lower stability. The common-collector configuration (load connected to emitter) has inherent negative feedback which prevents the emitter voltage from varying widely while the base voltage is held constant. (The fact that the emittter is a "controlling leg" is an advantage since it controls in a manner that will stabilize the output voltage). Common-emitter circuits act more like current sources, which makes it more difficult to stabilize the output voltage. Additionally the often low ft of power PNP transistors can complicate the stability problem. Another advantage of the common-collector is that the drive current also flows into the load, rather than needing to be dissipated in the driver.

>Look for a schematic that uses a good reference source, not just a zener
>diode.

Absolute laboratory precision of the output voltage is not required for battery replacement type applications, since the equipment being powered is built to handle varying battery voltages. What is important is low ripple from the reference source, since this ripple will appear at the output as well. A Zener diode with two capacitors in parallel with it (one small, to catch RF, and one large, to stop 60 Hz) will do this job nicely. Most commercial supplies are built around the 723 type IC, which includes the reference voltage generator for you.

>Reference groung at ONE common point: loops or ground voltage differences
>can
>become significant in high-current power supplies.

Absolutely.

>At 20 amps use 4 pass transistors as a minimum to run cool and also use
>equalizing
>resistors (.05 to .15ohms ??) at the output leg of each one in order to
^^^^^^^^^^
Should say "emitter" here, regardless of which lead is the output of the
amplifier.

>avoid just
>one from "hogging" all the current, creating a hot-spot within that
>transistor.

The equalizing resistors need to be in the emitter and/or base leads in any
case to absorb differences in the Vbe of the transistors. The collector,
being a current source, will not be affected by a small resistor in series.
If power MOSFETS are used instead (generally more expensive), then no
resistors will be required, they are voltage-driven and can simply be
connected in parallel.

>Any regulated power supply for RF should us a METAL cabinet and the leads
>should be
>RF-shorted to ground using a few capacitors (.01 .47 and a 1uf from
>positive to the
>metal cabinet just befor exiting. The negative line may allready be
>directyl connected
>to ground in most cases so bypassing won't be needed.

Another important point. Using the point where the negative lead leaves
the cabinet as the single point ground would make sense too. Using a
capacitor of several hundred uF on the output will also make the
regulator's job easier in regard to transients, and may even be required to
keep the regulator stable into all loads.

>Fuse the 110 in and the 12v out!!!

Definitely need a fuse on the 120V in. This is the only place that really
needs a fuse since the power supply doesn't generate power, it just
transforms it. The 12V out will have a current limiter of some sort, and
if that fails, the input fuse will blow if it is sized properly.

>If possible include an overvoltage circuit to protect your fed equipment
>from cooking. (a simple "crowbar" circuit.)

Remember to RF-bypass the triger circuit for the crowbar to prevent it from
acting unnecessarily when there is RF around. And never connect a supply
equipped with a crowbar directly to a lead-acid battery without a fuse (a
blocking diode will keep the fuse from blowing, but isn't essential for
safety). Come to think of it, of course never connect ANYTHING to a
lead-acid battery without a fuse right at the battery.

>Meter, meter... use a meter.
>Have fun & stay away from 3,000 volt B+ supply projects for now.

In general, commercially-built linear power supplies (in the 5 Amp and up
class) use NPN transistors as the pass element, controlled by a 723 and

driven by a smaller NPN transistor. The driver circuit is powered by higher voltage from another winding on the transformer or (in smaller supplies) a center-tapped rectifier arrangement. With boosted drive voltage readily available, the main advantage of the common-emitter pass circuit, low dropout voltage, is not a factor, since the common-collector stage can be driven to saturation.

Another trick, rather than dropping 0.7V at the full output current to sense for overcurrent, is to monitor the base drive current instead, since the gain of the output transistors is roughly known, a current limiter adequate for protective purposes anyway can be realized without needing a 50W low-ohm resistor.

For low-current power supplies (1-5 A, for less than 1A just use a 3-terminal regulator), discrete transistor regulators are practical. Usually the error amplifier is implemented with a NPN transistor with the emitter connected to the reference and the base connected to a voltage divider. The reference is a Zener diode, or one really popular design used the front-panel pilot light LED as the reference! Not recommended unless cost is a real concern. The collector of the error amplifier transistor drives a driver transistor, then the output transistor. Both of these are common-collector. It is also quite feasible to use a 3-terminal regulator to drive a current booster transistor for the 1-5A class, but the current limiter for this design requires another medium-power transistor, and the dropout voltage can be quite high as well. The Radio Shack 2A supply (copying not recommended), actually uses a 15V Zener driving two common-collector stages with no feedback other than that inherent in the voltage followers. It doesn't work very well, but shows what can be gotten away with.

-Mike KD4QDM

3434. Re: Longwave Transmitter ['lowfer' band]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <402nb4$50q@solaris.cc.vt.edu>
Source record: 111443

In article <401vhi$gpk@pipe2.nyc.pipeline.com>,
acatalan@nyc.pipeline.com (Anthony G. Catalano) wrote:
>On 03 Aug 1995 in article <Re: Longwave Transmitter ['lowfer' band]>,
>'tvr@les.CNMAT.Berkeley.EDU (Tovar)' wrote:
>
>
>>My recent poking around the Internet has let me to conclude that 1750
>meters
>>is governed by Part 15:
>>
>>Sec. 15.217 Operation in the band 160-190 kHz.
>>
>>(a) The total input power to the final radio frequency stage
>>(exclusive of filament or heater power) shall not exceed one watt.
>>(b) The total length of the transmission line, antenna, and
>>ground lead (if used) shall not exceed 15 meters.
>
>Can you please check if it is 15 feet or meters?
>15 meters is about 30 feet, I doubt that they would allow that height.

1 foot = 0.3048 meter (or 1 meter = 3.28 feet) So 15 meters is 49.2 feet,
which matches reasonably well with "50 feet" quoted in other sources.

How about a 49 foot cube of ferrite, with several turns of heavy copper
ribbon around it, then tuned to resonance with a BFC? Or does the
regulation permit only vertical antennas, no loops?

>hmmmm this just gets curioser and curiouser....
>Anthony Catalano WW2W

I'd like to learn more as well. Is the Part 15 you quoted on-line
somewhere, or will I have to walk 3 blocks to the library and read it from
paper?

-Mike KD4QDM

3435. Re: Want to build a power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: sefranek@iii2.iii.net
Message-ID: <402n8i$2v4@iii2.iii.net>
Source record: 111444

Well,
What step-down transformer do you have? (Voltage and current)
That the FIRST place to start.
If you don't have a transformer, or want to size it before building/buying,
Assume you mean 13.6 Volts out,
Plus 3 volt loss in regulator burden,
Plus 1.5 volts rectifier burden,
You need a transformer with about 18 VRMS at the current you desire, or more.
Quick rule of thumb, for the capacitor is 1,000 mfd for every amp.
so about 20,000 mfd at 25 VDC minimum.
There are so many good choices for linear regulators and pass transistors,
DON'T use the tired multiple 2N3055 design unless it's the only transistors
you can get.
Power FET's rule!

Feel free to E-Mail me for further advice.

Tom

--
Thomas C. J. Sefranek WA1RHP Work: 508-425-2200 Home: 508-425-6672

3436. Re: Good SPICE book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <807704373snz@lfheller.demon.co.uk>
Source record: 111445

In article <400lm3$or7@mksrv1.dseg.ti.com>
blair@mksol.dseg.ti.com "arthur blair" writes:

> : Hi...Try Borders books at Preston and Royal Ln...Saw several there
> : recently.Also Book stop at Preston/Forest Ln, although the Book Stop at
> : Town East has the best selection of technical books in Dallas...And don't
> : ask me why! Maybe has to do with AT&T being close by. Good Luck... Gene
>
> On SPICE books:
> The authors name is either banhaf or branhaf or something close. (Sorry,
> I dont have it here). It's a great book and a quick read. It's written
> for PSPICE, though. I dont know what platform the original poster uses.

I've got this book, I think it's pretty good as well. The author is Walter
Banzhaf, in fact. It's called Computer-Aided Circuit Analysis Using SPICE,
and is published by Prentice-Hall International. It's based on the PSPICE
demo software, which is available via ftp from various places.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3437. Re: Longwave Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <19950806105342OSYSMAS@MVS.OAC.UCLA.EDU>
Source record: 111446

>because I respectfully must imform all that the limit of the
>combined feedline and antenna system for transmitting can only
>be a maximum of 15 (fifteen) feet.

15 meters not feet.

>It is also interesting that you literally can make up your own
>callsign/id on there (trying not to duplicate an existing one)
>If you are allready a ham you can use your call as it is very
>unlikely that it is allready being used on vlf!

I wouldn't use an amateur call as the transmissions are clearly
out of any amateur band.

3438. looking for plans: CB base antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: daved@i-2000.com
Message-ID: <40335t$15v@i-2000.com>
Source record: 111447

My young nephew got an old 23 channel CB and power supply at a yard sale. He is looking for an antenna but his funds are limited. Does anyone have, or know where I can get plans for a simple ground plane? Construction from copper pipe or tensioned wire is what I am thinking of. I think he would enjoy making the antenna more than saving to buy one. Any suggestions appreciated.

3439. Undeliverable Mail

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: CITGATE@ccn.ge.COM
Message-ID: <n1404401055.89793@ccn.ge.com>
Source record: 111448

Unknown Microsoft mail form. Approximate representation follows.

Message: Ham-Homebrew Digest V95 #237
Sent: Sat, Aug 5, 1995 8:55 AM
To: CheesmanDave
On Server: Mail 12 Corp. Woods
Date: Sun, Aug 6, 1995 3:03 PM
Reason: Could not be delivered because the destination Microsoft Mail server could not be found.

3440. Re: Longwave Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4032li$d8v@abyss.West.Sun.COM>
Source record: 111449

In article <401v6q$go0@pipe2.nyc.pipeline.com>,
Anthony G. Catalano <acatalan@nyc.pipeline.com> wrote:
>On Fri, 4 Aug 1995 in article <Re: Longwave Transmitter>,
>'jim.horner@minfox.com (Jim Horner)' wrote:
>
>
>>From the article "Ground Zero" (Popular Electronics-Oct.'94):
>>
>>1750-Meter Experimenters' Band:
>>- 160-190 kHz - Max. power-1watt
>>- Max. antenna length-50 ft. including ground lead and transmission line
>----------
>I don't care what THAT book said. It was either a misprint or a typo on
>your part....
>because I respectfully must imform all that the limit of the combined
>feedline and antenna
>system for transmitting can only be a maximum of 15 (fifteen) feet.

Where did you get this restriction? You'd better get the
Code of Federal Regulations updated, too, since it also contains
the same "misprint".

Just so you can check on this, have a look at Title 47 of the
Code of Federal Regulations, Part 15.

>If you live near salt water, use it as a ground and place the x-mitter
>directly at
>the base of the antenna. The vertical portion would then be 15 feet (
>constructed with a copper ribbon/tubing or multi-wire to compensate for
>R-loss) with a large capacity hat to bring the resonance down as far as
>possible without having the outer perimeter of the capacity hat fall below
>20% of the vertical portion of the antennas' vertical mast
>Out of the 1 watt input to the antenna, consider yourself lucky if 50
>milliwatts remain as the radiated portion. A cold winter night is the best
>time to recieve VLF signals because of the few static crashes.
> I remember reading about a small identifying paper having to be affixed
>to the transmitter
>with pertinent information on it. I will try to find the article/book that
>I had read that from.
>If ANYONE get a VLF transmitter on the air or would like to post a list of
>vlf xmitters
>that you can hear well please post it here. I'm sure 99.999 percent of that
>stuff is homebrew.
>It is also interesting that you literally can make up your own callsign/id
>on there (trying not to duplicate an existing one) If you are allready a

>ham you can use your call as it is very unlikely
>that it is allready being used on vlf! Most IDs are 3 letters in lenght in
>the entire vlf band.

You aren't allowed to a callsign which has been or could be issued
by the FCC, such as an amateur callsign. Maybe you'd better that
mistake in Part 15 fixed, also.

>Enjoy. Anthony G. Catalano WW2W //"nothing is foolproof because fools are
>so ingenious!" - unknown

The irony of your quote darn near killed me.

;-)

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

3441. Re: (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <403f3p$jkn@hg.oro.net>
Source record: 111450

Grover Cleveland <groverc@gvgadg.gvg.tek.com> wrote:

>Can someone please point me to the qrp mailing list?

>73 de WT6P

Well, migod, look who is on the 'net with the rest of us mortals!!

Jim Weir VP Engineering | "I turned to my wife, as startled as the
RST Engineering | pilot by what I'd seen. Dirt-streaked,
Grass Valley CA 95945 | glorious, she smiled at me, tear-bright
voice/fax 916/272-1432 | radiance. 'Richie, they're going to try
rst-engr@oro.net | for it!' she said, "Wish them love!'" (Bach)

3442. VFO Stability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDCwv2K.LB5@netcom.com>
Source record: 111451

I'm pretty finicky about VFO drift, being a musician with acute sensitivity to pitch. So I thought I'd share a few experiences in homebrewing 7 MHz VFO's and ask some other comments/advice.

The simple Hartley circuit (such as W7EL's Optimized QRP Xcvr) never satisfied me -- it never seemed to settle down, with a slow drift downward that never stopped. This is after boiling the toroid (which helped), and using NP0 caps. It went down about 200 Hz in an hour (cold start), thereafter about 80 Hz per hour -- enough to notice during a QSO, because at 750 Hz a change in pitch by a half-step (musically speaking) is about 40 Hz -- noticeable to me! This is after boxing it up carefully, letting it cool a long time, etc.

Incidentally, it's interesting to listen for drift when heating the leads of individual components. A quick probe with the iron, and withdrawing a safe distance, showed that capacitors marked NP0 do indeed have *some* drift in an imperfect world, but most of them moved very little (and in either direction!) Heating the transistor, and even the RIT tuning diode, had less effect than I thought. BUt, of course, the TOROID was the biggest culprit, providing a siginificant downward drift of 1 or 2 kHz (i.e., more inductance) when the iron was stuck in the hole for about 2 seconds. (This is a T-44-6 coil).

Substituting air wound Miniductor stock helped, but again that steady drift down.

Then I built up the series-tuned Colpitts used by W1FB, a breadboard version without a box. At 7 MHz, a toroid inductor (about 6 uH) again proved unsatisfactory, the drift being about the same. Using a piece of close spaced airwound coil stock, stability improved a lot, with many 1 hour periods where I could leave the room and return, and the pitch remained steady to my ear. (this means less than 40 Hz).

Better yet, a close-wound wire coil on a 1/2 inch ceramic form (no slug) did even better in the above circuit. One run I left it sitting all night, and it stayed with a half-step at about 200 Hz audible pitch -- a drift of about 10 Hz! Spot checks during the day show&#65533;d it staying within about this range. Other runs varied, but were significantly better than other configurations. And all this without a box, though in a room without windows with fairly steady temperature (when the central air isn't on).

Both of the air-wound coils were far more immune to drift from blowing on them at a distance (warm air from your breath).

My drift was measu&#65533;ed by ear on a RS DX440 receiver, with BFO continually recalibrated to zero beat on 10 MHz WWV. (Yes, you CAN hear zero beat if you listen for variations in background noise, and especially when it's modulated with a continuous tone).

So, it seems that the old Miniductor stock, with its plastic ribs, is pretty good, but prone to some drift from heating. I wonder how good a piece of small PVC pipe would work -- because my ceramic forms are a bit large and I don't know how to cut them cleanly!

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di dah, di dah, di dah...
: Minneapolis / (sorry, Duke!)

3443. Re: VFO Stability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <403k0p$ab@nuclear.microserve.net>
Source record: 111452

rohrwerk@netcom.com (John Seboldt) wrote:
>
>Better yet, a close-wound wire coil on a 1/2 inch ceramic form (no slug)
>did even better in the above circuit. One run I left it sitting all
>night, and it stayed with a half-step at about 200 Hz audible pitch -- a
>drift of about 10 Hz! Spot checks during the day show&#65533;d it staying
>within about this range. Other runs varied, but were significantly better
>than other configurations. And all this without a box, though in a room
>without windows with fairly steady temperature (when the central air isn't
>on).

This agrees closely with my own experiences building VFOs. One of the most stable I ever produced was built around the older W7ZOI high-stability (JFET) Hartley circuit. I used an ARC-5 transmitter covering the 80M band as a test bed and simply wired the FET, diode and one or two small fixed ceramic caps onto the tube pins of the original oscillator. The caps I added were *not* NPO. For anyone not familiar with these transmitters, their VFOs used a very large ball-bearing tuning cap, an air trimmer, and a large ceramic coil form (about 1-1/2") with heavy gauge wire and a tunable iron slug. All of the tuned components were enclosed in a formed aluminum shield on the top side of the chassis.

Anyway, after installing the circuit in the original chassis, I found that the original dial markings were almost exactly correct, and that only a slight adjustment of the trimmer and slug were required for perfect alignment. Most of the cold start drift occurred in the first 15 minutes and was measured at better than 100 Hz over the first hour, improving to better than 10 Hz per hour thereafter. After confirming this with cold starts on several consecutive days, I let the oscillator run overnight. The <= 10 Hz wanderings recorded during previous runs were both positive and negative, and the final measurement after more than 24 hours was still within 10 Hz of the frequency achieved after one hour of warmup. FWIW, the counter used for these tests had a 10 MHz ovenized oscillator and was adjusted to WWV (as necessary) before each measurement.

There is no question in my mind that ceramic forms and large gauge wire are a significant aid to good VFO design. At the very least, starting with these components can save many hours of cut and try in attempting to build stable VFOs.

73, Jack WB3U

3444. Gyrator Curcuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-06 00:00:00 UTC
From: joe@westonia.com
Message-ID: <DCwxuy.41r@westonia.com>
Source record: 111453

I am looking for information on a method of curcuit design call the 'Gyrator'.
What is of interest is that the design uses resistance, rather than
inductance, to create impedance.

What the basic cuircuit looks like is a group of resistors in series of the
same value with one capacitor in that series line.

For an example of a curcuit using 5 resistors, the formula for calculating
inductance would be
L=

R1 R3 R5

R2 1/C1

I've seen some very technical references to this in my searches, but nothing
basic enough to be able to work with.The value of this information would be
for low frequency work (160 and 80 meters).

Thanks in advance

Joe
Ve3FMQ

3445. Need any autopatch project info or code for construction

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: aturbide@barint.on.ca
Message-ID: <405h3m$h91@galaxy.barint.on.ca>
Source record: 111372

I would be interested in building my own microcontroller based autopatch but found that there is a shortage of good construction arcticles or code available to the hobyist. Any info would be appreciated. (I prefer to program my own cpu's and shy away from any preprogrammed ic's). Thanks ..
Alan

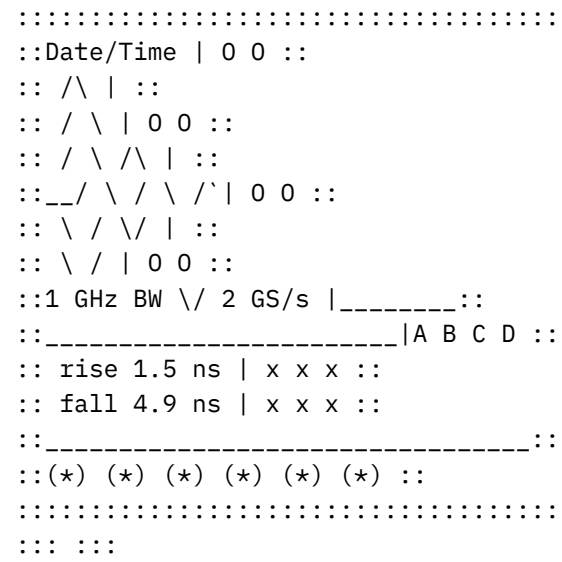
3446. Digital Storage Scope.FAQ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: john@wd1v.mv.com
Message-ID: <john-0708950513560001@wd1v.mv.com>
Source record: 111454

(monaco 9 pt.)

Summer, 1995

Digital Scope.FAQ - Version 1.09



Dear Technologists:

This Digital Scope.FAQ file contains many (but not all) of your answers to the more "Frequently Asked Questions" re: Digital Storage Oscilloscopes (DSOs).

Key Issues reviewed in this file include:

* DSO INDUSTRY TRENDS (Whats happening in DSO technology in 1995?)
* DSO FORM FACTORS (What types of DSOs are there?)
* PRIMARY DSO FUNCTIONS (What can DSOs actually do?)
* APPLICATIONS (What are the most common DSO applications?)
* ADCs (What speed do I really need on each channel?)
* BANDWIDTH & TRIGGER (What numbers and functions are right?)
* ARCHIVAL & MEMORY (How fast, how deep, and can I get more?)
* DISPLAYS (What am I really looking at?)
* MEASUREMENTS (How much is my signal changing over time?)
* DIGITAL SIGNAL PROCESSING (How can I obtain more useful information?)
* DEMOS & PURCHASING (How can I see and get the DSO I really need?)

Feel free to contact me anytime (john@wd1v.mv.com) if you have additional questions or comments.

*If you want the latest version of this file sent to you automatically, send an EMAIL where the subject field contains the text "subscribe scope.faq".

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DSO INDUSTRY TRENDS 1995

MORE DSOs ARE NOW SOLD THAN ANALOG SCOPES. Expect most new scope models to be DIGITAL and have faster sampling, higher bandwidths, deeper memories, and lower costs than in 1994. COMPARABLE MODELS HAVE FALLEN IN PRICE BY ABOUT 50% IN THE LAST 4 YEARS. The DSO market is very competitive - thats good news for buyers.

DSOs STILL VARY IN PERFORMANCE IN A VARIETY OF WAYS. Each manufacturer provides a certain degree of standard features, but their different design schemes produce unique performance strengths and weaknesses. Compare and evaluate.

```
Specifications: Model X Model Y Model Z
============================ ======= ======= =======
Max Transient Sample Rate
Max Repetitive Sample Rate
Analog BW
Timebase Range Max
Timebase Range Minimum
Volts/Div (Range)
Cust. Vertical Rescaling (Y/N)
Vertical Resolution (# of bits)
Number of Channels
Max Samples on all Channels
Max Samples on 1 Channel
Display Size (Diagonal)
Display Resolution
Display Type
CPU (Type and Clock Speed)
Math Co-Processer (Y/N)
Maximum FFT Record Size
Multiple Zooms per Trace (Y/N if Y, #?)
Multiple Grids for full 8 bits
Multiple Cursors per Screen (Y/N if Y, #?)
Pulse Parameters (#Total/#Viewable)
External Trigger Input (Y/N)
Time Stamps on Segments (Y/N)
Timing on Peak Detects (Y/N)
Statistics on Parameters (Y/N)
Roll Mode Acquisitions (Y/N)
Pass/Fail Masks & Parameters (Y/N)
Chained Math Operations (Y/N if Y, #?)
Free Firmware Upgrades (Y/N if Y, #?)
Memory Upgrades (Y/N)
Video Trigger (Y/N)
High Density DOS Disk (Y/N)
Hard Disk (Y/N)
High Speed Built-In Printer (Y/N)
FFT (Y/N)
Histogramming (Y/N)
Advanced Mathematics (Y/N)
```

Standard Warranty (Number of Years)
Prices w/ all options ($)

SMART CHOOSERS typically let their S I G N A L S determine the primary specifications (Sample Rate, BW, Memory Depth, Trigger BW, etc.) and let their A P P L I C A T I O N determine secondary specifications (I/O, Measurement, DSP, etc.).

MAINFRAME POWER IS NOW IN THE NEWEST PORTABLES. DSOs now can include memory depths > 1M samples per channel and offer processing options such as HISTOGRAMMING or FFTs on up to 6M samples.

DSOs ARE GETTING EXTREMELY COMPUTATION INTENSIVE. Deeper memories, multiple channels, high resolution displays, and enhanced DSP routines tax the fastest CPUs and smartest firmware. Latest designs use multi-processor architectures. SMART CHOOSERS must know the CPU specifications as well as the key DSP benchmarks.

DSOs AREN'T JUST FOR TRANSIENT CAPTURE ANYMORE. Latest DSOs can now process multiple sweeps and generate envelopes, compute statistics, do complex DSP functions, conduct stand-alone tests, archive and print data, and even FAX DSO screens with measurement and test results to/from remote sites.

DSOS ARE BEING OPERATED BY MORE COMPUTERS as redundant tests and measurements are being automated. Most DSOs come with IEEE-488 and RS-232 interfaces and offer remote programmability and data transfer. Most DSOs have free or low cost device drivers for popular software packages.

DSOs ARE THE HIGHEST BW OSCILLOSCOPES AVAILABLE. The highest BW "ANALOG" scope currently in production is only 400 MHz. while several DSOs go well beyond 1 GHz. The future is clearly digital!

MAXIMUM REAL-TIME SAMPLE RATES (Single Shot) can now go to 10 Giga-samples in 1 new portable DSO model just announced.

ACQUISITION MEMORY DEPTHS are expanding from 10 K to 50 K (typical MINIMUMS) and up to 8 Million samples (maximum).

CLOSENESS TO SOURCES IS ALSO GOOD NEWS FOR SMART CHOOSERS. The vast majority of the DSOs that are sold in the United States are manufactured by US Corporations making delivery, service, calibrations, and support most convenient.

UPGRADE PATHS for firmware and hardware expansions are becoming common. but not all models can be upgraded - another issue of concern for SMART CHOOSERS.

DSOs ARE THE PRIMARY DEBUGGING TOOLS FOR HIGH SPEED DIGITAL CIRCUITS since they can now sample so rapidly and trigger on so many different fault conditions.

TRIGGER RATES are becoming an important specification with varying amounts of information per trigger or sweep.

SOME DSO MANUFACTURERS ARE OFFERING COLOR DISPLAY OPTIONS. Some versions utilize the colors cleverly with COLOR GRADED PERSISTENCE.

While many applications only require a single channel DSO, MOST USERS ARE NOW PURCHASING 4 CHANNEL DSOs.

SOME manufacturers can INTERLEAVE the CHANNELS of their DSOs so that, for example, in a 2 channel model, twice the sample rate is achieved when using just 1 channel compared with both channels being used.

SOME manufacturers can INTERLEAVE the MEMORIES of their DSOs so that, for example, in a 2 channel model, twice the memory depth is achieved when using just 1 channel (and twice the recording time) compared with both channels being used.

SOME manufacturers can INTERLEAVE CHANNELS and MEMORIES. *SOME OFFER THIS FEATURE ONLY WITH THEIR DEEPEST MEMORY OPTIONS - be careful.

Functions are increasing so the USER INTERFACE IS GAINING INCREASING IMPORTANCE. Features need to be extracted as needed - quickly and without a lot of button pushing, knob twisting, or frequent trips to the user's manual.

DSOs WITH FLOPPY DISK DRIVES ARE THE RULE VS. THE EXCEPTION. Almost all new units offer them - either as options or as standard features.

SOME MANUFACTURERS ARE NOW OFFERING BUILT IN HARD DISKS that are removable and thus, transferable, (via PCMCIA interfaces) to laptops or PCs.

MOST DSO MANUFACTURERS OFFER A NUMBER OF FREE SERVICES:
o Full line catalogs and price sheets
o DSOs for evaluation on your signals with a "how to use it" demonstration
o Application Notes that relate how to take specific measurements or tests
o Seminars to teach basic DSO technology
o Seminars to teach application specific techniques
o Competitive DSO COMPARISONS
o TRAINING after delivery for most rapid return on investment
o TOLL-FREE TELEPHONE APPLICATIONS ASSISTANCE to support their platforms
o Drivers for third party SOFTWARE used for remote control and analysis.

The primary American manufacturers of DSOs are:

o Fluke Corporation 800 443-5853 in Everett, WA

o Hewlett-Packard 800 452-4844 in Palo Alto, CA

o LeCroy Corporation 800 553-2769 in Chestnut Ridge, NY

o Tektronix Corporation 800 426-2200 in Beaverton, OR

(If you are outside of the United States, contact a local sales office) &#65533;

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DSO FORM FACTORS

DSOs are now available in 5 different form factors:

1) PC CARD - A to D on a card that uses a PC's CPU and memory - PCB Style
Interesting due to low cost. Look out for noise problems from some PC's
backplanes.

2) STAND ALONE CARD - DSO on a card for embedded systems - PCB Style
Interesting due to low cost, small size, fewer noise issues - greater
functionality.

3) HANDHELD - Portable capabilities - Portable Style Battery operated for
field measurements.

4) PORTABLE - with some amount of upgrade capabilities - Portable Style
Performance approaching mainframes and low cost due to high competition,
high volume, and large scale integrations.

5) MAINFRAME - typically with plug-ins that determine performance - Lab Style
Highest cost but highest performance and greatest versatility.

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PRIMARY DSO FUNCTIONS

The 5 Primary Functions of a DSO are to:

1) CAPTURE.....the signal
2) VIEW........the signal
3) MEASURE.....the signal
4) ANALYZE.....the signal
5) DOCUMENT....the signal

CAPTURE = consider SAMPLE RATES, MEMORY DEPTH, BANDWIDTH, TRIGGER,
NUMBER OF CHANNELS, and PROBES.
(Here you should have a predetermined knowlege of the highest frequency
signal you need to digitize, what its full scale amplitudes are, and whether
or not you need to capture single shot or repetitive waveforms. If these issues
are unclear to you, review them with your sales engineer.)

VIEW = consider ADC resolution, DISPLAY resolution, Display size,
DSP results, and ZOOM EXPANSIONS.

MEASURE = consider PULSE PARAMETER requirements, CURSORS, and STATISTICS.

ANALYZE = consider DSP, PASS/FAIL Testing, MASK Comparisons, and EYE Diagrams.

DOCUMENT = consider PRINTING, SCREEN SHOTS to DISK, and DATA TRANSFERS.

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APPLICATIONS

DUE TO EXPANDING FUNCTIONS AND CAPABILITIES, DSOs lend themselves to a
wider variety of application areas. Like a computer, the more applications you
can use an instrument for, the more valuable it is and the easier it is to
justify. Here are a few for you to consider:

o The most obvious one is to use a DSO as an OSCILLOSCOPE. Typical
applications are electronic circuit design and debug and troubleshooting

faulty or intermittent circuits.

o Another common application is as the front end of a DATA ACQUISITION SYSTEM. DSO's cost per channel has become very competitive. Many people find that the triggering flexibility, deep memory, "live" view of waveforms, and fast transfer rates make the DSO a great candidate. If your experiment is short lived, it is nice to have a DSO when you are done vs. a black box that gets shelved and forgotten. Typical applications are research experiments, process monitoring, and flaw detections.

o DSOs lend themselves to being fully integrated into ATE SYSTEMS. In this example, the DSO is under remote control from a host computer and conducts its business by computer command. Typical applications are incoming Quality Assurance of components, Manufacturing/Production Functional Test, Final Test, and System Test.

o DSOs can be used (card level or portable rack mounted form factors) and can be embedded into systems that require Analog to Digital conversion and data analysis. Here the DSO is used as a SYSTEM COMPONENT and eliminates the need and time of engineering custom devices.

o DSOs DISPLACE/REPLACE MANY DEDICATED INSTRUMENTS - i.e. DMMs, Spectrum Analyzers, Impedance Analyzers, Time Interval Analyzers, Frequency Counters, Pulse Counters, Power Meters, etc.

Some of the common DSO Application fields include:
o Aerospace
o Automotive Electronics
o Avionics
o Chemistry
o Computer Backplanes/Interfaces
o ElectricalComponents
o Electric Power
o EMP/EMI/EMC
o LASERS
o Lightning Studies
o Magnetic Media <Disks>
o MATE
o Medical
o NDT
o Networks/Communications <ATM, FDDI, Ethernet, AX.25,etc.>
o Noise/Acoustics
o Power Supply Design/Manufacturing
o Process Control
o RADAR
o Semiconductor Design/Manufacturing
o SONAR
o Telecomm (Switches, Cellular,Telemetry)
o Ultrasound Vibration/Mechanical Analysis

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ADCs

ADCs - SPEED
LOOK OUT for short record length DSOs that can only sample at maximum rates for short periods of time. Ideally, the sample rate value should be displayed on
screen all the time. BE CERTAIN YOU CAN SAMPLE FAST ENOUGH IN REAL TIME (SINGLE SHOT) MODE ON ALL CHANNELS NEEDED FOR THE RECORDING TIME NEEDED SO AS NOT TO ALIAS!

Another point of confusion are SAMPLE RATES specified for REPETITIVE vs. SINGLE SHOT acquisitions. REAL-TIME refers to SINGLE SHOT and RIS refers to Random Interleaved Sampling. RIS is sometimes called ET or EQUIVALENT TIME sample mode.

The sample rate speed of the DSO's analog to digital converter is a very important specification. It is the minimum time between each sample. For instance, a 500 MS/sec. sample rate relates to 2 ns. per point resolution. Multiply the number of sample points * the sample period to determine a DSO's maximum recording time @ maximum sample rate.

Many people confuse the SAMPLE RATE speed with the BANDWIDTH. BANDWIDTH is simply the analog front end performance (preamplifier and sample and hold circuitry).

ADCS - RESOLUTION
This refers to full scale resolution. An 8 bit digitizer will divide full scale input voltages by 255 counts. Thus the minimum discernible sampled value on a 1 volt full scale 8 bit DSO would be 1 / 256 or .00390 volts per step.

If you have repetitive waveforms, you can increase your vertical resolution with AVERAGING.

If you have transient waveforms, you can increase your vertical resolution by low-pass filtering each sweep <FIR> for ENHANCED RESOLUTION.

ADCS - ACCURACY
Not all ADCs are created equally. The most common figure of merit is EFFECTIVE BITS that relate the number of correct bits of a given ADC's actual measurements vs.ideal.

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BANDWIDTH & TRIGGER

BANDWIDTH
BW is the amount your signal will be attenuated by the DSOs front end amplifier - specified at the -3dB point - as a function of input frequency. Remember that BW ratings are at the input to the amplifier and that your PROBES might also attenuate your signals. If you are looking at signals > 50 MHz, try a FET probe.

Remember that -3dB is down in amplitude by almost 30%. You probably DON'T want a 30% error in your amplitude measurements. Consider the higher BW DSOs so your measurements will be accurate.

LOOK OUT! Many DSOs have BW ratings that reflect their best performance but only in certain voltage ranges.

LOOK OUT! Some DSOs reduce sample rates by the number of channels activated. This could cause aliasing by changing the relationship of how fast the DSO is sampling vs. the BW of the signals you are digitizing.

Many DSOs have analog BW specifications far greater than their SINGLE-SHOT sample rate's Nyquist (.5 sample rate) frequency. This is so that when repetitive waveforms are viewed, the maximum BW signals can be seen.

TRIGGER
If you can't TRIGGER on the waveforms you need to see, you have a real problem! This should be center stage for your demo if you are looking at a new DSO. There are various trigger capabilities and a combination of them that are easy to use that capture your waveforms is the most desirable.

Know how frequently you need to trigger. The maximum trigger rate is a key specification that isn't often published in manufacturer's specifications as there can be many variables. Evaluate and compare!

Some DSOs have a MEMORY SEGMENTATION feature that lets you trigger very rapidly and fill just a portion (1 segment out of #n segments) per trigger.

Most DSOs will let you trigger on the width of pulses <GLITCH>, the INTERVALS between pulses, the LOGICAL or PATTERN conditions between inputs, after specific delays by events or time, drop out conditions, etc. Compare!

Look for TRIGGER ICONS that relate how the current trigger selection is working. This is very helpful if you are looking at a screen dump later and trying to reacquire with the same trigger conditions.

DSOs are valuable tools for looking at video signals but not all DSOs offer a video trigger as a standard feature. Compare!

DSOs can almost always capture single shot events but not always with the amount of pre or post trigger delay you might need. If your application requires capturing a lot of transient waveforms, look into the span of trigger delay as an important spec.

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ARCHIVAL & MEMORY

ARCHIVAL
FLOPPY DISKS - They are nice - should be MS-DOS and should come with file formatter so you can convert to ASCII and back then back to binary.

HARD DISKS - They are becoming available and offer the same kind of convenience that is realized in PCs.

MEMORY CARDS - They are expensive but they are fast - up to 200 times faster than a floppy. Require reader at PC to use the data.

PRINTERS/PLOTTERS - They are the best way of showing the world your waveforms and your measurements. Plotters are great for elegant color - most impressive for overheads.

ARCHIVAL DATA FILE TYPES:
WAVEFORM FILES - Binary but with conversions to ASCII for import into other programs and from ASCII back to DSO's binary format.

SET UP FILES - Most DSOs have front panel setups that you can recall and store either in nonvolatile memory in DSO or to disk.

SCREEN SHOTS - "Print to disk" graphics files that are screen dump imports into your word processor.

MEMORY
Tricky! Manufactures specify their largest numbers. Look out for some DSO's acquisition memory values that divide by the number of active channels.

Don't confuse acquisition memory with reference memory specifications. Reference memory is used for copies of waveforms recorded earlier and made available for comparison either by viewing or by mathematics. Some DSOs have longer acquisition memories than reference memory. Compare!

Not all DSOs have the same number of reference memories. More are better. Make sure they have the width to contain your processed data. You can't store 12 bit averaged waveform data in 8 bit reference memory. Compare.

Not all DSOs have the same number of memories for front panel set-up/storage and recall. Compare.

Some manufacturers offer MEMORY CARDS for additional reference memory.

Some DSOs allow for MEMORY SEGMENTATION where you can acquire multiple trigger events in a single sweep display. A few models will also record the time of each trigger event that occurred.

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DISPLAYS

NOT ALL DSOS ARE CREATED EQUALLY - ESPECIALLY THEIR DISPLAYS! The best compact an entire sweep of acquisition memory onto a single screen with a min/max algorithm. The benefit is that you don't have to page thru screens to see the interesting details in your data. Min/max compaction makes faults obvious.

IDEALLY, THE SCREEN WILL BE LARGE enough so that you can see the WAVEFORMS and MEASUREMENTS clearly at the SAME TIME. Look out for small diagonal measurement displays that put measurements on top of the waveform data.

DSO displays are typically specified in terms of resolution and diagonal size. The higher the resolution, the easier it will be to see fine details and the better your publications that have imported DSO screens will appear. The larger the diagonal size, the greater the chance of being able to see critical information on screen all at the same time vs. pages of menus.

IDEALLY, YOU SHOULD HAVE ALL THE INFORMATION ON SCREEN THAT YOU WANT IN YOUR REPORT. Consider things like trigger parameters, ICONS, measurements, input and timebase settings for each trace, sample rate, cursors and their measurements for each trace, clock/calendar. That is a lot of information on screen. How does it look?

IDEALLY, YOU SHOULD HAVE THE ABILITY TO EXPAND OR ZOOM in on DIFFERENT PARTS of your waveforms to see details more clearly and to limit your measurements to within a given region of data. This means MULTIPLE EXPANSION WINDOWS are best.

Ideally, the graticule <grid> should be done in software and allow multiple traces to be displayed, each within their own grid. This preserves the full scale voltage input ranges for best accuracy.

Ideally, the DSO display should have a report of what the front panel status is so that the entire setup of the DSO can be observed, verified, replicated, and printed.

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MEASUREMENTS

NO MORE FINGERPRINTS ON THE SCREEN FROM COUNTING GRID SQUARES! Modern DSOs display precise measurements of any waveform you capture.

Measurements are either made with CURSORS or automatically with PULSE PARAMETERS such as as RISE TIME, RMS, FREQUENCY, etc. seen right on the display.

Ideally, the PULSE PARAMETERS should include STATISTICS so you can see and measure HOW MUCH YOUR WAVEFORMS ARE CHANGING with every new trigger or acquisition.

Cursors should show:

ABSOLUTE AMPLITUDE at a given point

ABSOLUTE TIME <from trigger> at a given point

RELATIVE AMPLITUDE <difference in amplitude between any 2 points>

RELATIVE TIME <difference in time between any 2 points>

Ideally, EACH TRACE should have its own set of cursors for SIMULTANEOUS measurements on all displayed traces.

You should be able to make measurements automatically on all displayed traces.

PAY CLOSE ATTENTION TO THE DSO'S ABILITY TO DETECT AND MEASURE SIGNALS THAT ARE CHANGING. THIS IS OFTEN OVERLOOKED AND YET IT IS OFTEN THE MOST NEEDED CAPABILITY.

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DIGITAL SIGNAL PROCESSING <DSP>

DSP is doing math on the waveforms so additional information can be obtained.

Some instruments really slow down when DSP is being performed. Ask for benchmark specifications on the key functions you need. Don't waste your time looking at DSOs that just aren't fast enough.

Another DSP concern is that some manufacturers don't process an ENTIRE waveform because of poor CPU power. Make sure the data you need processed is really being processed!

Another DSP concern is that you may wish to do a SERIES of functions. How many functions can be chained varies from model to model. Compare!

Consider these potential DSP functions:

Arithmetic (Add, Subtract, Multiply, Divide any traces)
Averaging (Remove random noise, improve resolution)
Enhanced Resolution (Smoothing, improves resolution at reduced BW)
Functions (Integrate, Differentiate, Envelope, etc.)
FFT (Spectral analysis of any trace)
Histograms (Distributions of measured values)
Pass/Fail Testing (Comparisons of live waveforms to masks or measurements)
Trending (Time series of measured values)

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DEMOS & PURCHASING

BEFORE THE DEMO
BE IN TOUCH WITH YOUR BUSINESS NEEDS as they relate to your DSO needs. Are you going to faster designs soon that might impact the banner specifications you'll need in the near future?

WRITE DOWN EXACTLY WHAT YOU EXPECT THE NEW DSO TO DO. Make it your "Wish List". Try to find out what the most popular DSO is for your application.

GET A SENSE OF HOW SOLID YOUR BUDGET IS and how soon you can place an order once you make a decision. If it is more than 6 months away and your short term needs are critical, consider rental or lease.

PLAN SEVERAL DIFFERENT DEMOS WITH DIFFERENT MANUFACTURERS. Let them know it is a "competitive situation" and you want the best DSO you can get that meets your needs. You'll get a lot of attention and the best of services.

SCHEDULE THE DEMOS IN YOUR LAB INSTEAD OF YOUR CONFERENCE ROOM. You'll be closer to your signals and the real environment <what noise?> where the DSO will have to work.

YOU SHOULD PLAN TO SEE A DEMO OF THE EXACT MODEL DSO YOU ARE THINKING OF USING - with all the options you believe you'll need - conducted by a Sales Engineer that knows the instrument and what you need it to do extremely well.

THE DSO MANUFACTURER's SALES ENGINEER SHOULD BE A GREAT RESOURCE TO YOU. By reviewing your application and assisting you with a model selection that is technically correct, your demo will be much less likely to disappoint you or anyone else.

If you have never met the Sales Engineer, plan to start with a quick tour of your facility. Explain why you need the DSO showing them the area that it will be used in and what you expect it to do. The tour may let your Sales Engineer see things that will help you that you hadn't thought about.

DURING THE DEMO
A quick overview of the DSO's banner specifications and key features is a good place to start the demo. Focus quickly on how to drive the front panel and how to extract the various functions. If it looks complex, save front panels you'll need to recall. Ask questions.

You should see your signals on screen EARLY into the demo and plan to borrow the DSO for at least a few days to evaluate it if the demo goes well.

THE DEMO SHOULD PROVE THAT THE DSO MODEL BEING DEMOED CAN DO YOUR SPECIFIC APPLICATION(S). If the demo can't do that, you are probably wasting time by evaluating it further AFTER the demo. If the DSO has to do a specific task, see it happen at the demo and learn how to replicate the settings so you can do it after the Sales Engineer leaves.

PAY ATTENTION TO THE NUMBER OF BUTTONS that have to get pushed to go from one operation to the next. If the demo is really canned, force some hopping around so you see typical vs. streamlined operation.

Find out how long the DSO model you are looking at has been on the market. Ask for MTBF figures <Mean Time Between Failures>. Find out where the closest service center is and how long a typical repair or calibration turnaround might take.

If you are a LARGE company, find out who else in your company is using the same/similar DSO from the Sales Engineer. Chat with the other users.

If you are a SMALL company, find out who else in your industry within your area is using the same/similar DSO from the Sales Engineer. Chat with the other users.

Take as much time as you like. Don't rush it. Ask questions. Record answers. Enjoy the process. If you get saturated, take a break and return.

Check the demo DSO that will be left for evaluation to make sure:
o That it will accept your full scale voltages
o That it samples fast enough to capture your waveforms with high fidelity
o That it is not affected by other signals in your environment
o That it has the options necessary to take your measurements
o That it has a manual covering operations
o That you have the applications engineering telephone number for support during your evaluation period

DURING THE EVALUATION
MAKE NOTES OF THE QUESTIONS YOU HAVE AND RECORD THE ANSWERS. It will keep you focused.

CALL THE FACTORY'S APPLICATION'S GROUP AND TEST THEM to see how well they answer your questions. Get application notes sent to you that address your areas of interest. Is there ever a telephone or service charge for contacting

them?

DON'T BELIEVE THERE IS ONE DSO THAT DOES EVERYTHING. Most labs have a variety of DSOs for various functions.

Try this experiment with the DSO you are considering. Connect a signal source up to the DSO where you can vary the amplitude of the signal by very small amounts. The waveform should have at least 3 or 4 complete cycles on screen and be 90% of full scale. Once you have a stable trigger, store a copy of the waveform into a reference memory. Then activate math so that all new waveforms are being subtracted from the waveform in reference memory. See how little you can change the amplitude level on the generator to see and measure the difference with the DSO. Remember: A large part of the utility of a DSO is verifying that things are exactly as they should be and seeing when they aren't.

AFTER THE EVALUATION
IF THE DSO DIDN'T MEET YOUR EXPECTATIONS, MAKE SURE YOU KNOW WHY and include the new things you've discovered in your Wish List that you've learned.

PURCHASING
Get a list of ALL OPTIONS available for the DSO so that you can order the exact configuration that really addresses your needs. Make sure you and your Sales Engineer determine issues that might include:
o Memory Expansion Options
o Waveform Processing Options
o Disk Drive Options
o Printer Options
o Hardware Options <External clock, video trigger, I/O, iso amps,etc.>
o Active Probes
o Probes with different attenuations than those supplied with the DSO
o Scope Cart
o Rack Mount
o Hard Shell Transit Case for safe shipping your DSO to remote sites
o Probes for all channels <Not all DSOs come with a probe/channel!>

You should also explore the manufacturer's policies and costs regarding:
o Applications Assistance
o Calibrations- NIST, MIL, Performance Checks, ISO-9000, At-Site Service
o Capabilities for Training Users
o DSO System Software/Firmware Upgrades
o Warranty Period - Extensions

You should GET A WRITTEN QUOTATION that relates the model, specifications, options, all costs, delivery, and any discounts available. Most manufacturers offer Educational, GSA, Quantity, and/or Demo discounts if you qualify.

You might also consider rental or leasing options. Most rental companies offer equity rentals where rental/lease fees apply towards purchase. AT&T CAPITAL CORPORATION is an excellent source of information concerning this
@ 800-874-7123.

-eof-

--

==
John D. Seney, WD1V Internet: john@wd1v.mv.com
144 Pepperidge Drive America On Line: jseney@aol.com
Manchester, NH 03103-6150 AX.25 Pkt: wd1v@wb1dsw.nh.usa.na
(H) 603-668-1096 Ampernet: wd1v@wd1v.ampr.org
(O) 603-627-6303 (F) 603-627-1623 (P) 800-SKYPAGE #5956779
* Source for Digital Scope.FAQ
*To obtain the latest copy automatically, simply send me an EMAIL
with "subscribe scope.faq" in the subject field.
==

3447. Re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: jrovero@q.continuum.net
Message-ID: <403rcb$n9h@news.continuum.net>
Source record: 111455

In <1a6_9508061528@mba.mba.org>, Michael.Black@juxta.mba.org (Michael Black) writes:
>ian.mitchell@research.utas.edu.au (Ian Mitchell) is wondering
>why the low cost shortwave receivers have tuneable BFO's while
>the more expensive ones have a LSB/USB switch.
>

There are some very pricey professional HF receivers by Watkins-Johnson,
Racal, etc that STILL have variable BFO in the CW mode.

Very pricey receivers.......

P.J. "Josh" Rovero work: provero@connix.com
Ocean Surveys, Inc. play: jrovero@q.continuum.com
Old Saybrook, CT 06475 USA Amateur Radio: KK1D

3448. re: Why variable BFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: ian.mitchell@research.utas.edu.au
Message-ID: <403u77$i4j@franklin.cc.utas.edu.au>
Source record: 111456

In article <1a6_9508061528@mba.mba.org>, Michael.Black@juxta.mba.org says...
->
->ian.mitchell@research.utas.edu.au (Ian Mitchell) is wondering
->why the low cost shortwave receivers have tuneable BFO's while
->the more expensive ones have a LSB/USB switch.
->
->I would think cost has a lot to do with it. If you assume that
->the switch selected BFO's are crystal controlled, then the cost
->of the crystals is not warranted for inexpensive sets. IN the
->early days, I'm sure all BFO's were tuneable, and then only later
->did crystal control arrive. Thinking about it now, crystal controlled
->BFO's probably didn't show up in amateur receivers till receivers
->intended for SSB hit the market, and they were of course the
->expensive receivers. The low end receivers have basically stayed
->the same.
->
->One reason for going to crystal control of a BFO was the ease of
->switching between the two sidebands. When the receivers started
->getting sharp filters intended for SSB, you wanted the BFO right on
->the slope to take advantage of the sharpness of the filter. If
->the BFO's had stayed tuneable, you'd always have to keep fiddling
->a bit each time you changed sidebands, to get that exact spot.
->
->And yes, your thought about the selectivity of the receiver probably
->does play a part. The cheaper receivers would tend to have filters
->with not so sharp curves, and there is not the need to get the BFO
->right at a certain point.
->
->When you start using a receiver with the relatively wide bandwidth
->intended for AM broadcast, you you could put the BFO right in the
->middle of the passband and you wouldn't even have single signal
->selectivity. It would be like a direct conversion receiver in that
->you'd get the audio image, but with better dynamic range due to
->there being selectivity, albeit wide, between the antenna and the
->product detector. A tuneable BFO in this case would have the effect
->of a fine tuning control, just as tuning the "BFO" in a direct
->conversion receiver tunes it across the band.
->
->I have thought of the possibility of building a "hybrid" receiver,
->where the first mixer would be fed with a synthesizer with something
->like 5KHz steps (it's easier to build a quiet synthesizer as the
>-tuning steps get bigger), then put it through an FM-type crystal
->filter at 10.7MHz, and either put a direct conversion receiver
->after that or a second mixer with a 5KHz tuning range to take it

->down to lower frequency final IF where there is a narrow filter
->and product detector. It would be a way of getting a relatively
->simple general coverage receiver, but with the advantages of
->synthesizer tuning.
->
->I remember seeing one receiver in QST from about 1958 or so (the
->year before I was born, so I read it a number of years later) which
->was a single conversion six meter receiver. It used in the IF a
->then relatively new item, a manufactured crystal filter in the HF
->range, and having something like a 4KHz bandwidth. It used a
->crystal controlled BFO, which makes sense since it's easier
->keeping a crystal on frequency than an LC-tuned oscillator. But
->the BFO was right in the middle of the IF. The idea being that
->the filter was wide enough for things like CW and even SSB that
->you could tune the receiver until you got the right beat note
->and everything would be fine.
->
->I hope that helps, and I'm glad you found the 10.245MHz crystals.
->I'm not sure how the Australian dollar converts to Canadian these
->days, but the price you mention sounds not too expensive, which is
->the right price.
->
-> Michael VE2BVW

Thanks for that Michael, much appreciated.

As you've problably guessed I'm trying to design a general coverage receiver using the MC3362 FM receiver chip. This device has two mixers and osc's with IF's at 10.7MHz and 455KHz. The first LO is variable while the second is fixed at 10.245MHz - hence my enquiry on the crystals.

I've tracked down the filters (ceramic) which are quite low cost, luckily.

For resolving AM, I'd like to use the ZN414 (MK414), because it has good gain, built in AM detector and AGC. The signal for it being taken from the output of the 455KHz filter via a switchable SSB section - explained below.

Instead of using the built-in VFO, I've designed a simple DDS, controlled by an MC68HC705K1 low cost microcontroller from Motorola. The DDS is implemented using an EPM7096 PLD from Altera. I'm hoping to avoid having to use an AD converter by connecting the high order bit of the accumulator directly to the 3362. The mixers in the 3362 look a lot like the Gilbert type, so I'm hoping this idea works! I've calculated the fourier spectrum using a spreadsheet, and it doesn't look any worse that a square wave!

Anyway, the other function of the PLD is to generate a 455KHz BFO signal, under the control of the microcontroller. The BFO signal is also a TTL square wave.

So, the problem is to mix the BFO signal with the 455KHz IF so that the ZN414 can detect it for SSB. My idea so far is as follows:

Since the 3362 provides the correct loading for the 455KHz, a JFET, with its high input impedence could be used to tap off the signal from the output of the IF. Following this a common emitter amp with its emitter resister connected to the BFO output instead of GND, and the output feeding the input of another 455KHz ceramic filter, followed by the ZN414.

For AM the output of the BFO should be held low. For SSB this arrangement would thus cause the signal to switch on and off at 455KHz, but the 455KHz filter would reduce the harmonic content leaving a signal for the detector.

So, I am wondering if this method will work ok, or is there a simpler way?

I am open to, and appreciate any comments.

Cheers and thanks, Ian

3449. Re: Good SPICE book

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: jkesling@shell.portal.com
Message-ID: <4042he$qd9@news1.shell>
Source record: 111457

I picked up a copy of "SPICE A Guide to Circuit Simulation & Analysis
Using PSpice" second edition by Paul W. Tuinenga and published by
Prentice Hall for $3.00 at one of those discount bookstores that pop
up in vacant store fronts.

It's copyright 1992 but answered a couple of questions on the first
scan though.

John
--

John Kesling - jkesling@eng.utoledo.edu or jkesling@shell.portal.com
---
WA8ZGO - via AX.25 packet radio WA8ZGO@W8HHF.OH.USA

3450. Re: QEX Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4042m7$2a2@cc.iu.net>
Source record: 111458

In <3vmuoo$29j@news.zeelandnet.nl>, hremijn@zeelandnet.nl (Henk Remijn) writes:
>In <3vm17a$kn7@vesta.chch.planet.co.nz>, jonw@chch.planet.co.nz (Jonathon Woodward) writes:
>>I am looking for the address and fax number of QEX magazine so I can
>>subscribe. I am particularly interested in an article published in the
>>June 1993 edition on measuring SINAD with DSP.
>>Any help would be appreciated.
>>Cheers Jonathan
>QEX is published by the ARRL, I guess you can find their address somewhere.
>Henk
>Henk Remijn Systems engineer at
>PA3EOB (JO11WM) Cargill Wet Milling

ARRL phone: (203) 594-0200 (also a new area code in the near future as well)
fax numbers: (203) 594-0259 and (203) 594-0298.

the area code is supposed to change to (860) later in the year.

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

3451. Re: Schematic Draw Program Recommendations?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4042u1$2a2@cc.iu.net>
Source record: 111459

In <3vsrso$m7a@ixnews3.ix.netcom.com>, nielw@ix.netcom.com (Niel Wiegand) writes:
>I'm looking for a DOS or Windows based draw/CAD program that includes
>electronic symbols like inductors, transformers, caps, resistors and
>tubes.
>Has anyone found one that allows resizing, rotation, "sticky" end
>points, vertical/horizontal alignment, etc?
>Niel - WA5VLZ

sounds like Autocad to the rescue here...of course it'd be better if you could kick out a net list to feed other analysis tools...but you said dos/windows, not unix.

one hint. do all the work with a standard parts library and then do any resizing at plot time. the computer and your postscript laser printer are better at this than trying to draw every part to a different scale just so the completed circuit fits the screen or paper. most programs will have some form of scale function in the output routines that affects the output only and frees you from having to ever worry about that.

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

3452. Rotary encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: andrew@pmms.cam.ac.uk
Message-ID: <4051b3$hf6@lyra.csx.cam.ac.uk>
Source record: 111460
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.amateur.digital.misc,uk.radio.amateur,sci.electronics

Do rotary encoders "go off" after a year or so? Can they be repaired? Do they lose their magnetism or is it just dust which gets inside?

I have a couple of digital radios which can be tuned by a knob, one cheap, one expensive. In both cases, after a year's use, the frequency started to dither around slightly whilst I smoothly turned the knob. I had thought this was due to a brain-damaged chip but now think it must be the rotary encoder.

Many thanks,
Andrew Thomason (andrew@dpmms.cam.ac.uk)

3453. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: coufal@vvm.com
Message-ID: <4056g4$257@newshost.vvm.com>
Source record: 111461

mulveyr@vivanet.vivanet.com (Rich Mulvey) wrote:

>Anthony G. Catalano (acatalan@nyc.pipeline.com) wrote:
>: I wonder If we can post scanned drawings, scematics etc. in this newsgroup?

>: I would post them as an attached *.uue file that would have to
>: be uue-decoded back into a pcx or a gif file.
>: Anthony G. Catalano WW2W

> No, this is a discussion group, and it would be considered rude,
>especially since a large number of the people reading the group have to
>pay for every byte that passes through their modems.

> The generally approved method is to place the files on a public
>FTP site, and post a notice in the relevant group as to its
>availability.

> Thank you, however, for asking. A lot of people wouldn't have gone to
>the trouble. :-)

>- Rich

I say it's time for a new newsgroup then. How about,
rec.radio.amateur.homebrew.binary or something like that. Then the
UUE files could be posted without *some* people thinking that it's
"rude".

Dwain

****
* Dwain A. Coufal The follwing is a list of far too many *
* email addresses for just 1 person!!!!! *
* preferred ---> (1) coufal@vvm.com *
* (2) dwainc@netins.net *
* Everything stated above is (3) 73261.3057@compuserve.com *
* solely the opinion of my brain, (4) DwainC9757@aol.com *
* and my body should not be held (5) GEnie address pending..... *
* responsible. or, *
* http://www.netins.net/showcase/bc/ *
****
* Is it the light at the end of the tunnel, or an oncoming train?! *
****
* It is always lightest just before the dark. *
****

3454. stainless/titanium wire source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: Stephen.Parry@forsythe.stanford.edu
Message-ID: <4059su$mtf@morrow.stanford.edu>
Source record: 111462

Does anyone know a source for stainless steel, or even better titanium, uninsulated wire in small quantities? I'm looking for something around 20 AWG.

Stephen

3455. HELP: need 6LQ6!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: cowart@news.eng.convex.com
Message-ID: <405akm$dfj@worm.convex.com>
Source record: 111463

[Article crossposted from rec.radio.amateur.equipment]
[Author was Michael Cowart]
[Posted on 7 Aug 1995 15:12:40 GMT]

need four 6LQ6's for sweep tube amp, Dentron GLA-1000.

Mike

(214) 497-3029 day
(214) 840-8667 night

--

Mike Cowart e-mail: cowart@convex.com Convex Computer Corp.
My opinions are mine, not my employer's. Richardson, Texas

--

Mike Cowart e-mail: cowart@convex.com Convex Computer Corp.
My opinions are mine, not my employer's. Richardson, Texas

3456. Re: stainless/titanium wire source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <405euj$mas@hg.oro.net>
Source record: 111464

Stephen.Parry@forsythe.stanford.edu (Stephen Parry) wrote:

>Does anyone know a source for stainless steel, or even better
>titanium, uninsulated wire in small quantities? I'm looking for
>something around 20 AWG.

>Stephen

Yes, go to any aviation repair shop or supply store (your local small puddlejumper airport mechanic can help you find one, or there are a hundred of them listed in a magazine called "Trade-A-Plane). We use stainless steel wire in many gauges for tying bolts and nuts down; it is called "safety wire". You can probably talk the mech into giving you a few feet; a full roll is only a few bucks or so.

Titanium, on the other hand...

Jim Weir
Airframe & Powerplant Mechanic

Jim Weir VP Engineering | "I turned to my wife, as startled as the
RST Engineering | pilot by what I'd seen. Dirt-streaked,
Grass Valley CA 95945 | glorious, she smiled at me, tear-bright
voice/fax 916/272-1432 | radiance. 'Richie, they're going to try
rst-engr@oro.net | for it!' she said, "Wish them love!'" (Bach)

3457. Re: Rotary encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <807820357snz@lfheller.demon.co.uk>
Source record: 111465
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.amateur.digital.misc,uk.radio.amateur,sci.electronics

In article <4051b3$hf6@lyra.csx.cam.ac.uk>
andrew@pmms.cam.ac.uk "Andrew Thomason" writes:

> Do rotary encoders "go off" after a year or so? Can they be repaired? Do they
> lose
> their magnetism or is it just dust which gets inside?
>
> I have a couple of digital radios which can be tuned by a knob, one cheap, one
> expensive. In both cases, after a year's use, the frequency started to dither
> around slightly whilst I smoothly turned the knob. I had thought this was due
> to a brain-damaged chip but now think it must be the rotary encoder.

According to my Cirkit catalogue, the Alps low-cost mechanical encoder
has a service life of 10^6 cycles. They cost #8.95 in the UK if that is
what is used in your radios.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3458. Re: stainless/titanium wire source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: jeffa@pax.ssd.loral.com
Message-ID: <1995Aug7.210838.22833@ssd.loral.com>
Source record: 111466

Go to Orchard Supply Hardware and you can buy spools of stainless steel wire.

****
**What appears to be a sloppy or meaningless use of words may well be a **
completely correct use of words to express sloppy or meaningless ideas.
****
jeffa@sesinc.com

3459. Re: Rotary encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: sam@colossus
Message-ID: <SAM.95Aug7093502@colossus>
Source record: 111467
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.amateur.digital.misc,uk.radio.amateur,sci.electronics

In article <4051b3$hf6@lyra.csx.cam.ac.uk> andrew@pmms.cam.ac.uk (Andrew Thomason) writes:

> Do rotary encoders "go off" after a year or so? Can they be repaired? Do they lose
> their magnetism or is it just dust which gets inside?
> I have a couple of digital radios which can be tuned by a knob, one cheap, one
> expensive. In both cases, after a year's use, the frequency started to dither
> around slightly whilst I smoothly turned the knob. I had thought this was due
> to a brain-damaged chip but now think it must be the rotary encoder.

> Many thanks,
> Andrew Thomason (andrew@dpmms.cam.ac.uk)

They should not. You may have really cheap encoders - mechanical contacts
rather than optical or magnetic design. These can be cleaned if you can
get at them.

The other types should last a long time.

--- sam

3460. Re: Schematic Draw Program Recommendations?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug7.155511.19151@ke4zv.atl.ga.us>
Source record: 111468

In article <4042u1$2a2@cc.iu.net> wnewkirk@iu.net (Bill Newkirk) writes:
>In <3vsrso$m7a@ixnews3.ix.netcom.com>, nielw@ix.netcom.com (Niel Wiegand) writes:
>>I'm looking for a DOS or Windows based draw/CAD program that includes
>>electronic symbols like inductors, transformers, caps, resistors and
>>tubes.
>>Has anyone found one that allows resizing, rotation, "sticky" end
>>points, vertical/horizontal alignment, etc?
>>Niel - WA5VLZ
>
>sounds like Autocad to the rescue here...of course it'd be better if you could
>kick out a net list to feed other analysis tools...but you said dos/windows,
>not unix.

Sounds like Orcad to the rescue here. :-)

It's much easier to use than Autocad for schematics, outputs a netlist
compatable with a number of autorouters, etc. The only drawback is that
it isn't cheap, but then neither is Autocad. A cheaper program is Supercad.
It has most of the drawing features of Orcad, but for only $99. It isn't
as good for complex designs, though, because it won't work with a hierarchy
of sheets, won't auto-number parts, make bills of materials, etc, but it
is adequate for most amateur projects.

An ideal setup is Orcad as a frontend for Pcad. *Now* you're talking
bucks, but it automates almost all of the tedium of translating an
idea to a schematic and circuit board layout.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3461. Re: Boiled Torroid? (was Re: VFO Stability)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: markem@primenet.com
Message-ID: <markem.139.0051C5EF@primenet.com>
Source record: 111469

In article <406ds9$mbv@ixnews4.ix.netcom.com> mjsilva@ix.netcom.com (michael silva) writes:>In <rohrwerkDCwv2K.LB5@netcom.com> rohrwerk@netcom.com (John Seboldt)>writes:
>>.... This is after boiling the toroid (which helped)....

>OK, I'll bite (sorry...), does this really refer to dropping a core in
>boiling water, or is it shorthand for something entirely different. I
>*can* imagine that heating up a toroid might do some kind of molecular
>realignment or something to reduce the temp. drift, but I can also
>imagine giving a lot of amusement to a lot of people by doing so, so
>which is it?

Actually, I think it anneals the copper wire wound on the toroid and makes the windings less likely to move and change the inductance of the assembly. Doesn't actually affect the toroid, although they can be affected by high temps but I think it takes much higher than 100C.

Mark AA7TA

3462. unsubscribe

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: jonathan.ho@Xilinx.COM
Message-ID: <199508072059.NAA16682@clemenza.xilinx.com>
Source record: 111470

```
unsubscribe
```

3463. Require cpu chip for SDP600 autopatch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-07 00:00:00 UTC
From: aturbide@barint.on.ca
Message-ID: <405gmj$g3p@galaxy.barint.on.ca>
Source record: 111471

I bought a Zetel SDP 600 autopatch a while ago and it worked great
until for some reason or other the Intel microcontroler chip bit the
dust. I tried contacting the place I bought it from the they couldn't
help me out there. (they're only a distributor). I would need the
phone number or address that I can reach Zetel or other dealer that
could supply me with this chip.
alan

3464. Boiled Torroid? (was Re: VFO Stability)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <406ds9$mbv@ixnews4.ix.netcom.com>
Source record: 111373

In <rohrwerkDCwv2K.LB5@netcom.com> rohrwerk@netcom.com (John Seboldt) writes:
>.... This is after boiling the toroid (which helped)....

OK, I'll bite (sorry...), does this really refer to dropping a core in boiling water, or is it shorthand for something entirely different. I *can* imagine that heating up a toroid might do some kind of molecular realignment or something to reduce the temp. drift, but I can also imagine giving a lot of amusement to a lot of people by doing so, so which is it?

73,
Mike, KK6GM

3465. Re: Longwave Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: tvr@boulez.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Aug7192456@boulez.CNMAT.Berkeley.EDU>
Source record: 111374

I'm NOT an expert on the 'lowfer' band, i'm just learning about it myself.
Hopefully, an active 'lowfer' can answer these questions more authoratively.
However, i can clear a few things up.

From the article "Ground Zero" (Popular Electronics-Oct.'94):

1750-Meter Experimenters' Band:
- 160-190 kHz - Max. power-1watt
- Max. antenna length-50 ft. including ground lead and transmission line
- Modulation-any
- Out of band emissions must be supressed by 20 dB.

I have that one quoted in my WWW page simply because it contains a magazine
reference. 50 ft is approximately 15 meters, as later posters have noted.

I don't care what THAT book said. It was either a misprint or a typo on
your part....
because I respectfully must imform all that the limit of the combined
feedline and antenna
system for transmitting can only be a maximum of 15 (fifteen) feet.

No, it is 15 meters.

(b) The total length of the transmission line, antenna, and
ground lead (if used) shall not exceed 15 meters.
[Sec. 15.217: Operation in the band 160-190 kHz.]

Reference:
http://www.pls.com:8001/cgi-bin/taos_doc.pl?unix+1+cfr+187927+query+%27Sec.+15.217%27%3acite+%25BREAK%25+cfr%3a
(or type "'Sec. 15.217':cite" at http://www.pls.com:8001/his/cfr.html)

Someone asked about IDs:

It is also interesting that you literally can make up your own callsign/id
on there (trying not to duplicate an existing one) If you are allready a
ham you can use your call as it is very unlikely
that it is allready being used on vlf! Most IDs are 3 letters in lenght in
the entire vlf band.

I don't have the reference nearby, but i understand that the 'lowfer' folk
use their callsign suffix. (I'm not sure what Advanced, Extra and folks
with "by 1" calls use.)

I wouldn't use an amateur call as the transmissions are clearly
out of any amateur band.

Exactly, and that's the reason for the callsign suffix convention. So, if i were to operate there, i would use PAG to identify and explain to anyone who asked that my amateur callsign is KD6PAG for purposes of providing a convenient mailing address and operating under Part 15.

If you live near salt water, use it as a ground and place the x-mitter directly at
the base of the antenna. The vertical portion would then be 15 feet (constructed with a copper ribbon/tubing or multi-wire to compensate for R-loss) with a large capacity hat to bring the resonance down as far as possible without having the outer perimeter of the capacity hat fall below 20% of the vertical portion of the antennas' vertical mast

I'm not sure what the 15 meters means. For example, i don't know whether it could be something like a 14 foot ferrite-rod with a 1 foot ground rod, both connected directly to the transmitter. That may be a "gray area" in the regulations. On the other hand, if you keep things real clean and don't annoy anyone, the question won't come up. (Of course, if you have a horrendously large receiving antenna, which is perfectly legal, non-hams won't know the difference, and questions might get asked.)

If you're seriously interested, here's a useful reference:

The monthly newsletter is called "The Lowdown" and is published
by Bill Oliver, 45 Wildflower Road, Levittown, PA 19057. The cost is
$15 a year. It cover all lowfer, medfer, and other interest in the VLF
area. I find it to be quite interesting. Also, there is a couple of
different systems available for computer operated beacons. A lot of
activity in all areas of the country. Some are hams and other seem to
be engineering types. I am in the process of building a station now.
[daleh@skypoint.com (Dale A. Hagert), 23 Apr 1995]

Have a good time, but behave yourself.

-- KD6PAG (who is still learning)

P.S. I'm still looking for a local (S.F. Bay Area) 'lowfer' to help me get started someday.

3466. Re: Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: tvr@boulez.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Aug7205900@boulez.CNMAT.Berkeley.EDU>
Source record: 111375
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

I'm looking for some pointers to detailed work on modulating vco's and synthesizers for transmitters. I'm specificaly looking for more information on Dual port modulation for FSK data. Technical reports are fine, application notes, etc.

A recent project or two on DDS (direct digital synthesis) in either "QST" or "73" magazine uses the HSP45102, simplist of the Harris DDS chips, along with a video DAC as a VCO intended for HF use. That article doesn't use the feature, but the chip can store two frequencies. You put your digital input into the frequency select input of the DDS chip and load the right data into the chip and you get instant FSK. That datasheet is available via their AnswerFAX service:

http://www.semi.harris.com/datasheets/dsp/hsp45102/

You'll have to use a mixer or multipliers to get it up into a band where it'll make much difference. (Be careful about spectral purity if you start from a "73" article, as i don't recall seeing very much documentation in their articles about that and it makes me wonder about that. If you're operating under an amateur radio license, you can't hide behind Sec. 15.23; e.g. it doesn't matter if you "may not possess the means to perform the measurements for determining compliance with the regulations", you still must comply.)

I suppose that you might be able to do something like that with one of the Motorola synthesizer chips that uses parallel inputs, choose parameters very carefully and can come up suitable configuration in the feedback loop. However, i don't think that's necessary. Their ordinary transmitter ICs should work just fine for what you want, you just have to figure out where to inject the signal. See the MC13175/176 UHF transmitter IC data sheet for details (includes both AM and FM modulation). These datasheets can be obtained from the Motorola fax-back service, which is available via:

http://motserv.indirect.com/home2/fax_rqst.html

as i don't think they have either of those devices on-line yet.

-- KD6PAG (networking old-timer, RF newbie)

3467. Re: Boiled Torroid? (was Re: VFO Stability)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDCz2vw.DI7@netcom.com>
Source record: 111376

mjsilva@ix.netcom.com (michael silva) writes:

>In <rohrwerkDCwv2K.LB5@netcom.com> rohrwerk@netcom.com (John Seboldt)
>writes:
>>.... This is after boiling the toroid (which helped)....

>OK, I'll bite (sorry...), does this really refer to dropping a core in
>boiling water, or is it shorthand for something entirely different. I

>73,
>Mike, KK6GM

Yep, boiling water indeed! Complete with winding. Supposedly this also helps relieve winding stresses by expanding/contracting. It helped some.

Thanks for the replies, folks. The consensus very much goes with AIR-CORE COILS for the best VFO stability. Ceramic forms are best, with glass tubing and acrylic rod also possibilities. Toroids are a compromise for compactness at best, which may work OK at lower frequencies, but they don't have the temp. stability of air core coils.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: Amateur radio K0JD... / if it ain't got that swing!
: Church of the Annunciation, / Di dah, di d&#65533;h, di dah, di dah...
: Minneapolis / (sorry, Duke!)

3468. July QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: jbaltz@watsun.cc.columbia.edu
Message-ID: <406q2m$iof@apakabar.cc.columbia.edu>
Source record: 111377

Has anyone received their July QEX yet? I'm still waiting for mine...

//jbaltz
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

3469. Help! Need schematics for FM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: vcl@mickey.cc.utexas.edu
Message-ID: <408b9i$vk@geraldo.cc.utexas.edu>
Source record: 111378
Cross-posted to: sci.electronics,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi. I was wondering if anyone had schematics for a small FM transmitter.
I need to design a wireless FM microphone for a school project. It needs to
be capable to transmitting to at least 20 feet away, to an ordinary FM
receiver. E-mails would be appreciated, but I will check the newsgroups.

Thanks!

--
Victor Limary |The University of Texas at Austin
vcl@ccwf.cc.utexas.edu |http://ccwf.cc.utexas.edu/~vcl/
|http://www.utexas.edu/students/alphachi/

3470. SCR Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: lslewis@gate.net
Message-ID: <407h9e$i04@news.gate.net>
Source record: 111379

I can't find the basing diagram for a C122B, TO-220 case, 8A 200V SCR. Any help, hint or just point me in the right direction would be appreciated. Larry KN6WC

E-Mail: lslewis@gate.net

3471. Re: Schematic Draw Program Recommendations?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: novatech@eskimo.com
Message-ID: <DCzxKn.MHA@eskimo.com>
Source record: 111380

gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>An ideal setup is Orcad as a frontend for Pcad. *Now* you're talking
>bucks, but it automates almost all of the tedium of translating an
>idea to a schematic and circuit board layout.

I use Orcad with Eagle 3.0. This combo is excellent and very easy to
use. It handles just about any type of board from simple to complex
surface mount. Eagle (CadSoft) also has a schematic module, but
I haven't used it.

>Gary
>--
>Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
>Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
>534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
>Lawrenceville, GA 30244 | |
--
Steven D. Swift, P.E. (novatech@eskimo.com)
NOVATECH INSTRUMENTS, INC. 1530 Eastlake Avenue East, Suite 303
206.322.1562, FAX 206.328.6904 Seattle, Washington 98102 USA

3472. Re: ATV newsgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: steve monsey <70307.1052@CompuServe.COM>
Message-ID: <4081gr$l8$1@mhafn.production.compuserve.com>
Source record: 111381

>Is there a newsgroup where ATV is discussed? Can't seem to find
>one.

I wish there was a newsqroup. If you find it let me know! My ATV
group has just started a WWW page. It just started so there is
not much there. But we intened to have lots of cool stuff.
The address is http//www.prostar.com/web/ham-tv.html.

steve N0FPF -- Seattle

3473. Re: Optoisolator cross-reference help and PAL programming information

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: negaard@draagen.graceland.edu
Message-ID: <NEGAARD.95Aug8121534@draagen.graceland.edu>
Source record: 111382

>>>>> "Aaron" == Aaron Cummings <ajcummin@moose.uvm.edu> writes:

>>>>> David Negaard (Oberon-) (negaard@draagen.graceland.edu) wrote:
>> [...]

Aaron> By looking at the schematic, you should be able to determine
Aaron> what you need for an optoisolator - I'm guessing that it is
Aaron> nothing too exotic, probably just a bipolar output...T.I. makes
Aaron> several, check your Digi_key catalog.

Got the optoisolator handled, I think: I've gotten several e-mail
messages indicating the manufacturer, and if I can't cross-reference
it with that info, I remember seeing one in the Mouser catalog that
looked like a functional equivalent.

>> The other part of the project that's missing is the PAL used to
>> decode the PC bus logic. It's a 20L10 and I can get the part, but
>> I don't know how to program it. Maybe I'm confused, but one must
>> program Programmable Array Logic, mustn't one?

Aaron> Yes, you will need to program the PAL, and it is not a trivial
Aaron> process. Tools exist for developing PAL programs, but they
Aaron> cost $$ - Can you get away with just using logic gates???

I _think_ I _probably_ could do that, but I'm really at the outer
limits of my current understanding, now. The text that came with the
schematics is minimal, and so I'm not absolutely sure how things are
being decoded. Is there anyone who might be able to help me figure
out what I could do to substitute gates for the PAL? Like I said,
I've got the schematic; all that's missing is artwork (which I can
probably do without) and the logic of the address decoder. I even
have the source code (of course) for the driver programs for this
card, for Linux, if that would be any help at all.

>> [...]

>> Is there any help available for me out there?

So far there's been quite a bit of help for me, and with a little
more, I'll be on the home stretch for this project.

I also want to publicly thank everyone who's written or posted
already. Everyone's been really helpful.
--
o David Negaard o negaard@graceland.edu
o Help Desk Technician o http://www.graceland.edu/~negaard
o 700 College Avenue o linux-phile

o Lamoni, IA 50140 o 73 de KB0PXK

3474. Info. on Palomar

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: Kurt.Prochnow@pebble.cts.com
Message-ID: <81e_9508081011@pebble.cts.com>
Source record: 111383

```
Palomar Engineers
Box 462222
Escondido, California 92046

619-747-3343
619-747-3346 (fax)

--
Any opinions expressed by this user are theirs and theirs alone.
Pebble in the Sky - Escondido, CA - 619-743-2511 - V.34+
```

3475. Re: Gyrator Curcuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <408o96$9ah@hpscit.sc.hp.com>
Source record: 111384

In article <DCwxuy.41r@westonia.com>, Joseph Cooper <joe@westonia.com> wrote:
>I am looking for information on a method of curcuit design call the 'Gyrator'.
> What is of interest is that the design uses resistance, rather than
>inductance, to create impedance.
>
>What the basic cuircuit looks like is a group of resistors in series of the
>same value with one capacitor in that series line.
>
>For an example of a curcuit using 5 resistors, the formula for calculating
>inductance would be
> L=
>
> R1 R3 R5
>----------
> R2 1/C1
>
>I've seen some very technical references to this in my searches, but nothing
>basic enough to be able to work with.The value of this information would be
>for low frequency work (160 and 80 meters).
>
>Thanks in advance
>
>Joe
>Ve3FMQ

There are two related gyrators that have 5 passives in series, plus
2 op amps tapped into the string at intermediate points. They are
usually called the Bruton and Antoniou gyrators and are based on
work by Riordan. (See references at end). The best treatment of these
that I have seen is in Sedra and Brackett's book on active circuits.
I would warn you that you need a GBW product in the op amps on the
order of 100 times the product of Q and frequency, so that at 160
meters, you should be looking at 200 MHz op amps like the OPA620 or
even more. Also, I have not seen any "basic" treatments of this
complicated topic in my extensive literature searches for gyrators.
Perhaps you should go back to passive inductors.

References:

Antoniou: Proc. IEE, Nov. 69, pp 1838-1850.
Bruton: IEEE Trans. Circuit Theory, Aug. 69, pp 406-408
Riordan: Elec. Letters, 1967, pp 50-51.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

3476. Re: Rotary encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4087ns$57e@hpscit.sc.hp.com>
Source record: 111385
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.amateur.digital.misc,uk.radio.amateur,sci.electronics

In article <807820357snz@lfheller.demon.co.uk>,
Leon Heller <Leon@lfheller.demon.co.uk> wrote:
>In article <4051b3$hf6@lyra.csx.cam.ac.uk>
> andrew@pmms.cam.ac.uk "Andrew Thomason" writes:
>
>> Do rotary encoders "go off" after a year or so? Can they be repaired? Do they
>> lose
>> their magnetism or is it just dust which gets inside?
>>
>> I have a couple of digital radios which can be tuned by a knob, one cheap, one
>> expensive. In both cases, after a year's use, the frequency started to dither
>> around slightly whilst I smoothly turned the knob. I had thought this was due
>> to a brain-damaged chip but now think it must be the rotary encoder.

Yes, rotary encoders are infamous for their poor reliability. I don't
know what makes them fail, I just know I have seen them go out time and
time again.

Rick Karlquist
rkarlqu@scd.hp.com

3477. Need 3-500Z specs for modifying HF amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: mfschick@aol.com
Message-ID: <408jet$iac@newsbf02.news.aol.com>
Source record: 111386

I have an old Swan Mark I amp that I would like to modify and improve for 3-28MHz. This amp has two 3-500Z tubes in push-pull, cathode driven AB2 configuration. One of the modifications I would like to do is to install a tuned Pi-L input filter to help cut out harmonics, etc. I am trying to find the characteristics for the 3-500Z tubes so I can calculate the component values in the tuned filter, but haven't had any luck. Does anyone know what the input impedance, plate impedance and other parameters of this tube are in a ground grid arrangement (plate voltage of 2.5KV) and how to calculate the actual impedance see by the filter when two of these tubes are in connected in parallel in the amp? Any help on the subject would be appreciated and thanks in advance.

Martin, KA4IWG MFSCHICK@AOL.COM

3478. Re: looking for plans: CB base antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <408rsu$mop@newshost.lanl.gov>
Source record: 111387

I built several of these for 10 meters, but they will work
equally well on 11 meters (if your kid enjoys the CB he is
twisted beyond belief, get him a Novice or Tech ham radio
license guidebook from Radio Shack):

```
| ^
| |
| |
| |
| length: 103" CB or 99" for 10 meter ham
| |
| |
(aluminum tubing | |
or 1/2" galv. | |
elect. conduit) | |
| -
T < insulator: block of wood or plastic
I -clamp vert. element to insulator with
I steel hose clamp(s)
---------------------------
< 4 radials ea. 103" long >
(side view of antenna)

|
|
|
|
| Attach coax shield to radials
^/
-------/o\-------
\ /\
T Attach coax center conductor to vert
| element, may clamp under hose clamp
|
|
|
```

MAke the center plate of aluminum or whatever you have
handy, 6 to 12 inches square will suffice. Attach the
4 radials to the center plate with screws and nuts for
a good mechanical and electrical connection. The
Center vertical element MUST be insulated from the
radials (horizontal elements).
This antenna will support itself just sitting on a flat
roof or other surface, even out in the back/front yard on

the ground.
The higher you can get it of course the better it will
perform - as with ANY antenna.

--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

3479. QRP-L list

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: ak119@lafn.org
Message-ID: <1995Aug8.230444.25901@lafn.org>
Source record: 111388

Hello!

I'm looking for info on subscribing to the QRP-L list.
If You have info I would appreciate it if you could
e-mail me.

Thanks 73's and 72's max (Nu6u)

3480. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-08 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <408s8i$mop@newshost.lanl.gov>
Source record: 111389

How can a homebrew "discussion group" be solely limited to
discussion only? A shematic or 2 would be much better
return on the money cost of "every byte coming thru the
modem" than most "discussion" that goes on in most groups.
I don't think it would be rude at all, but then, I don't
think it's rude or unspeakable to list commercial ads on
the Internet either, so don't pay any attention to ME..

--
********** Jim Devenport WB5AOX **************
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

3481. Re: Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: iim2tlm@iim.ups.com
Message-ID: <40b2ka$24q@brownie.iim.ups.com>
Source record: 111322

In article <409s83$ao8@solaris.cc.vt.edu>, mkeitz@bev.net (Mike Keitz) wrote:

<snip>
> .... The primary
>limitation of this design is that the PLL must re-lock on every change from
>transmit to receive and vice versa. Thus the radio is unable to transmit
>or receive for a period of 100 or more milliseconds at the beginning and
>end of each transmission. Since 9600 baud packets can be less than 25 ms
>long, this is a tremendous waste of channel capacity.

Howdy,
You later point out that you're assuming simplex operating. In a simple
design, the PLL does not need to be re-programmed from rx to tx, since it can
operate at the same frequency (if the IFs for rx and tx are the same). A
single PLL simplex transceiver can be made to switch from rx to tx very
rapidly, but this isn't a common technique because the market for simplex-only
radios is very small.

73 de Tom - KC7AGK

++
Tom Mosher II Morrow, Inc. iim2tlm@iim.ups.com
My views do not represent those of II Morrow or United Parcel Service.

3482. ATV website ?? Where !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <40b3d6$e9e@tetsuo.communique.net>
Source record: 111323

Someone listed a WWW homepage or website for ATV operators ...?
I'm looking for it ...
let me know where it is ...

3483. MDS downconverters good for parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: jkesling@shell.portal.com
Message-ID: <40b9vi$8s8@news1.shell>
Source record: 111324

I recently obtained several MDS downconverters. I believe they had
been used by a now defunct local business to provide direct to your
home premium TV broadcasts.

They have an "N" connector input and two "F" connectors for output, one
is labled "test" the other "TV". They are labled "INPUT MDS CHANNEL 1"
and "OUTPUT CHANNEL 3". They are obviously designed to be mast mounted.
They appear to have a preamp built in as well as a crystal controlled
oscillator and mixer stages.

Does anyone know the frequency of MDS CHANNEL 1?

Should they be scrapped for parts, converted to another frequency,
used as-is or thrown away? Other suggestions?

John
--

John Kesling - jkesling@eng.utoledo.edu or jkesling@shell.portal.com
---
WA8ZGO - via AX.25 packet radio WA8ZGO@W8HHF.OH.USA

3484. Amperex tube data

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: jmz <jmz@cis.net>
Message-ID: <DD2EK1.Ewq@cis.net>
Source record: 111325

I am looking for data on the old Amperex twin tetrodes intended for VHF service in the land mobile and avionic industry,circa 1970.I have a copy of an Amperex flier circa 1966 but there were several released after that.

3485. US Military Field Expedient Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: pglibber@uk.oracle.com
Message-ID: <9508090927.AA22216@ukpyr2.uk.oracle.com>
Source record: 111390
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I have some fairly basic questions that I would appreciate your help and guidance with.

I have been reading a US Army Special Forces manual which discusses various types of improvised, field-expedient antennas such as:

Ground Plane
Horizontal
Long-wire
Half-Rhombic
Doublet

I'm writing from the UK and the references mentioned in the manual are not at all easy to come by - I've tried.

1) In the case of some of these designs there is a need for a 'ground'. The diagrams in the manual show one end of a wire attached to a metal stake which is pushed into the ground, while the other end is attached to the radio set itself. Where on the radio set is the free end of the ground wire attached ? Is it attached to some kind of socket, or do you somehow attach it to the body of the radio set ?

2) When using a 1/2-Rhombic the manual mentions that you feed the two 1/4 wave antenna elements from the centre using a 'coax'. What exactly is a 'coax' and how does it differ from the antenna wire itself ?

3) With the 1/2-Rhombic design the manual suggests that if a coax is not available to use a 'twisted pair'. What is a twisted pair ? My guess is two sheathed copper wires twisted together - but is this too simple a thought ?

4) With the 1/2-Rhombic one end of the antenna wire is attached to a terminating resistor. The idea of this resistor is to give some directionality to the radio wave (I recognise that there is a difference between a resistor and an insulator (in the later case, the manual suggests a piece of wood or a C-ration spoon)). Does anyone have a good idea of what would make a good field expedient resistor ?

Thanks,

Peter

3486. Re: ROTOR - Channel master - old tv salvage

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: mikedom@aol.com
Message-ID: <409egk$sbn@newsbf02.news.aol.com>
Source record: 111391
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

Hi Dan, You have an old channel master rotor, and all of the 3 wire rotors were basically the same. A new control box will run you old motor. I believe its something like 20 volts AC to run the thing if you want to make your own control.
We just used one of those beasts this last field day....but we had a 12V DC motor installed in it (we were QRP Battery) it worked quite well.
73 mike

3487. Re: Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <409s83$ao8@solaris.cc.vt.edu>
Source record: 111392
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In article <409onk$t2p@news2.deltanet.com>,
jlundgre@delta1.deltanet.com (John Lundgren) wrote:
>David Bengtson (daveb@connect.net) penned:
>: I'm looking for some pointers to detailed work on modulating vco's and
>: synthesizers for transmitters. I'm specificaly looking for more
>: information on Dual port modulation for FSK data. Technical reports
>: are fine, application notes, etc.
>
>: Thanks for any pointers
>
>: David Bengtson
>: Yes, these are my opinions
>: Looking for Old HP-41 Calculators and Accessories
>
>For NBFM, you can get away with switching a capacitor in and out of being
>in parallel with a crystal. That way, you can have your crystal and eat
>it, too. ;-)
>
>
This is however, not what David is after, as he specifically mentioned
vco's and synthesizers. If you are using the variable crystal approach, it
is much better to use a varactor diode in conjunction with the crystal so
continuous frequency changes can be effected. Simply switching leads to a
lot of undesired sidebands.

The conventional "single oscillator" (my term for it) VHF FM transciever is
turning out to be quite inadequate for high-speed FSK packet, at least in
the versions supplied by the Japanese manufacturers. The primary
limitation of this design is that the PLL must re-lock on every change from
transmit to receive and vice versa. Thus the radio is unable to transmit
or receive for a period of 100 or more milliseconds at the beginning and
end of each transmission. Since 9600 baud packets can be less than 25 ms
long, this is a tremendous waste of channel capacity.

Another major problem with the single oscillator set is that in order to
tune fast from TX/RX, the loop filter must have a wide bandwidth, on the
order of 100 Hz or more. But with a wide feedback bandwidth, the PLL will
"fight" the modulation, causing a great deal of distortion of the
transmitted signal unless rather elaborate compensation is used. The
compensation is likely to require individual adjustment for each unit. It
may be possible to lower the bandwidth to a few Hz once lock has been
achieved, but this is likely to push out the RX->TX transition time even
more.

A much better design is a heterodyne system. Here the PLL runs continuously at the LO frequency. Thus the radio is always ready to receive. When transmitting is required, a crystal oscillator at the IF frequency is switched on and mixed with the LO. The output of the mixer has 3 main components, LO-IF, LO, and LO+IF. This latter signal is on the correct frequency for transmission (assuming simplex operation. For offset channels, either the VCO/LO can be retuned (slow) or another crystal for each frequency split provided (expensive)). A fairly good filter is required to reject the spurious outputs from the mixer, before the power amplifier.

Modulation is applied to the heterodyne oscillator using VXO techniques. The PLL will not distort the modulation, and it also remains locked during the transition from receive to transmit and back. Thus very fast changeover time can be achieved. This type of design used to be somewhat popular in commercial equipment. The Santec ST-144uP 2-meter HT is one example. However, the cost of the extra crystal, mixer, and filter, as well as the inherent lack of wide transmit frequency coverage (without readjusting the filter anyway) has caused it to become extinct in today's market.

-Mike KD4QDM

3488. Titanium wire etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: dcadd@luc.ac.BE
Message-ID: <9508090909.AA18344@alpha.luc.ac.be>
Source record: 111393

Greetings from a warm and sunny Diepenbeek in N.E. Belgium!

Stephen Parry asked about supplies of titanium wire. One possibility is Aldrich Chemical Company, 1001 W. St. Paul Avenue, Milwaukee, Wisconsin 53233 tel 414 273 3850 fax 414 273 4979.

They also have stuff like tungsten, zirconium, molybdenum, nickel etc etc wire, foil and what-have-you. Prices will be high-ish as they are suppliers of research grade chemicals, rather than work-a-day ironmongery, examples:

THESE PRICES ARE IN BELGIAN FRANKS!! sorry, but that's life! (and what did you expect from Belgium!?)

titanium wire:

cat no. 34,886-4 99.99% pure 0.5mm diam 450milligrams (50cm long) BF 1824
2.7 grams (300cm) BF 6400

26,790-2 99.7% pure 0.81mm diam 23grams (10 metres long) BF 1623
115grams (50 metres) BF 5544

Stuff like titanium, zirconium, tantalum and a whole pile of other metals can be used as 'getters' (which someone asked about a few days back) in tubes.

Sorry folks, but I don't know if they will sell in small quantities to 'the public' but you can always ask, and I'm sure they will offer advice as to where you can try once you explain your intentions - I hope this helps.

If you are looking for general advice on vacuum systems etc, I'd suggest "Building Scientific Apparatus - A Practical Guide to Design and Construction" by John H. Moore, Christopher C. Davis and Michael A. Coplan, published by Addison Wesley, the old edition which I have is 1983, ISBN 0-201-05532-5, but there's a newer one, also in soft cover (the hardback was EXPENSIVE! 62 UK pounds in '88 or so) - maybe the local library could get it for you. It lists many US suppliers, but again, it's research oriented so many will be pricey and may not be interested in 'small' sales. But you can always try . . .

73,

Duncan ON9CHU / G0UTY G-QRP 8117

IMO/SBG,
Afdeling Organische Scheikunde,
Gebouw D,
Limburgs Universitair Centrum,
B-3590 Diepenbeek,
Belgium

3489. Re: Rotary encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: tom@kontron.de
Message-ID: <409sio$3id@Kontron.De>
Source record: 111394
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.amateur.digital.misc,uk.radio.amateur,sci.electronics

Andrew Thomason (andrew@pmms.cam.ac.uk) wrote:
: Do rotary encoders "go off" after a year or so? Can they be repaired? Do they lose
: their magnetism or is it just dust which gets inside?

: I have a couple of digital radios which can be tuned by a knob, one cheap, one
: expensive. In both cases, after a year's use, the frequency started to dither
: around slightly whilst I smoothly turned the knob. I had thought this was due
: to a brain-damaged chip but now think it must be the rotary encoder.

: Many thanks,
: Andrew Thomason (andrew@dpmms.cam.ac.uk)

Hi there,

yes, same thing happened with my Kenwood R-5000 which used an optical rotary
encoder. After talking with a local Kenwood dealer here in Munich, that
was disinterested in taking the radio for service, I decided to have a go
at it myself and tracked the problem down to a bad photodetector in the
encoder itself. I was able to replace the detector with a detector removed
from an emitter/detector module of the write protect section of a junked
TEAC floppydrive. I was lucky it also fit mechancally in the R-5000 encoder.
My R-5000's tuning knob has worked perfectly ever since.

tom

--

_____
Thomas de Lellis
KN6EI/DL5MGZ

3490. Re: Need 3-500Z specs for modifying HF amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <409g6m$t23@newsbf02.news.aol.com>
Source record: 111395

Hi Martin,

>I have an old Swan Mark I amp that I would like to modify and improve
>for 3-28MHz.

>One of the modifications I would like to do is to install a tuned Pi-L
input
>filter to help cut out harmonics, etc.

A Pi-L input filter (or even output) will not offer much, if any,
improvement
in harmonic suppression. The layout (component placement, connection
points, and lead dress) and shielding are much more important, especially
with high order harmonics. Tuned input circuits can be strange animals as
to
their effects on harmonic levels, efficiency, and IMD performance. I have
measured IMD and efficiency deterioration when a tuned input was added,
as well as cases that showed improvement!

To be safe I recommend a low pass pi-network with a Q of 2 to 5 placed
very close to the cathodes of the tubes (minimal lead length) or using
high
capacitance (very low impedance line) if the input circuit has to be
located
some distance from the tubes. Placing a tuned input a fair distance (even
15
inches or so) from the tube can kill high end (20 meter and higher)
efficiency
unless a very low Z line is used.

>I am trying to find the characteristics for the 3-500Z tubes so I can
>calculate the component values in the tuned filter, but haven't had any
luck.
>Does anyone know what the input impedance, plate impedance and other
>parameters of this tube are in a ground grid arrangement (plate voltage
of
>2.5KV) and how to calculate the actual impedance see by the filter when
>two of these tubes are in connected in parallel in the amp?

The input Z will be around 50 ohms or slightly higher for two tubes in a
good layout. There will be some parallel capacitive reactance that becomes

important above 10 MHz, and usually some shunt L (from the filament
choke) on the low end. The best way to set up the input in this amplifier
type
is to place four 220 ohm non-inductive resistors from each filament pin to

chassis. The tubes are left in the sockets and the input is aligned with the
power off and tubes cold with some type of low power RF impedance
measuring device like an SWR Analyzer or meter.

The plate impedance is a direct function of the plate current and voltage, and
conduction angle of the tube. The output source impedance is the RF anode
voltage at the fundamental frequency over the available anode circuit RF
current, so it changes with voltage to current ratio and is independent of

feedback or the actual type of tube. This is the impedance that must be
conjugately matched to the load for maximum efficiency. ;-)

At full CCS power of 1200 watts output (2500 v anode, 800 mA, 200
degree conduction angle) I calculate 1600 ohms approximately. At lower
output power levels with 2500 volts fixed supply the impedance will rise, at
higher power levels it will decrease. The output network is typically
designed for the desired Q at maximum power, and the Q is allowed to
increase if the power level is decreased. This insures sufficient harmonic

suppression and proper network operation at maximum power...where it is
most important. A range of 10 to 20 would probably be acceptable, the
lower Q resulting in less tank heating but slightly less harmonic
suppression,
and the higher Q resulting in slightly more tank heating but a little bit
better
harmonic suppression on low order harmonics. Most air variable amplifiers
with large tubes operating at high voltages must have the Q compromised to

hit both ends of the HF spectrum.

But usually there is very little change in efficiency or high order
harmonic
suppression if the Q is changed over a two to one (or larger) ratio as
long as
the components and tank layout are reasonably good, so don't be overly
concerned with extreme accuracy. Just try to meet or exceed the minimum Q
desired at full power (the Q will nearly double if you operate at half
power
with the same anode voltage anyway).

Varian will send you details on calculating the effective plate impedance
in a
book called "The Care and Feeding of Power Grid Tubes" and a 3-500 data
sheet. Call them, they have application engineers that love to be
bothered!

73 Tom

3491. Re: July QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <40957e$l3q@news.azstarnet.com>
Source record: 111396

jbaltz@watsun.cc.columbia.edu (Jerry B Altzman) wrote:
>Has anyone received their July QEX yet? I'm still waiting for mine...
>
>//jbaltz
>jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
>jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

Nope!

3492. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <409j4a$bjm@nuclear.microserve.net>
Source record: 111397

Jim Devenport <jdevenport@lanl.gov> wrote:

>How can a homebrew "discussion group" be solely limited to
>discussion only? A shematic or 2 would be much better
>return on the money cost of "every byte coming thru the
>modem" than most "discussion" that goes on in most groups.
>I don't think it would be rude at all, but then, I don't
>think it's rude or unspeakable to list commercial ads on
>the Internet either, so don't pay any attention to ME..

I agree, and I have occasionally posted a schematic or two here
when e-mail indicated that a number of people were interested.

Given that it doesn't occur very often, I don't think it's worth
worrying about.

73,

Jack WB3U

3493. Re: Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <409onk$t2p@news2.deltanet.com>
Source record: 111398
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

David Bengtson (daveb@connect.net) penned:
: I'm looking for some pointers to detailed work on modulating vco's and
: synthesizers for transmitters. I'm specificaly looking for more
: information on Dual port modulation for FSK data. Technical reports
: are fine, application notes, etc.

: Thanks for any pointers

: David Bengtson
: Yes, these are my opinions
: Looking for Old HP-41 Calculators and Accessories

For NBFM, you can get away with switching a capacitor in and out of being
in parallel with a crystal. That way, you can have your crystal and eat
it, too. ;-)

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs	jlundgre@delta1
Rancho Santiago Community College District	.deltanet.com
17th St. at Bristol \ Santa Ana, CA 92706	or @pop.rancho
Standard Disclaimers Apply (Blah-Blah...)	.cc.ca.us
"He who toys with the most dies, wins."	Dr. Kevorkian?
#===========PGP=key=available=upon=request=========================#

3494. Re: US Military Field Expedient Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: butch@apollo.wes.army.mil
Message-ID: <40af64$hi3@prop.wes.army.mil>
Source record: 111399
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <9508090927.AA22216@ukpyr2.uk.oracle.com>, pglibber@uk.oracle.com (Peter Glibbery) says:
>
>You'r kidding us, right Peter? Playing a little "see who will respond" game? Ok! you got one, me.

Butch

3495. Re: Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: szarkas@FHS.McMaster.CA
Message-ID: <409667$egn@informer1.cis.McMaster.CA>
Source record: 111400
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

I am not good enough to answer your question but I am wondering if you could help me? I am trying to design a transmiter that could modulate the entire AM band. Any hints? Specifically do you know of a chip that I could perhaps VCO control and hence sweep the AM band.
Steve S.

3496. ATV Tuner from UHF TV Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: Roger Koss <kossr@edl1.ksc.nasa.gov>
Message-ID: <40a83k$mo6@niven.ksc.nasa.gov>
Source record: 111401

Does anyone have any info on converting an old UHF TV Tuner to receive ATV on the 70cm band ? I believe that UHF Channel 14 is just above the 70 cm band, and I was recently told that there was an article in "Nuts and Volts" magazine which described the mod(s) required. I know that I can use a cable tv tuner on channels 54-57 or so, but unfortunately I haven't been able to lay my hands on a spare cable TV tuner for a reasonable price. I do however have access to a broken TV whose tuner I might be able to salvage. Any info would be appreciated. Please post replies here or E-Mail to kossr@edl1.ksc.nasa.gov. Thanks!

3497. Re: July QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: ke4iof@aol.com
Message-ID: <40aa3h$4jt@newsbf02.news.aol.com>
Source record: 111402

I haven't either. My June issue was late too.

Mark

3498. TS-440 RS232 command set

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: adercole@mezzrtm.lasc.lockheed.com
Message-ID: <40abik$eat@butch.lmsc.lockheed.com>
Source record: 111403

I would like to interface my personal commputer to my TS-440 RS232
serial port. Does anyone know where I can get my hands on the Command
Set for the Radio. The format of the commands on the responses back.
(i.e. the Software ICD)

3499. Re: direct digital synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: adercole@mezzrtm.lasc.lockheed.com
Message-ID: <40absg$eat@butch.lmsc.lockheed.com>
Source record: 111404

I would like to interface my TS-440 to my personal Computer. Does anyone out there have the Command/Response set. I have the data to interface electrically but the software interface is a mystery. I can not find it documented anywhere. If you can shed some light either post here or email me directly at:

adercole@rtm0.lasc.lockheed.com

3500. Re: Rotary encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: ponion@wally.srd.bt.co.uk
Message-ID: <40af95$8lo@pheidippides.axion.bt.co.uk>
Source record: 111405
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.amateur.digital.misc,uk.radio.amateur,sci.electronics

Thomas de Lellis (tom@kontron.de) wrote:
: Andrew Thomason (andrew@pmms.cam.ac.uk) wrote:
: : Do rotary encoders "go off" after a year or so? Can they be repaired? Do they lose
: : their magnetism or is it just dust which gets inside?

: : I have a couple of digital radios which can be tuned by a knob, one cheap, one
: : expensive. In both cases, after a year's use, the frequency started to dither
: : around slightly whilst I smoothly turned the knob. I had thought this was due
: : to a brain-damaged chip but now think it must be the rotary encoder.

: : Many thanks,
: : Andrew Thomason (andrew@dpmms.cam.ac.uk)

Hi,

I have a FT290 MkI that will only qsy HF, no matter which way you turn the knob!

So I think I too have a faulty encoder! Anybody else had this problem?

Peter Onion. G0DZB
ponion@srd.bt.co.uk

3501. Re: July QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: schneide@wrcs1.urz.uni-wuppertal.DE
Message-ID: <40a5qc$rat@wmwap1.math.Uni-Wuppertal.DE>
Source record: 111406

Wes Stewart (N7WS@azstarnet.com) wrote:
: jbaltz@watsun.cc.columbia.edu (Jerry B Altzman) wrote:
: >Has anyone received their July QEX yet? I'm still waiting for mine...
: >
: >//jbaltz
: >jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
: >jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

: Nope!
Also not!

3502. Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: MUENZLERK@uthscsa.edu
Message-ID: <01HTV4REJL2A001045@uthscsa.edu>
Source record: 111407

jackl@pinetree.microserve.com (WB3U) Writes:
>
>
<snip>
>I agree, and I have occasionally posted a schematic or two here
>when e-mail indicated that a number of people were interested.
>
>Given that it doesn't occur very often, I don't think it's worth
>worrying about.
>
>73,
>
>Jack WB3U

The problem with posting binary/UUEncoded files here is not the
fact that occasional posting "isn't worth worrying about." The problem
is that this group as well as several others in the rec.radio.amateur.*
section of USENET are picked up by a USENET to EMail reflector
at the University of California at San Diego. The articles are gathered
and placed into digests and sent to thousands of people via EMail.
If this was not the case and it simply showed up on a USENET reader
as a topic that could be ignored there would not be much of a problem.
If someone posts a UUEncoded file here that is 50K and it is duplicated,
say 2000 times, that is 100MB of space that is taken up by ONE post.
That is why I don't recommend posting UUEncoded files here. If you have
one post it to one of the binary newgroups and notify us of its existence
by posting an article telling us where it is.

Thanks

Kevin Muenzler, WB5RUE
muenzlerk@uthscsa.edu

3503. Re: 4-1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: don.phelps@infoway.com
Message-ID: <9508090754186334@infoway.com>
Source record: 111408

Wayne,

I have a 4-1000 HF amp. Variable roller inductor, vac variable capacitors,
for continuous tuning. Very heavy duty power supply with 240V variac for
continuous variability.
5' relay rack (w. castors) with lots of meters,
and window to watch the 4-1000 etc.
This looks like unit built for show in handbook article.
I have so many spare 4-1000s, I couldn't resist putting a second
one in parrallel, to make input impedance 50 ohms directly.

Would you like to buy it, or just trade schematics, experience
building these? Too bad I am in California.

Don, N6MCE

WW> Looking for a Good homebrew HF amp with 4-1000 finale/working.
WW> wa2kec
WW> wayne@nexus.interealm.com

... Don.Phelps@infoway.com POB9739 SAN RAFAEL CA 94912-9739
___ Blue Wave/QWK v2.12

3504. Re: Rotary encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <40aof7$ltd@hpscit.sc.hp.com>
Source record: 111409
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.amateur.digital.misc,uk.radio.amateur,sci.electronics

In article <40aju5$kde@crcnis3.unl.edu>,
Gary McDuffie Sr <mcduffie@unlinfo.unl.edu> wrote:
>rkarlqu@scd.hp.com (Richard Karlquist) writes in a followup:
>
>
>>Yes, rotary encoders are infamous for their poor reliability. I don't
>>know what makes them fail, I just know I have seen them go out time and
>>time again.
>
>I'm assuming :) you are talking about light coupled encoders. I would
>have to say that I disagree with the statement that they are not
>reliable. Some of the most expensive equipment in the world uses
>them and they work without fail as long as they are kept clean and
>properly aligned. If designed properly, they won't need alignment,

Speaking of expensive equipment, the $58,000 HP 8663A is a case in
point. The rotary encoder in that instrument has a relatively high
failure rate. I don't know if the failed ones can be rehabilitated
by cleaning out the dust.

Rick Karlquist

3505. Re: Rotary encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: mcduffie@unlinfo.unl.edu
Message-ID: <40aju5$kde@crcnis3.unl.edu>
Source record: 111410
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.amateur.digital.misc,uk.radio.amateur,sci.electronics

rkarlqu@scd.hp.com (Richard Karlquist) writes in a followup:

>Yes, rotary encoders are infamous for their poor reliability. I don't
>know what makes them fail, I just know I have seen them go out time and
>time again.

I'm assuming :) you are talking about light coupled encoders. I would have to say that I disagree with the statement that they are not reliable. Some of the most expensive equipment in the world uses them and they work without fail as long as they are kept clean and properly aligned. If designed properly, they won't need alignment, but dust gets on the encoder wheel and the source/target leds and causes problems. Carefully cleaning an encoder wheel will keep it working for many many years. Case in point, check out the FT-2400. It is notorious for encoder wheel problems. The one they replace it with, I've been told, is better sealed so that dust can't get to it as easily.

Gary - AG0N

3506. Re: Rotary encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug9.155141.28943@ke4zv.atl.ga.us>
Source record: 111411
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.amateur.digital.misc,uk.radio.amateur,sci.electronics

In article <4087ns$57e@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist) writes:
>In article <807820357snz@lfheller.demon.co.uk>,
>Leon Heller <Leon@lfheller.demon.co.uk> wrote:
>>In article <4051b3$hf6@lyra.csx.cam.ac.uk>
>> andrew@pmms.cam.ac.uk "Andrew Thomason" writes:
>>
>>> Do rotary encoders "go off" after a year or so? Can they be repaired? Do they
>>> lose
>>> their magnetism or is it just dust which gets inside?
>>>
>>> I have a couple of digital radios which can be tuned by a knob, one cheap, one
>>> expensive. In both cases, after a year's use, the frequency started to dither
>>> around slightly whilst I smoothly turned the knob. I had thought this was due
>>> to a brain-damaged chip but now think it must be the rotary encoder.
>
>Yes, rotary encoders are infamous for their poor reliability. I don't
>know what makes them fail, I just know I have seen them go out time and
>time again.

Actually, optical shaft encoders are noted for their extreme reliability
and long life. About the only things that can harm them is contamination
of the optical surfaces, an electrical surge that blows the LEDs or
phototransistors, or shaft bearing failure. Now unfortunately, some of
the shaft encoders used in amateur equipment are mechanical rather than
optical, and tarnished contacts, and ordinary contact wear, take a rapid
toll.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3507. Re: July QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: jbaltz@watsun.cc.columbia.edu
Message-ID: <40anqj$7ju@apakabar.cc.columbia.edu>
Source record: 111412

In article <406q2m$iof@apakabar.cc.columbia.edu>,
I <jbaltz@watsun.cc.columbia.edu> wrote:
>Has anyone received their July QEX yet? I'm still waiting for mine...

I just called the ARRL about 3 minutes ago. They said that "the July QEX went out *this morning*" (9 Aug 1995) to which I replied "ahh, well the July QEX is now the August QEX, no?" and I was answered, "the August QEX will be coming out shortly"

So there you go!

//jbaltz
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

3508. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: tvr@les.CNMAT.Berkeley.EDU
Message-ID: <TVR.95Aug9111008@les.CNMAT.Berkeley.EDU>
Source record: 111413

If someone posts a UUEncoded file here that is 50K and it is duplicated, say 2000 times, that is 100MB of space that is taken up by ONE post. That is why I don't recommend posting UUEncoded files here. If you have one post it to one of the binary newgroups and notify us of its existence by posting an article telling us where it is.

Or, you can put on a WWW or FTP server, and include a URL or pathname in your posting. If you ask nicely, there are many folks out here with WWW pages who would be happy to include your schematics and drawings, along with the original text. One of the High Speed Packet pages already has a number of schematics on it, and it is very useful.

We could also request that 'alt.binary.radio.amateur' be created, i don't see much trouble getting that through 'alt.config'. Now, of course, not everyone can get 'alt.binary' as much of the material posted there is considered (depending on the site) to either consume very excessive amounts of disk or to be too controversial to be anything more than an "upon request" basis...
-- KD6PAG

3509. 4 ft Aluminum Snow Coasters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: BDONALDSON@HNS.COM
Message-ID: <1995Aug9.175849.402@hns.com>
Source record: 111414
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.space

Anyone out there is Net-land know where someone from SoCal can find a NEW 4 ft (or so) Alunimum Snow Coaster? (it's for playing around with KU band)

Brian, KF6BL

,,, Waddayamean, it's NOT workin'?!
(o o)
==========oOO==(_)==OOo==========
Brian Donaldson Project Engineer, Customer Svc
Hughes Network Systems, Inc. TES, Terrestrial, et al...
10450 Pacific Center Ct. Email: bdonaldson@hns.com
San Diego, CA 92121 Phone: (619) 452-5175
Room 2077 Fax: (619) 452-4886
==========

3510. Re: ATV Tuner from UHF TV Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: steve monsey <70307.1052@CompuServe.COM>
Message-ID: <40bbokglq2@mhafn.production.compuserve.com>
Source record: 111415

You are sorta right! If you use a cable ready tuner such as one in your VCR or cable ready TV you can recieve ATV on 434 on ch 56...(I think..or 59).

You have to connect an outside antenna to the cable input of your VCR. The antenna should be a direction type.

One problem. The tuner in your VCR is not as sensitive as the downconverters for ATV. The signal in your area should be a strong one such as from a repeater or a close friend. Give it a try anyhow, that is what amature radio is all about!

-------------------------000000-------------------------------
Steve N0FPF ---Seattle....Hams should be seen as well as heard!
Western Washington Amateur Television.

3511. Re: Need 3-500Z specs for modifying HF amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <40bcou$4d5@nuclear.microserve.net>
Source record: 111416

mfschick@aol.com (MFSCHICK) wrote:
>I have an old Swan Mark I amp that I would like to modify and improve
>for 3-28MHz.

Rather than reinvent the wheel, why not just look in back copies of
the ARRL Handbook? That would be a lot simpler than designing the
entire tank circuit from scratch. At the very least, you would
also see how others have built these, and maybe get some ideas
regarding other component values, like coupling caps and plate chokes.

73 & GL,

Jack WB3U

3512. QRP-L Thanks!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: ak119@lafn.org
Message-ID: <1995Aug9.152332.13282@lafn.org>
Source record: 111417

```
Thanks for the info on the QRP-L list Guys
cu on the list...Rothan (nu6u)
72's
```

3513. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <40bd1d$4d5@nuclear.microserve.net>
Source record: 111418

tvr@les.CNMAT.Berkeley.EDU (Tovar) wrote:
> If someone posts a UUEncoded file here that is 50K and it is
> duplicated, say 2000 times, that is 100MB of space that is taken up
> by ONE post. That is why I don't recommend posting UUEncoded files
> here.

I don't understand this. If someone posts a 50K UUE binary to this group, it takes up 50K on the news server I subscribe to. If it also takes up 50K on other servers as well, how does that impact me?

Just asking.

Jack WB3U

3514. Re: Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <40bec9$879@abyss.West.Sun.COM>
Source record: 111419
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In article <409s83$ao8@solaris.cc.vt.edu>, Mike Keitz <mkeitz@bev.net> wrote:
>In article <409onk$t2p@news2.deltanet.com>,
> jlundgre@delta1.deltanet.com (John Lundgren) wrote:
>>David Bengtson (daveb@connect.net) penned:
>>: I'm looking for some pointers to detailed work on modulating vco's and
>>: synthesizers for transmitters. I'm specificaly looking for more
>>: information on Dual port modulation for FSK data. Technical reports
>>: are fine, application notes, etc.
>>
>>: Thanks for any pointers
>>
>>: David Bengtson
>>: Yes, these are my opinions
>>: Looking for Old HP-41 Calculators and Accessories
>>
>>For NBFM, you can get away with switching a capacitor in and out of being
>>in parallel with a crystal. That way, you can have your crystal and eat
>>it, too. ;-)
>>
>>
>This is however, not what David is after, as he specifically mentioned
>vco's and synthesizers. If you are using the variable crystal approach, it
> is much better to use a varactor diode in conjunction with the crystal so
>continuous frequency changes can be effected. Simply switching leads to a
>lot of undesired sidebands.
>
>The conventional "single oscillator" (my term for it) VHF FM transciever is
>turning out to be quite inadequate for high-speed FSK packet, at least in
>the versions supplied by the Japanese manufacturers. The primary
>limitation of this design is that the PLL must re-lock on every change from
>transmit to receive and vice versa. Thus the radio is unable to transmit
>or receive for a period of 100 or more milliseconds at the beginning and
>end of each transmission. Since 9600 baud packets can be less than 25 ms
>long, this is a tremendous waste of channel capacity.

A single oscillator PLL synthesizer can lock up in considerably less
than 100mS. I have several Motorola MCX100 transceivers that are
specified to lock up in less than 3mS. The key is to use an adaptive
loop filter; some designs shunt diode(s) across resistors in the loop
filter to do this, but it is better to use switches like 4066 quad
to modify the loop filter in a predictable manner.

>Another major problem with the single oscillator set is that in order to
>tune fast from TX/RX, the loop filter must have a wide bandwidth, on the

>order of 100 Hz or more. But with a wide feedback bandwidth, the PLL will
>"fight" the modulation, causing a great deal of distortion of the
>transmitted signal unless rather elaborate compensation is used. The
>compensation is likely to require individual adjustment for each unit. It
>may be possible to lower the bandwidth to a few Hz once lock has been
>achieved, but this is likely to push out the RX->TX transition time even
>more.

You are correct to point out the lock-up time vs. VCO modulation
trade-off. However, keep in mind that loop bandwidth choice is
also influenced by reference noise considerations, though this is
often not a big issue.

Don't overlook the use of "two point" modulation; modulation is applied
to the VCO and also to the reference. For example, the Motorola MCX100
I mentioned above also offers this capability. You may be able to
retrofit the ability to modulate the reference to an existing synth,
but be very careful not to make your reference source become noisy
and drifty.

Whenever you make any changes to a PLL synth, you should always do the
math first to make sure you don't break the PLL synth in some unexpected
way (like it won't lock up at all ;-).

>A much better design is a heterodyne system. Here the PLL runs
>continuously at the LO frequency. Thus the radio is always ready to
>receive. When transmitting is required, a crystal oscillator at the IF
>frequency is switched on and mixed with the LO. The output of the mixer
>has 3 main components, LO-IF, LO, and LO+IF. This latter signal is on the
>correct frequency for transmission (assuming simplex operation. For offset
>channels, either the VCO/LO can be retuned (slow) or another crystal for
>each frequency split provided (expensive)). A fairly good filter is
>required to reject the spurious outputs from the mixer, before the power
>amplifier.

>Modulation is applied to the heterodyne oscillator using VXO techniques.
>The PLL will not distort the modulation, and it also remains locked during
>the transition from receive to transmit and back. Thus very fast
>changeover time can be achieved. This type of design used to be somewhat
>popular in commercial equipment. The Santec ST-144uP 2-meter HT is one
>example. However, the cost of the extra crystal, mixer, and filter, as
>well as the inherent lack of wide transmit frequency coverage (without
>readjusting the filter anyway) has caused it to become extinct in today's
>market.

The extra complication of the VXO, mixer, and adequate mixer image
rejection are the major issues with this. The transmit filter often
ends up being a set of helical resonators with the inherent narrow
bandwidth you mention. A decent two point modulation design can give
you the necessary DC modulation response and TX/RX switchover time
with consideranbly less complication and also remove the possibility
of inadequate transmit image suppression.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

3515. HF Amp transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: mike@nit-emh1.nit.disa.mil
Message-ID: <40bgho$ddp@data.interserv.net>
Source record: 111420

Saw a few articals on using micro-wave oven transformers for HF Amps. I am very interested if these transformers
can actually be used. Has anyone actually used one of these in an HF amp?? If any own has any information
on this please let me now, I have access to a large qty of used micro-wave oven transformers and would be willing
to provide for the shipping price only. If you have any infor please e-mail me at

mike@nit-emh1.nit.disa.mil

3516. Re: MDS downconverters good for parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <40bdo2$4d5@nuclear.microserve.net>
Source record: 111421

jkesling@shell.portal.com (John Darrell Kesling) wrote:

>I recently obtained several MDS downconverters.
<snip>
>Does anyone know the frequency of MDS CHANNEL 1?
>
>Should they be scrapped for parts, converted to another frequency,
>used as-is or thrown away? Other suggestions?

MDS1: 2150 to 2156 MHz
Visual Carrier: 2154.75
Color Subcarrier: 2151.17
Aural Carrier: 2150.25

MDS2: 2156 to 2162 MHz
Visual Carrier: 2160.75
Color Subcarrier: 2157.17
Aural Carrier: 2156.25

Note that the relationship of the carriers in both MDS channels is
inverted relative to normal TV broadcasts.

BTW, I haven't seen MDS-only downconverters in quite some time. Most
of these were used in the mid 70's to early 80's, following which ITFS
and MMDS (2.5 - 2.7 GHz) began gaining popularity for commercial
multichannel "Wireless Cable" use.

Note that the video standard at the higher MMDS band is identical to
"normal" television broadcasts. Later model downconverters, some of
which have dual front ends for receiving both MDS and MMDS, use a L.O.
located between the two services. Thus, MDS is reinverted on
conversion, while MMDS is not.

Sorry, no suggestions for a good use.

73,

Jack WB3U

3517. 1995 Crested Butte CO Beer Festival

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: Jonathan Erdman <jerdman@teal.csn.net>
Message-ID: <40c8dh$oi8@news-2.csn.net>
Source record: 111326

Come drink some special beers in the sunny Rocky Mountains. Better yet,
bring some of your own brew for others to try. Lodging and meals
provided for brewers. For detailed information go to
http://www.cbinteractive.com/cbws/beer.html

3518. Re: Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: daveb@connect.net
Message-ID: <40btv5$cpn@dallas1.connect.net>
Source record: 111327
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

myers@West.Sun.COM (Dana Myers) wrote:

>In article <409s83$ao8@solaris.cc.vt.edu>, Mike Keitz <mkeitz@bev.net> wrote:
>>In article <409onk$t2p@news2.deltanet.com>,
>> jlundgre@delta1.deltanet.com (John Lundgren) wrote:

Much Deleted, due to a nasty newsposter.

More grungy details are in order. This is going into a actual shipping product, so things like transmit splatter, modulation accuracy, lock time are big players. This is also to be powered off of a single AAA cell, so total current consumption is a big issue, also. The actual modulation scheme is a 4 level FSK, with deviation frequencies of +/- 800 Hz and +/- 2400 Hz. The frequencies must be within +/- 40 Hz for the system to work, adding another little bit of Joy.

The current plan is to use a Dual port scheme, where the modulation is appiled to both the reference oscillator and the VCO. My concerns with this is that the parts count starts to go way up, along with the circuit complexity. However, there appears to be no way around it, and no one has suggested any other solutions.

I have perused my synthesizer books, and there appears to be no real mention of modulation in any or them, indicating the appropriate math/simulations to perform. I have MDS (HP's Microwave Design System) to use for simulation, so simulations are another possibility. However, I haven't seen any real detailed treatments of modulation at all, which is why I posted the base message, looking for suggestions on references to track down.

Dave Bengtson
David Bengtson
Yes, these are my opinions
Looking for Old HP-41 Calculators and Accessories

3519. An SWR/RF Power Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: Eric Hoppe <102475.3010@CompuServe.COM>
Message-ID: <40blb0$et2$1@mhadf.production.compuserve.com>
Source record: 111328
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,alt.radio.pirate

We have the Diamond Antenna Model SX-200 RF power Meters in stock
for only $135 plus $6 shipping. These meters show forward and
reflected power and SWR. Switchable full scale readings of 5, 20,
and 200 watts. 30 day money back offer, and full one year warranty.
Visa and Master Card accepted. Call Today!

--
Progressive Concepts (909)626-4969 Fax:(909)626-4329

3520. Re: Want to build a power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: martvin@ionet.net
Message-ID: <40c6gh$9n5@ionews.ionet.net>
Source record: 111329

In article <DCsn7z.76L@freenet.carleton.ca>, by668@FreeNet.Carleton.CA says...
>
>
>
>Hello,
>
>I want to build a 13.5 Vdc 20 Amp.
>I need someone to draw up the schematics and list of pieces,
>I know some of you will say that it would cost less to buy one
>but I already have many pieces that can probably be used,
>so if there's a genius in that field around, i'd love to hear
>from them...
>
>
>Thanks many times...
>
>Marc

Not to dampen your creative spirit, but take it from one who has built many, many (many) power supplies, etc.....by the time you can buy all of the parts (including a cabinet to put it in) you can pay for a very nice Astron power supply....have fun. KN6UG

3521. 1995 Crested Butte CO Beer Festival

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: Jonathan Erdman <jerdman@teal.csn.net>
Message-ID: <40c800$oi8@news-2.csn.net>
Source record: 111330

Come drink some special beers in the sunny Rocky Mountains. Better yet, bring some of your own brew for others to try. Lodging and meals provided for brewers. For detailed information go to http://www.cbinteractive.com/cbws/beer.html

3522. Re: Rotary encoders

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DD34I1.61v@hpqmoea.sqf.hp.com>
Source record: 111331
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.amateur.digital.misc,uk.radio.amateur,sci.electronics

Richard Karlquist (rkarlqu@scd.hp.com) wrote:

: Speaking of expensive equipment, the $58,000 HP 8663A is a case in
: point. The rotary encoder in that instrument has a relatively high
: failure rate. I don't know if the failed ones can be rehabilitated
: by cleaning out the dust.
: Rick Karlquist

The original RPG in that generation and earlier actually used a filament bulb as the light source, I think it was only in the mid 80's that things switched over to LED based rotary pulse generators. I'd moved into prod eng for a few years around that time and had to change everything in production at Queensferry over to the new type.

I had a different problem with one... I wore out the shaft and bush in a prototype instrument doing testing (Spurious hunting) I swear one of my fingers is worn down, too. For the gross-overkill-global-domination class transceiver I keep building bits of, I think I may have to make my own RPG with proper ball races...

The mechanical switch things are definitely bad news. Incidentally, how many people know that genuine Microsoft mice use nasty contact type pulse generators? I keep wearing them out playing Doom.

Cheers
David GM4ZNX

3523. Stepper Motors.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: dan drumm <drumm>
Message-ID: <40dqc1$7v@koala.uwec.edu>
Source record: 111332
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

I have a lot of old stepper motors from old DECWriter salvage. etc.
I would love to use these, but I do not know the color combinations.

The two different types of motors have either of these color
wires combinations:

or
black red
yellow orange
-- yellow
red ------
gray green
brown
black

(Many of these stepper motors look piggy backed; -- some of the wires
comming out of the top motor, and some from the bottom.)

Is there a standard color coding for these wires? Any guesses?
I can sequence these motors with my computer, but I need a little
more info.

Any help gratefully appreciated!

-- Dan
Drumm@uwec.edu

3524. FM Stereo Wireless Microphone

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: bk296@FreeNet.Carleton.CA
Message-ID: <DD3EKp.G2n@freenet.carleton.ca>
Source record: 111333

I would like to buy or build an FM stereo wireless mike: L+R audio inputs,
a range of about 10' and a power supply of 12 VDC or less. Any leads
or assistance appreciated.

3525. Re: FM Stereo Wireless Microphone

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: tfugate@uklans.uky.edu
Message-ID: <40d01n$6bn@service1.uky.edu>
Source record: 111334

In article <DD3EKp.G2n@freenet.carleton.ca>, bk296@FreeNet.Carleton.CA (Gordon Symonds) says:
>
>
>I would like to buy or build an FM stereo wireless mike: L+R audio inputs,
>a range of about 10' and a power supply of 12 VDC or less. Any leads
>or assistance appreciated.
>
You might try your local Kmart or Walmart. I have seen a small FM stereo
tx that they sell. It is desinged to take your portable CD player and
"bradcast" it into you car stereo. I suspect that you could go inside
it and add a preamp to boast a microphone level to a line level.
There might be a "pad" to reduce the level from line/earphone to
approaching microphone level. The mini tx's were pretty cheap..
like maybe $20.00
Good luck and let us know how it works
Terry Fugate

3526. PCB & Iron-on transfer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: ai657@freenet.toronto.on.ca
Message-ID: <DD3ou6.D6.0.queen@torfree.net>
Source record: 111335

I have heard about this method but can't find the product.
I believe that the material is run through a photocopier
and then ironed to a copper clad board. Sounds like a quick
way of getting to the etching stage, without having to use
photo-sensitized boards and developer.
Any help would be appreciated.
Thanks.
Paul VE3GFY

3527. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <40d8ap$dpj@unisql.unisql.com>
Source record: 111336

WB3U writes:

> If someone posts a 50K UUE binary to this
> group, it takes up 50K on the news server I subscribe to. If it
> also takes up 50K on other servers as well, how does that impact me?
>

Jack, it affects you the same way as if one guy drops a 2KW carrier
on 14.313, then 2,000 other hams pile onto 14.313 with 2KW carriers.

Even if you're not trying to use 14.313 at the time, it messes up the band
for anybody anywhere nearby. The bandwidth -- the capacity for the
medium to pass information -- is overtaken by one kind of information that
is not useful to all the users, and is not available to other users for any
exchange of information. It's called "wasted bandwidth" and it squanders a
finite resource.

It probably doesn't affect you DIRECTLY -- except that you might QSY to 40,
or turn on the TV. But until the noise subsides, or the 2,000 copies of the
program get deleted, it takes up more space than it should, space that may
be put to a better use.

Jim N6OTQ
standard disclaimer

3528. Re: Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug10.152731.3580@ke4zv.atl.ga.us>
Source record: 111337
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In article <40btv5$cpn@dallas1.connect.net> daveb@connect.net (David Bengtson) writes:
>
>Much Deleted, due to a nasty newsposter.
>
>More grungy details are in order. This is going into a actual shipping
>product, so things like transmit splatter, modulation accuracy, lock
>time are big players. This is also to be powered off of a single AAA
>cell, so total current consumption is a big issue, also. The actual
>modulation scheme is a 4 level FSK, with deviation frequencies of +/-
>800 Hz and +/- 2400 Hz. The frequencies must be within +/- 40 Hz for
>the system to work, adding another little bit of Joy.
>
>The current plan is to use a Dual port scheme, where the modulation is
>appiled to both the reference oscillator and the VCO. My concerns with
>this is that the parts count starts to go way up, along with the
>circuit complexity. However, there appears to be no way around it, and
>no one has suggested any other solutions.
>
>I have perused my synthesizer books, and there appears to be no real
>mention of modulation in any or them, indicating the appropriate
>math/simulations to perform. I have MDS (HP's Microwave Design System)
>to use for simulation, so simulations are another possibility.
>However, I haven't seen any real detailed treatments of modulation at
>all, which is why I posted the base message, looking for suggestions
>on references to track down.

Perhaps you're going at this the wrong way. If you want a 4-level
modulation, then perhaps you should be considering a pair of multipliers
in phase quadrature on the output of the synthesizer instead of modulating
it directly. With the appropriate modulating waveform, you can generate
any arbitrary output you might need. The synthesizer is then just a
reference carrier and can be of conventional single loop design.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3529. Re: HF Amp transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug10.152044.3496@ke4zv.atl.ga.us>
Source record: 111338

In article <40bgho$ddp@data.interserv.net> mike@nit-emh1.nit.disa.mil writes:
>Saw a few articals on using micro-wave oven transformers for HF Amps. I am very interested if these transformers
>can actually be used. Has anyone actually used one of these in an HF amp?? If any own has any information
>on this please let me now, I have access to a large qty of used micro-wave oven transformers and would be willing
>to provide for the shipping price only. If you have any infor please e-mail me at
>
>mike@nit-emh1.nit.disa.mil

AFAIK, microwave oven transformers are designed to saturate at the
maggie design current, acting as a crude current regulator and peak
current limiter. This probably isn't behavior you'd want from a linear
amplifier supply.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3530. Re: HF Amp transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <40djol$i4i@nuclear.microserve.net>
Source record: 111339

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>AFAIK, microwave oven transformers are designed to saturate at the
>maggie design current, acting as a crude current regulator and peak
>current limiter. This probably isn't behavior you'd want from a
>linear amplifier supply.

I'm not sure this would be a handicap so long as the supply was operated below the continuous-rating saturation point. After all, the filter circuit plays a major role in meeting peak power current demands and can compensate for minor transformer deficiencies. Also, given that the used transformers are so cheap, it might be possible to parallel two or three to overcome this shortcoming.

Do you (or anyone) have any specific data regarding the saturation curves of these transformers? Considering how expensive parts are becoming, it would seem appropriate to know for sure whether these transformers are suitable before discarding the idea.

73,

Jack WB3U

3531. Re: PCB & Iron-on transfer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <40dj8e$gmv@unisql.unisql.com>
Source record: 111340

The iron-on transfer method was described in QST last year, I believe.

You should use the clay-coated paper that's specifically for ink-jet printers, and turn up the toner density on the printer or copier.

A caveat -- you have to produce mirror-image art, or it won't work. This means your layout software has to print a mirror image. Of course, there's a work-around. Make a photocopy onto an overhead (clear media). Then photocopy THIS, placed backwards in the copier, onto the inkjet paper.

Then iron it on to the PCB. YMMV, and so far the process hasn't worked for me.

Jim N6OTQ

3532. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <40dkoi$i4i@nuclear.microserve.net>
Source record: 111341

Jim Strohm <jstrohm@blazer> wrote:

>Jack, it affects you the same way as if one guy drops a 2KW carrier
>on 14.313, then 2,000 other hams pile onto 14.313 with 2KW carriers.
>
>Even if you're not trying to use 14.313 at the time, it messes up the
>band for anybody anywhere nearby. The bandwidth -- the capacity for
>the medium to pass information -- is overtaken by one kind of
>information that is not useful to all the users, and is not available
>to other users for any exchange of information. It's called "wasted
>bandwidth" and it squanders a finite resource.

I understand that concept Jim, but I really think it's nit-pickin' to apply it to this situation. If net-wide resources are really a concern, one only has to take a peek at alt.binaries.pictures.erotica and a.b.p.multimedia to realize that a few schematics aren't even a drop in the bucket.

Schematics and other technical drawings would often be helpful and relevant when discussing homebrew topics. Unless objections are based on something other than general resources, I say go for it!

73,

Jack WB3U

3533. Re: Antenna/coil design program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <40dleh$i4i@nuclear.microserve.net>
Source record: 111342

Following is the text that *should* have accompanied this file as a
separate description. I downloaded the entire thing as text before I
realized it was a UUE file. Had I know that in advance, I would have
downloaded it with the Decode function of my reader instead. Maybe
this will save someone else the trouble.

Original text follows:

This program will design single or dual band coil loaded
verticals or dipole antennas and features key touch juggling
of values, sliding the coil, changing diameter etc.
There is also a similar single layer coil program that can be
used as a stand alone or to take the antenna value calc and
design the loading coils.... the printout has addition info
on rad. resistance, matching networks and gain (loss)....

section 1/1 file antcoils.exe [Wincode v2.6.1]

begin 644 antcoils.exe

End of Text

3534. Re: ATV website ?? Where !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: jpawluk@shell.portal.com
Message-ID: <40dn2p$oji@news1.shell>
Source record: 111343

Tony Salvador (tony@gcr1.com) wrote:
: Someone listed a WWW homepage or website for ATV operators ...?
: I'm looking for it ...
: let me know where it is ...

Hi tony,check out the Amateur Television Network web page at:

http://www.realm.net/~jpawluk/KB6MMF.html

You'll find several links to other ATV pages there as well.

73 John - KB6MMF

3535. Re: HF Amp transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <40dnr7$hdf@unisql.unisql.com>
Source record: 111344

This is only an anecdotal report, not a scientific test.

I used a microwave oven transformer to charge an electric fence.

After 18 hours, resistive losses in the primary had heated the transformer up to about 75 deg C -- past the point of too hot to touch. Still had full voltage, but never drew more than a few milliamperes the whole time.

Resistive heating may be an issue for some builders. I turn my amp off now and then....

All the microwave oven transformers I've seen have been suitable for disassembly and rewinding. So when you need a big filament transformer in a custom voltage, here's where to start rewinding.

N6OTQ

3536. Power Supply comments

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9507108080.AA808069839@mails.imed.com>
Source record: 111345

In article <DCsn7z.76L@freenet.carleton.ca>, by668@FreeNet.Carleton.CA says...
>
>I want to build a 13.5 Vdc 20 Amp.
martvin@ionet.net (Martin T. Vinson) wrote
Not to dampen your creative spirit, but take it from one who has built many,
many (many) power supplies, etc.....by the time you can buy all of the parts
(including a cabinet to put it in) you can pay for a very nice Astron power
supply....have fun. KN6UG

I agree with Martin with two provisos.

If you have a VERY well stocked junk box the cost can be mitigated. The MOST
expensive parts are the transformer, heat sink, and the case. I have built
projects where the store bought case cost twice what the components inside cost.

The second provisio is that if you get joy from building, then a power supply
can be a rewarding project! They can be as simple as the ones that have a zener
reference and several transistors which provide no protection to the supply or
the circuit being supplied all the way up to fully thermal, over voltage, over
current protected supplies. I have seen several references to ideas in all of
this range mentioned over the last couple of days. I am in the process of
building a design (in the works for a year now) that is at the high end for a
remote packet node for TexNet. Let me know if you still have questions.

Ray Mack
WD5IFS
mack@mails.imed.com

3537. Re: looking for plans: CB base antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <40e038$fkq@news1.inlink.com>
Source record: 111346

In article <408rsu$mop@newshost.lanl.gov>, jdevenport@lanl.gov says...
>
>
>I built several of these for 10 meters, but they will work
>equally well on 11 meters (if your kid enjoys the CB he is
>twisted beyond belief, get him a Novice or Tech ham radio
>license guidebook from Radio Shack):
>

>--
>*********** Jim Devenport WB5AOX **************
>* PO Box 445, McIntosh NM 87032 *
>* http://nis-www.lanl.gov/~jdport/ *
>***
>
>
Looks like another typical unfounded comment by yet another person in
our government.

Do you think your assinine comment was appreciated by anybody who read your
post, or were you just showing off your mentality? Some people open their
mouth and remove all doubt!

Anyone, especially a child, who shows an interest in something other than
drugs and the idiot box is to commended, not degredated by the like of you.
It's people like yourself that give all the airwaves a bad name, including
amateur radio. With our luck, your probably the sysop of one of those
lowlife, foul-languaged repeaters, that is totally ruining the 2-meter band
for the rest of us.

I have been a licensed CBer since 1957 and a licensed ham since 1959 and
still enjoy utilizing both hobbies and monitor channel 9 on 11-meters most
days for emergency traffic. It's not my fault that the government does not
enforce the very laws they created. If they would, perhaps the illegal
operators would not be as abundant as they are.

Your e-mail account shows you are gaining access to the internet through a
government site. Sponging off the taxpayers aren't you! Why don't you get
a life and leave the kids alone, the only one twisted here is YOU!!!

Gary Deutschmann
17Q (1st Missouri issued CB call) - KNH7564 - KPI1591 - K0VCH - KA0CDE -
KB0LMW - currently N0ZOI (General Class).

3538. Re: Schematic Draw Program Recommendations?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DD444G.EMI@sunsrvr6.cci.com>
Source record: 111347

In article <4042u1$2a2@cc.iu.net>, Bill Newkirk <wnewkirk@iu.net> wrote:
>In <3vsrso$m7a@ixnews3.ix.netcom.com>, nielw@ix.netcom.com (Niel Wiegand) writes:
>>I'm looking for a DOS or Windows based draw/CAD program that includes
>>electronic symbols like inductors, transformers, caps, resistors and
>>tubes.
>>Has anyone found one that allows resizing, rotation, "sticky" end
>>points, vertical/horizontal alignment, etc?
>>Niel - WA5VLZ
>
>sounds like Autocad to the rescue here...of course it'd be better if you could
>kick out a net list to feed other analysis tools...but you said dos/windows,
>not unix.

How about PADS/PCB? There's a shareware version with reduced limits.
Get it on any simtel20-like FTP site. The layout portion is pretty good.
Only tried schematic capture once, but it looks OK, too.

73...Jim N2VNO

>...
>Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
>Melbourne, FL duty now for the future of amateur radio
>Lombardi's 1st Law of Business:
>Companies succeed in spite of their best effort. If they succeed at all.
>

3539. J.W. Miller IF xfmrs needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: RZ5630@waccvm.corp.mot.com
Message-ID: <1995Aug10.182507.15822@schbbs.mot.com>
Source record: 111348

Subject: Millen Xfmrs & other parts

With all the recent discussion regarding the building of "minimum" transmitters, I have gone back to some books I studied in preparation to obtaining my Amateur Radio License. In the 1953 edition of "How to become a Radio Amateur", page 25, there is a four tube superheterodyne radio that I was planning on building back in 1953. The spark has been lit again and I just have to build this radio. I need to find a few components though. If I could obtain the I.F. transformers specified in the construction article, I I can complete construction of this radio. The parts I need are made by the "James Millen" company out of Massachusetts. The parts are:

1500-1600 kc I.F. Transformer, Millen part number 64161
1500-1600 kc BFO Unit, Millen part number 65163
1700 kc I.F. Transformer, Millen part number 62161
Horizontal Oscillator Coil, R.C.A. part number 205R1
Slug Tuned Coil Form, National Radio part number XR-50
Mini-Inductor, Barker & Williamson part number 3008

In the same book, on page 33, there is an excellent 2 tube transmitter that is a companion unit to the receiver. It uses a 6AG7 to a 6L6 to run 30 watts input on 80 & 40 meters. I would like to build that unit also. The only parts I need for the transmitter are the plate coils. They are made by "Bud" and their part numbers are:

BUD OEL-80
BUD-OEL-40
BUD-OEL-20

Some how this station never got built and I think that it would be great fun to complete the project I set out for myself over 40 years ago. Any help you Boat Anchor lovers can provide me, in this personal quest of the Golden Grail, will be greatly appreciated.

Thanks for your help,

Bob, ARS K7NWB

3540. Re: SCR Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: sefranek@iii2.iii.net
Message-ID: <40e912$3hu@iii2.iii.net>
Source record: 111349

```
Pin 1 - Cathode
Pin 2 & Tab - Anode
Pin 3 - Gate

GE Outline 230.2

From: Thyristors - Rectifiers GE Semiconductors

Enjoy
Tom

--
Thomas C. J. Sefranek WA1RHP Work: 508-425-2200
```

3541. Re: PCB & Iron-on transfer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-1008952214580001@squaw-d101.sierra.net>
Source record: 111350

In article <DD3ou6.D6.0.queen@torfree.net>, ai657@freenet.toronto.on.ca
(Paul Egan) wrote:

> I have heard about this method but can't find the product.
> I believe that the material is run through a photocopier
> and then ironed to a copper clad board. Sounds like a quick
> way of getting to the etching stage, without having to use
> photo-sensitized boards and developer.
Call Digi-Key in Thief River Falls Minnesota for a catalog. In it you
will find your hearts desire (in a small way...) grin

Luck

3542. VHF Coaxial Collinear Plans Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: dbeach@kean.ucs.mun.ca
Message-ID: <1995Aug10.111431.1@noah>
Source record: 111351

I need some construction advice on coaxial collinear VHF antennas (you know, built out of RG/8 or similar). My references (the 1994 ARRL Antenna Book, the 1994 ARRL Handbook and an older ARRL Antenna Anthology) are mute on this subject.

Do you have any suggestions as to where I can find info on the coaxial collinear? Any on-line references? (I would prefer not to buy another book right now!)

David Beach VO2BD

3543. August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-10 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.4067.546@acenet.com>
Source record: 111352

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

JO>The EPROM image for the CMOS Keyer in August QST is not available
JO>from ARRL or the author. Also, according to the author, the security
JO>bit is set in the microcontroller which would prevent anyone from
JO>duplicating the chip.

JO>Does this bother other builders? I'm sure the ARRL frequents this
JO>newsgroup and would be interested in how you feel.

John, what bothers me MORE is that the guys sold me a CMOS Keyer 2
kit only three weeks before the ARRL published the CMOS 3 kit article
in this month's QST. I am ticked off! Now I have a brand new obsolete
keyer, and for about $5.00 more I could have had the latest model!

3544. Dual Tone Generators cheap!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: fishern3485@cobra.uni.edu
Message-ID: <1995Aug11.171839.47496@cobra.uni.edu>
Source record: 111272

I've been looking for a dual-tone generator to do SSB testing, and FINALLY found one that works very nicely...

Radio Shack 43-145 Pocket Phone Dialer! It's the size of a pager, uses three AAA batteries, and tone 6 is *perfect* for SSB testing. And the bonus you get with this one, hold down two buttons in any row or column, and you get the pure SINGLE tone of that column/row, great for AM/FM testing!

I got mine "as is" at their annual tent sale, but it works OK for me.... My cost was $10, but I 'spose they cost about $40 new, which is well below the price of a test generator, and this is much more flexible in its variety of tones. Appears to be RF-proof, too.

Now if I can just find a cheap sinad meter I'll be all done shoppin' for my test equipment...

--
Nathan Fisher
N0ZYC
FISHERN3485@COBRA.UNI.EDU

3545. New Ham Radio Test Software - Macintosh

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: john@wd1v.mv.com
Message-ID: <john-1108951717400001@wd1v.mv.com>
Source record: 111273

The new Macintosh Ham Test Simulators are HERE!

Novice Ham Test 5.0 SA.sea
Technician Ham Test 5.0 SA.sea
General Ham Test 5.0 SA.sea
Advanced Ham Test 5.0 SA.sea
Extra Ham Test 5.0 SA.sea

The latest versions feature:

HyperCard 2.3 as a stand-alone application (SA) eliminating
the need to have HyperCard. All you need is a Mac with 4
Meg of memory and version System 7 or greater.

Each version 5 Ham Test Simulator has the latest questions
as prepared by the Question Pool Committee.

Each Ham Test Simulator is FREE OF CHARGE and work the
same way as the originals written by Diana, KC1SP.

You may obtain a Ham Test Simulator by mailing me a *FORMATTED
disk (1 per test) and include a Self Addressed and Stamped disk
mailer for the return.

The Ham Tests are now also available via America On Line.

Each Ham Test Simulator is also bundled with a shareware CW
program called MacMorse 1.4 written by Doug, WB0EON.

Also included are a collection of text files that relate an
interesting variety of ideas about the best way to study CW and
prepare for tests.

If you load these onto file servers where others can gain access
via Internet, please let me know so we can point others in that
direction.

Your comments and suggestions for future versions are always
welcome. Stay in touch and good luck with your next test!

73,

--

==
John D. Seney, WD1V Internet: john@wd1v.mv.com
144 Pepperidge Drive America On Line: jseney@aol.com
Manchester, NH 03103-6150 AX.25 Pkt: wd1v@wb1dsw.nh.usa.na
(H) 603-668-1096 Ampernet: wd1v@wd1v.ampr.org

(O) 603-627-6303 (F) 603-627-1623 (P) 800-SKYPAGE #5956779
* Source for Digital Scope.FAQ
*To obtain the latest copy automatically, simply send me an EMAIL
with "subscribe scope.faq" in the subject field.
==========

3546. Re: HF Amp transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <40g8e4$o84@solaris.cc.vt.edu>
Source record: 111274

In article <40dnr7$hdf@unisql.unisql.com>,
Jim Strohm <jstrohm@blazer> wrote:
>This is only an anecdotal report, not a scientific test.
>
>I used a microwave oven transformer to charge an electric fence.

Good God! Did anyone touch the fence? If are fencing in creatures like the like the ones in _Jurassic_Park_, maybe, but it seems like this would be very likely to be lethal to anyone who gets tangled up in it (If you really want a lethal fence, just connecting it to the 120V line should be plenty. One storeowner got in big trouble with that trying to keep burglars out of the store (or, actually killing one once he did get inside). AFAIK, booby-traps are not legal in the US).

A conventional electric fence puts out periodic very short pulses, enough to shock but not apparently not likely to electrocute. These are usually derived through inductive or capacitive discharge into a ignition-coil type transformer.

>
>After 18 hours, resistive losses in the primary had heated the transformer
>up to about 75 deg C -- past the point of too hot to touch. Still had
full
>voltage, but never drew more than a few milliamperes the whole time.

This is interesting to note. It does make sense that the transformer would be lossy in order to use the bare minimum of iron required.

These transformers seem to be built very much like the "ferroresonant constant voltage" transformers, without the tuned secondary. The primary appears designed to saturate and shunt some of the magnetism through iron blocks installed inbetween the two coils (Anyone ever tried removing those blocks, and making a more conventional transformer out of it?) What is left near the secondary I suppose is constant and independent of line voltage. Some of those ferroresanant transformers didn't mind a shorted output too badly. I have a couple of the transformers but haven't done anything with them yet.

In the microwave oven, the transformer is connected to a half-wave voltage doubler. The magnetron only operates half the time, on half cycles. The RF output is not very clean. Microwave ovens can be detected from hundreds or even thousands of feet away with a good receiver. In an experiment I was involved in, looking for urban sources of noise in the 2.4 GHz band, we could detect them quite readily through several walls and floors of concrete. Measured and computed peak EIRP from a typical oven (although only 2 were studied in any detail) was about 1 Watt. This doesn't seem too

bad considering there is 1400-2000 Watts peak inside, but to say microwave ovens leak only "a tiny amount" isn't exactly right either.

>
>Resistive heating may be an issue for some builders. I turn my amp off
>now and then....

The HV power supply needs to be operating only while transmitting, so continuous duty capability isn't a must although it would save the complexity of switching it on and off.

-Mike KD4QDM

3547. $$$ Use The Internet To M

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: clint.bradford@woodybbs.com
Message-ID: <93.1291.7584.0NFBAD4A@woodybbs.com>
Source record: 111275

Subject: $$$ Use The Internet To Make Ca$h!! $$$

Are ALL Prodigy Users this ignorant?
---
 wcECHO 4.1 AR-Net: ATTENTION to Details Mira Loma, CA 909-681-6221

3548. TUBES > JAN -- EIA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: gcarlisl@cln.etc.bc.ca
Message-ID: <1995Aug11.225548.22499@news.etc.bc.ca>
Source record: 111276

Would someone be able to supply me with common EIA numbers for
these military JAN parts.

6829
5814A
5687W
5686
417A
6688
6189W

Thanks in advance Steve Carlisle VE7AHL

3549. Re: HomeBrew Pagers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: Mark Hillier <Mark@HVWTech.com>
Message-ID: <40gqg2$hoc@nash.pubnix.net>
Source record: 111277

Ray.Linton@bbs.mhv.net (Ray Linton) wrote:
>
> Jeff Jones (jeffj@crl.com) wrote:
> : Zack Lester (zlester@athena.cs.uga.edu) wrote:
> : : Is it possible to modify a pager to make it receive pages from ham radio
> : : freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
> : : Isn't that close to the cb range? It sure would be nice if I could setup
> : : my own personal paging service. $20 per month is way too much for a simple
> : : service like this. And no I will not be using the pager for business purposes.
> : : I plan on having my email "beeped" to me.
>
> : The only problem with this is you would be "broadcasting" and that is a
> : no no in amateur radio. Great idea though!
>
> : Jeff

Whoa! I think you're missing out on the big picture here. It is no simple matter to change the frequency of one of those pagers that much.
BTW, 'cb' is around 30 Mhz...no where near 900 MHz. Next, is the PROTOCOL you intend to use (that the pager expects to see) such as POCSAG or GOLAY
or something equally bizarre. Next, assuming you could tune the thing to the ham band (around 902 MHZ I *think*), you would need a transmitter
at an amazing site cranking-out over 150 watts to get any sort of coverage at all.
Finially, you would need to write drivers to get the email
to bring up some kind of hardware interface to control the transmitter and compress the mail. And actually I think you would have to modify the pager
to get it to take a single message long enough for even a short email message.

Not to rain on your parade, because ideas for things that are not simple are what the hobby is all about but unless you work in paging or an RF field,
(heck, even if you DO) you are getting yourself into a MAJOR undertaking.

If you really want paging, forget alphanumeric; go with an old tone and voice setup and use a voice synthesizer to 'read' you the mail over a voice channel.
Still not simple but you are more likely to finish.

Good Luck

Mark
VE2HVW

3550. Re: Longwave Transmitter ['lowfer' band]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: n1ddzrjc@aol.com
Message-ID: <40h5j3$7m6@newsbf02.news.aol.com>
Source record: 111278

There is a great book called the Low Frequency Radio Scrapbook by Ken Cornell that gives the details. Actually there are at least two editions, the earlier being tube oriented and the latter tube plus solid state. I think that the Ham Radio bookstore used to sell it and probably Uncle Wayne would have it.

mkeitz@bev.net wrote:
>>My recent poking around the Internet has let me to conclude that 1750
>meters
>>is governed by Part 15:
>>
>>Sec. 15.217 Operation in the band 160-190 kHz.
>
Bob Crowley, Staff Inventor
Input Devices, Wayland MA

3551. Re: WTB: Perimeter Intrusion Alarms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: kjn@netcom.com
Message-ID: <kjnDD626C.LL6@netcom.com>
Source record: 111279

Leon Heller (Leon@lfheller.demon.co.uk) wrote:

: I vaguely remember reading that they experimented with intrusion alarms
: using bed-bugs. When anyone was in the vicinity and presumably producing CO2
: or whatever it is that bed-bugs detect, the bugs got excited and started
: jumping up and down. The movement was detected and triggered the Tx.

I recall reading an article about that. Believe that it was the result of
a study done by Behavorial Sciences in D.C. was one of the "think tanks"
in the '70s.

Ken
--

3552. need dead plugin for FTV901R

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: n1ddzrjc@aol.com
Message-ID: <40h61r$7q3@newsbf02.news.aol.com>
Source record: 111280

If you happen to have a plug in for any band that goes with the FTV901R transverter I'd like to buy it from you. Since I want to build a 220 xverter, a blown out or otherwised damaged plug in is fine.
Bob Crowley, Staff Inventor
Input Devices, Wayland MA

3553. Re: cross reference semiconductors.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <40gn2o$qq4@news1.inlink.com>
Source record: 111281

In article <40g9p6$ev3@koala.uwec.edu>, drumm says...
>
>here is a general and specific question. how do I cross reference
>transistors, chips, etc. I do not want to call up parts stores, because
>I have so much salvage laying around the house, that I could build a
>hundred projects, and still not make a dent.
>
>I have a NTE cross ref. program, but that only gives me NTE #'s.
>
>Is there anything more general I could use?
>
>Specifically, this time I was looking for a substitute for a TIP-120
>I am sure it is a general purpose switching transistor, but it would
>have been nice to find some listed as a good cross.
>
>thanks for the ideas.
>
>
>-- Dan
>N9vox
>
>BTW: Am I the only one who can not stand to see good electronics
>thrown away? Why buy new what will last forever and is free?
>
Tip-120s are very common, the NTE number is the generic number for this transistor, usually an ECG number would be the same number. ECGs number is 261.

If you keep parts the way I do, I finally put every transistor in sorted envelopes under the ECG number for that part. That way finding them is easy.

Gary

3554. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDD7Hsw.6C6@netcom.com>
Source record: 111282

in <40dkoi$i4i@nuclear.microserve.net>, WB3U wrote:
: I understand that concept Jim, but I really think it's nit-pickin' to
: apply it to this situation. If net-wide resources are really a
: concern, one only has to take a peek at alt.binaries.pictures.erotica
: and a.b.p.multimedia to realize that a few schematics aren't even a
: drop in the bucket.

: Schematics and other technical drawings would often be helpful and
: relevant when discussing homebrew topics. Unless objections are based
: on something other than general resources, I say go for it!

Do not assume that the tools you use to read this apply to everyone.

Anything posted to some groups gets transfered though channels that charge
by volume. Either through people who subscribe to the email gateway list
server and get charged for their email, or by sites that access a limited
number of newsgroups and use the UUCP batching from an upstream site. These
recipients have no option. They get no preview of the traffic. They end
up paying, whether the posting is useful to them or not.

They get really upset if someone dumps a whole lot of traffic on them.
(The most recent case was someone posting a half a meg of cad package
to sci.electronics. Flame city.)

As for a schematic group in the big 7 (now 8) hierarchies, I proposed this
for the reorganization of the sci.electronics hierarchy thats under
discussion now. The word from the group-advice mailing list (who look
out for the interests of all usenet, and more specifically the news
administators) was that it would be considered a binaries group and
should only be a moderated group in the comp.binaries hierarchy. Maybe
you could convince them. I didn't want the hassle, so I took it out
of the RFD proposal.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com
"I've never been able to explain to people that the version of Seattle
they have in their heads is not the Seattle I grew up in. I mean,
if Seattle is Oz, I guess I was one of the flying monkeys." - Lynda Barry.

3555. FS: IC-551 FM board !!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <7947-304583103@humnet.humberc.on.ca>
Source record: 111283

FS: I have an EX-106 optional FM board for the Icom IC-551 6 meter rig.
I am aware that they as rare as hens teeth...accepting 'attractive'
offers.

Leave e-mail with offer to: hduff@humnet.humberc.on.ca

 NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/

3556. 8874 Eimac Tubes For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: rod@venus.hili.com
Message-ID: <40f3u5$res@vixen.cso.uiuc.edu>
Source record: 111353
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.broadcasting,rec.radio.shortwave,rec.radio.swap

I have a pair of 8874 Eimac Grid Tubes. Brand New in Box.
Sell the pair for $500.00

Call: 201-797-1227
E-Mail: rod@venus.hili.com

Rod
N2RVM

3557. Re: ATV website ?? Where !

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: forsberg@cts.com
Message-ID: <DD4xrI.Ato@crash.cts.com>
Source record: 111354

tony@gcr1.com (Tony Salvador) wrote:

>Someone listed a WWW homepage or website for ATV operators ...?
>I'm looking for it ...
>let me know where it is ...

The WWW home page for the Amateur Television Network of Southern
California is :

http://www.realm.net/~jpawluk/KB6MMF.html

We also have links to many other WWW ATV sites.

Good Luck and hope to see you on ATV Bruce WB6IZG

3558. Re: Help! Source LM359 IC.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: P&D Graham <pgraham@bluering.cowan.edu.au>
Message-ID: <40f4ik$134l@bluering.cowan.edu.au>
Source record: 111355

Grahams <pgraham@bluering.cowan.edu.au> wrote:
>
> Greetings all,
>
> I am trying to locate a source of supply of a LM358 IC.
> .....etc

P.S. Sorry! That should read LM359 repeat LM359 on the first line!

DG

3559. Re: Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <40e706$ptk@abyss.West.Sun.COM>
Source record: 111356
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In article <40btv5$cpn@dallas1.connect.net>,
David Bengtson <daveb@connect.net> wrote:
>
>More grungy details are in order. This is going into a actual shipping
>product, so things like transmit splatter, modulation accuracy, lock
>time are big players. This is also to be powered off of a single AAA
>cell, so total current consumption is a big issue, also. The actual
>modulation scheme is a 4 level FSK, with deviation frequencies of +/-
>800 Hz and +/- 2400 Hz. The frequencies must be within +/- 40 Hz for
>the system to work, adding another little bit of Joy.

A single AAA cell? (joy). Certainly there are PLL synth chips
from Motorola spec'ed down to 3V operation, but 1.1-1.5V operation
may be a challenge. I suspect you'll need to pump up a 3V (or more)
supply; there are many parts available to do this. Probably
you'll want to pump up a 6V supply, so you'll have a decent VCO
tuning voltage range available.

What frequency is the final transmitted signal required at?

>The current plan is to use a Dual port scheme, where the modulation is
>appiled to both the reference oscillator and the VCO. My concerns with
>this is that the parts count starts to go way up, along with the
>circuit complexity. However, there appears to be no way around it, and
>no one has suggested any other solutions.

The parts count doesn't change that much for a two-point modulation
scheme. Essentially, you need to make your reference frequency
oscillator into a VXO, which can be done with a varactor or
two and a handful of passives (resistors and capacitors). Keep
in mind you may want to temperature compensate the reference oscillator,
too.

>I have perused my synthesizer books, and there appears to be no real
>mention of modulation in any or them, indicating the appropriate
>math/simulations to perform. I have MDS (HP's Microwave Design System)
>to use for simulation, so simulations are another possibility.
>However, I haven't seen any real detailed treatments of modulation at
>all, which is why I posted the base message, looking for suggestions
>on references to track down.

The reference modulation is the same as changing the phase of the
reference; certainly the classic Motorola app note (AN535A) talks
about this. When you modulate the reference, you need to make
sure the loop doesn't pull out or oscillate too much; the selection

of phase comparator is also affected. Note that any of the common Motorola chips will work fine for this as long as you due diligence designing the loop filter.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

3560. Re: MDS downconverters good for parts?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: jkesling@shell.portal.com
Message-ID: <40e8nt$62g@news1.shell>
Source record: 111357

WB3U (jackl@pinetree.microserve.com) wrote:

<snip>

>BTW, I haven't seen MDS-only downconverters in quite some time. Most
>of these were used in the mid 70's to early 80's, following which ITFS
>and MMDS (2.5 - 2.7 GHz) began gaining popularity for commercial
>multichannel "Wireless Cable" use.

<snip>

I wouldn't be surprised at all if these are from that timeframe.

>Sorry, no suggestions for a good use.

One type is constructed in a heavy duty extruded aluminum case. It
should be easy to use for other projects if nothing else.

>73,

>Jack WB3U

Thanks for the info Jack.

73,
John
--

John Kesling - jkesling@eng.utoledo.edu or jkesling@shell.portal.com
---
WA8ZGO - via AX.25 packet radio WA8ZGO@W8HHF.OH.USA

3561. Re: HF Amp transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: royle@emerald.cse.tek.com
Message-ID: <40ealj$m1q@tekadm1.cse.tek.com>
Source record: 111358

Jim Strohm <jstrohm@blazer>

>. . .
>I used a microwave oven transformer to charge an electric fence.
>. . .

Kids, please don't try this at home. Modern electric fences are pulsed, to allow a person (or animal) to get away from it between pulses. Older, continuously-charged fences were, I'm told, called "kid killers" because people couldn't disengage due to muscle contractions.

Roy Lewallen, W7EL

[After August 16, any of my addresses which include ".tek" will be invalid. Send email to w7el@teleport.com.]

3562. Re: HomeBrew Pagers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: Ray.Linton@bbs.mhv.net
Message-ID: <40edhr$aij@over.mhv.net>
Source record: 111359

Jeff Jones (jeffj@crl.com) wrote:
: Zack Lester (zlester@athena.cs.uga.edu) wrote:
: : Is it possible to modify a pager to make it receive pages from ham radio
: : freqs? I have an alphanumeric pager that says it operates on 929.8625mhz.
: : Isn't that close to the cb range? It sure would be nice if I could setup
: : my own personal paging service. $20 per month is way too much for a simple
: : service like this. And no I will not be using the pager for business purposes.
: : I plan on having my email "beeped" to me.

: The only problem with this is you would be "broadcasting" and that is a
: no no in amateur radio. Great idea though!

: Jeff

Not true! One way communication is permitted at 70 cM and above (perhaps
on 222 MHz too, I'll have to check). The transmitter has to be controlled
by a ham and the recipient has to be a ham.

I'm not sure about the fine points. There are some "auxillary"
operations that might be ill advised. Also, I can't quite figure out
if the transmitter can be unmanned. Oh well, it might be worth some study!

I know some repeater groups have done this to alert members to turn on
their radios. I would like to know exactly what pagers and how they do it.

Ray, N2SPF

3563. WTB: Perimeter Intrusion Alarms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: kjn@netcom.com
Message-ID: <kjnDD4G6F.HpL@netcom.com>
Source record: 111360

I'm looking for some of the Vietnam era military surplus seismic perimeter intrusion alarms. These units were several inches long and about and inch and a half in diameter, had a detachable sensing probe that stuck in the ground, and a VHF whip antenna that resembled a rolled up measuring tape when stowed. They operated on 9vdc. with a power output of 50 - 100 mw. Transmit freq was in the VHF band between 130 mhz. and 150 mhz.

A friend located a few at the Santa Maria ham swap meet this year.

Any info appreciated.

Ken Navarre
KC6IFF

--

3564. Re: VFO stability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: royle@emerald.cse.tek.com
Message-ID: <40eanf$mb7@tekadm1.cse.tek.com>
Source record: 111361

This has been an interesting thread, and the comments seem to generally agree with what I've believed for some time:

1. In a properly-designed oscillator with NPO capacitors, the inductor will generally be the dominant drift source. Neither the capacitors nor the active device will contribute significant drift compared to it. This may not be true if the inductor is made very, very, good but was true for all the cases I tried.

2. The temperature coefficient of polystyrene capacitors is opposite that of most inductors. Sometimes you can get lucky and the capacitors cancel the inductor drift (particularly if the inductor has poor drift characteristics). I prefer to first reduce the drift as much as possible by using low temperature coefficient parts, then compensate what's left. This leads to a more repeatable design. The less inherent drift and the less compensation, the better.

3. I suspect but haven't confirmed that inductor drift decreases pretty much as Q increases. Therefore, a good-sized air-core inductor would reasonably drift less than one wound on a small toroid core. (Of course, powdered iron cores also have a temperature coefficient so they further degrade the drift characteristics.) I've done little experimenting with larger air-core inductors but those of you who have, have confirmed this.

One thing I'd watch out for when using air-core inductors is what the field is coupling into. There's a large field surrounding a solenoid. If there's metal nearby, it can lower the Q which may increase drift. Also, nearby material like an epoxy-glass PC board may degrade performance, since this material absorbs atmospheric moisture and has a dielectric constant which is influenced by temperature. It would be prudent to evaluate an oscillator in its final physical form to make sure it works as well as it may have at the breadboard stage.

One other thing to watch for is poor-quality NPO capacitors. Apparently some of the imported ones really don't have low temperature characteristics. An oscillator and can of spray freeze should help you to get an idea of what you've got.

Keep the comments coming!

73,
Roy Lewallen, W7EL
w7el@teleport.com

[After August 16, any of my addresses which include ".tek" will be invalid. Send email to w7el@teleport.com.]

3565. Help! Source LM359 IC.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: Grahams <pgraham@bluering.cowan.edu.au>
Message-ID: <40eh1p$sn4@bluering.cowan.edu.au>
Source record: 111362

Greetings all,

I am trying to locate a source of supply of a LM358 IC.
The LM359 is a wideband Norton Opamp and the application is for a video (TV) high gain high input Z amplifier, capable of driving a 75 Ohm unbalanced load, from a single supply.

Despite the fact that it's listed in two local firm's catalogues, they have no stocks. I've tried six local suppliers and one interstate but no go.

It would be much appreciated if someone could let me know a phone No and/or address of a firm who could supply ex stock.

Replies to Don Graham at pgraham@bluering.cowan.edu.au

Thanks....Don G. 11/8/95

3566. cross reference semiconductors.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: dan drumm <drumm>
Message-ID: <40g9p6$ev3@koala.uwec.edu>
Source record: 111363
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

here is a general and specific question. how do I cross reference transistors, chips, etc. I do not want to call up parts stores, because I have so much salvage laying around the house, that I could build a hundred projects, and still not make a dent.

I have a NTE cross ref. program, but that only gives me NTE #'s.

Is there anything more general I could use?

Specifically, this time I was looking for a substitute for a TIP-120 I am sure it is a general purpose switching transistor, but it would have been nice to find some listed as a good cross.

thanks for the ideas.

-- Dan
N9vox

BTW: Am I the only one who can not stand to see good electronics thrown away? Why buy new what will last forever and is free?

3567. ** Field Expedient Antennas **

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: pglibber@uk.oracle.com
Message-ID: <9508111623.AA04965@ukpyr2.uk.oracle.com>
Source record: 111364
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Butch,

To answer your question, I am serious and I would appreciate a
serious answer.

Thanks and regards,

Peter

3568. Re: Help! Need schematics for FM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: jlamar@yrkpa.kias.com
Message-ID: <40fhvl$3rp@yrkpa.kias.com>
Source record: 111365
Cross-posted to: sci.electronics,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Victor C. Limary (vcl@mickey.cc.utexas.edu) wrote:
: Hi. I was wondering if anyone had schematics for a small FM transmitter.
: I need to design a wireless FM microphone for a school project. It needs to
: be capable to transmitting to at least 20 feet away, to an ordinary FM
: receiver. E-mails would be appreciated, but I will check the newsgroups.

: Victor Limary |The University of Texas at Austin
. . . . . .
Do you want to design it or build it. Seems that if we send you the
schematics, there's not a lot left to design :)

-= 73 =- john k3nxu jlamar@yrkpa.kias.com

3569. NEW WEB SITE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: berg@primenet.com
Message-ID: <berg.13.0012EDA1@primenet.com>
Source record: 111366

check out the new web site at : www.primenet.com/~berg
"The Ham Tader" list an ad for free.

3570. Re: Help! Source LM359 IC.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <40fslf$2vp@nntp.Stanford.EDU>
Source record: 111367

In article <40eh1p$sn4@bluering.cowan.edu.au> Grahams <pgraham@bluering.cowan.edu.au>
writes:
>Greetings all,
>
>I am trying to locate a source of supply of a LM358 IC.
>The LM359 is a wideband Norton Opamp and the application is for a
>video (TV) high gain high input Z amplifier, capable of driving a
>75 Ohm unbalanced load, from a single supply.
>
>Despite the fact that it's listed in two local firm's catalogues,
>they have no stocks. I've tried six local suppliers and one
>interstate but no go.
>
>It would be much appreciated if someone could let me know a
>phone No and/or address of a firm who could supply ex stock.
>
>Replies to Don Graham at pgraham@bluering.cowan.edu.au
>
>Thanks....Don G. 11/8/95

I see the LM359 in the Digi Key Catalog. 1-800-344-4539.
You might also try the LM6181 current mode opamp which
will drive a 75 ohm load.

Steve Muther WF6R

3571. Re: WTB: Perimeter Intrusion Alarms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <808162706snz@lfheller.demon.co.uk>
Source record: 111368

In article <kjnDD4G6F.HpL@netcom.com> kjn@netcom.com "Ken Navarre" writes:

> I'm looking for some of the Vietnam era military surplus seismic
> perimeter intrusion alarms. These units were several inches long and
> about and inch and a half in diameter, had a detachable sensing probe that
> stuck in the ground, and a VHF whip antenna that resembled a rolled up
> measuring tape when stowed. They operated on 9vdc. with a power output of
> 50 - 100 mw. Transmit freq was in the VHF band between 130 mhz. and 150 mhz.
>
> A friend located a few at the Santa Maria ham swap meet this year.
>
> Any info appreciated.

I vaguely remember reading that they experimented with intrusion alarms
using bed-bugs. When anyone was in the vicinity and presumably producing CO2
or whatever it is that bed-bugs detect, the bugs got excited and started
jumping up and down. The movement was detected and triggered the Tx.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3572. NEW AMATEUR BBS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: sysop@chuckbbs.dragon.com
Message-ID: <8AEF35C.016F00001A.uuout@chuckbbs.dragon.com>
Source record: 111369

The Kenneehoochee Amateur Radio Club now has a BBS, right here.
The name of the BBS is Charlie's BBS, Home of the KARC.
The KARC is located in Marietta Ga.
Repeater is on top of Sweat Mountain in Marietta.
The land-line bbs number is 770-928-0186

SYSOP, KD4YDB

3573. Re: HF Amp transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <808174303.9574@pinetree.microserve.com>
Source record: 111370

mkeitz@bev.net (Mike Keitz) wrote:
> Jim Strohm <jstrohm@blazer> wrote:

>>This is only an anecdotal report, not a scientific test.

Same here.

>In an experiment I was involved in, looking for urban sources of noise in
>the 2.4 GHz band, we could detect them quite readily through several walls
>and floors of concrete. Measured and computed peak EIRP from a typical
>oven (although only 2 were studied in any detail) was about 1 Watt.

This reminds me of a story I heard awhile back. Seems there was a company
in South America that wanted to build a Wireless Cable system in their
country. The system would send multichannel scrambled video via microwave
to subscribers, and was designed for omnidirectional coverage in about a 25
mile radius.

Anyway, the U.S. spectrum for this service is 2.5 - 2.7 GHz, but after many
months of wrangling, the operator couldn't acquire those frequencies from
his government. As a substitute, he agreed to use the 2.4 - 2.5 GHz band.

After building the system, he quickly discovered that his -40 to -55 dBm
signals at the subscribers homes were completely obliterated whenever
anyone turned on a microwave oven. Ruined the entire venture.

73,

Jack WB3U

3574. Broadband Tube-Type KW Amplifiers ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-11 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <808177449.10006@pinetree.microserve.com>
Source record: 111371

About fifteen years ago I came across a transmitter design that has always intrigued me as a candidate for a homebrew project. I was working in the offshore industry at the time and the transmitter was a medium power desktop SSB job with a (then) unusual output circuit.

The finals consisted of four (or maybve it was six) 6146B's in parallel and their output was fed to a toroidal broadband step-down transformer. From the transformer, the 50 ohm output went to a harmonic filter, similar to solid-state designs.

I know some of the commercial manufacturers have produced high-power amplifiers with broadband output networks. However, I'm not all that interested in designing something to match the high imnpedance of a pair of 3-500Z's or an 8877, nor do I want to invest in tubes that costly.

What I have in mind is an amplifier with a relatively low plate impedance and less expensive tubes. Perhaps something like four or six 811A's in parallel, or even two sets of four 811A's, with the power fed to a toroidal combiner.

If anyone has done any experiments along this line or knows the whereabouts of informative articles, I'd appreciate hearing about it.

73,

Jack WB3U

3575. Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: dayj@ozemail.COM.AU
Message-ID: <1995AUG12.4436@ozemail.com.au>
Source record: 111284

It seems that the comments in relation to the original posting have concentrated on 'other' methods of modulation, like using DSP's etc.

Generally modulation of a VCO in an FM transmitter is done in one of two ways. But a quick bit of theory.

The PLL uses a filter which is essentially a low pass filter which removes the high frequency noise and variations from the control voltage coming from the phase locked loop controller. The frequencies below the cutoff frequency of this filter are 'within the loop bandwidth'. And any frequency variations detected by the controller wihtin this frequency range will be eliminated.

Every VCO has a 'modulation sensitivity' constant, which is usually expressed in MHz/volt, i.e. MHz of frequency change per volt change incontrol voltage. This value is not necessarilly constant, but can change over the frequency range of the VCO. If a voltage is added to the loop control voltage, simply by summing it resistively is a common practice, then this voltage will cause changes in the VCO frequency. If the modulating signal is outside the loop bandwidth then the mopdulation will appear at the output, if it is within the loop bandwidth then the PLL controller will remove it form the signal and it will NOT appear at the output.

Hence the need for 'two point' modulation schemes. The output frequency of the PLL is directly related to the reference frequency of the loop. This is usually provided by a crystal which is divided down to a much lower value in the IC's. This crystal also establishes the stability and to a large extent the close in frequency domain performance of the loop.

In order to modulate the loop at low frequencies, frequencies inside the loop bandwidth you modulate the reference crystal as well as the loop itself! The higher frequencies are passed to the VCO summing point and the lower frequencies to the crystal. The trick is simply this, you need to carefully design the filters and the level of modulation fed to each point to ensure that their is a smooth transition from the reference modulation to the loop modulation. This can be ab it of a trick!

But all is not necessarilly lost, the need for a single signal to modulate two points is usually found only in high speed data radios, say for 9600bps packet operation. Many commercial radios are two point modulated, the speech or ordinary 1200/2400bps data is fed to the loop modulation point and the low frequency CTCSS or whatever is fed to the reference modulation point.

Yell if you need any further help!

73 John Day VK3ZJF
dayj@ozemail.com.au
100236,2364@Compuserve.com

3576. Re: US Military Field Expedient Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: aa005@torfree.net
Message-ID: <DD7JI7.4KF.0.bloor@torfree.net>
Source record: 111285
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Peter Glibbery (pglibber@uk.oracle.com) wrote:

[stuff deleted]

: I'm writing from the UK and the references mentioned in the manual are not at
: all easy to come by - I've tried.

: 1) In the case of some of these designs there is a need for a 'ground'. The

The word in the U.K. for 'ground' is 'earth'.

: diagrams in the manual show one end of a wire attached to a metal stake which
: is pushed into the ground, while the other end is attached to the radio set
: itself. Where on the radio set is the free end of the ground wire attached ? Is
: it attached to some kind of socket, or do you somehow attach it to the body of
: the radio set ?

Depends on make/model of radio, often a screw designed just for attaching
a grounding wire.

: 2) When using a 1/2-Rhombic the manual mentions that you feed the two 1/4 wave
: antenna elements from the centre using a 'coax'. What exactly is a 'coax' and
: how does it differ from the antenna wire itself ?

Coax is short for coaxial cable. A shielded cable (ie: conductor
surrounded by insulation, a shield (ie: a conductor), and more
insulation).

: 3) With the 1/2-Rhombic design the manual suggests that if a coax is not
: available to use a 'twisted pair'. What is a twisted pair ? My guess is two
: sheathed copper wires twisted together - but is this too simple a thought ?

Your guess is right re: twisted pair, two insulated wires twisted
together.

: 4) With the 1/2-Rhombic one end of the antenna wire is attached to a
: terminating resistor. The idea of this resistor is to give some
: directionality to the radio wave (I recognise that there is a difference
: between a resistor and an insulator (in the later case, the manual suggests a
: piece of wood or a C-ration spoon)). Does anyone have a good idea of what would
: make a good field expedient resistor ?

On this one you have got me.

Colin McGregor - VE3ZAA

3577. Re: US Military Field Expedient Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <40irfi$hk1@solaris.cc.vt.edu>
Source record: 111286
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <DD7JI7.4KF.0.bloor@torfree.net>,
aa005@torfree.net (Colin McGregor) wrote:
>Peter Glibbery (pglibber@uk.oracle.com) wrote:
>
>[stuff deleted]
[More stuff deleted]
[Need for resistor to load rhombic antenna]
>: piece of wood or a C-ration spoon)). Does anyone have a good idea of
what would
>: make a good field expedient resistor ?
>
>On this one you have got me.

* Carbon rod from dry-cell battery (not alkaline) Resistance of these is
quite low (1-5 ohms)

* Pencil "lead", also likely to be too low in resistance to serve as
antenna load.

* Bare wires dipped in container of salt water. Will not withstand DC or
much AC current flow without corrosion. Also likely to corrode by itself,
depending on choice of materials.

* Antenna input of another receiver.

-Mike KD4QDM

3578. Calibration of Freq.Counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: ultravis@ix.netcom.com
Message-ID: <40i4tc$4v2@ixnews5.ix.netcom.com>
Source record: 111287

Hi all, just had a question on calibrating a freq. counter thats
been kicking me for a while.
Ive heard of using wwv broadcasts for calibration but was
comepletly lost to exactly how this was accomplised. Also if this
calibration can be done with a home made IE: inexpensive freq. standard
in the shack?
All info. is welcome!
Thanks, Henry (Ke4wbw)

3579. Re: WTB: Perimeter Intrusion Alarms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <40iht8$hk1@solaris.cc.vt.edu>
Source record: 111288

In article <kjnDD626C.LL6@netcom.com>, kjn@netcom.com (Ken Navarre) wrote:
>Leon Heller (Leon@lfheller.demon.co.uk) wrote:
>
>: I vaguely remember reading that they experimented with intrusion alarms
>: using bed-bugs. When anyone was in the vicinity and presumably producing
CO2
>: or whatever it is that bed-bugs detect, the bugs got excited and started
>: jumping up and down. The movement was detected and triggered the Tx.
>
>I recall reading an article about that. Believe that it was the result of
>a study done by Behavorial Sciences in D.C. was one of the "think tanks"
>in the '70s.

Maybe not as far-fetched as attempts to chemically detect the pungent-smelling "fish sauce" eaten by the VC (as well as most Vietnamese I suppose) to detect when the enemy was near. As I remember (thirdhand), the technology did not work out. I think I have a couple of receivers for an Army intrusion detection system of some sort, they appear to operate on 149.6 MHz NBFM with some sort of digital code. The transmitter part could be excellent for foxhunting if nothing else.

-Mike KD4QDM

3580. Re: VHF Coaxial Collinear Plans Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <40ijsh$hsb@newsbf02.news.aol.com>
Source record: 111289

Dave,

>I need some construction advice on coaxial collinear VHF antennas (you
>know, built out of RG/8 or similar). My references (the 1994 ARRL
>Antenna Book, the 1994 ARRL Handbook and an older ARRL Antenna
>Anthology) are mute on this subject.

The reason they are now mute is the early articles (in QST and the Handbooks) were non-functioning antennas. The problem was the velocity of propagation inside the cable and for the parallel radiating surface currents were different. The phase was changed every 1/2 wl for the transmission line currents but the radiating currents didn't change at the correct phase intervals. So the antennas simply didn't work at all, even though they were published and had lengthy explainations of how well they worked.

Why not build a skirt collinear or a phased stacked dipole array?

73 Tom

3581. Re: Calibration of Freq.Counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <808246331.20955@pinetree.microserve.com>
Source record: 111290

In article <40ihhd$hk1@solaris.cc.vt.edu>,
>
>A similar technique may exist using GPS as well.

In the MMDS industry, we often have a need to lock adjacent transmitting sites that are fifty miles or less apart to a common reference. By locking the L.O.'s of the TV transmitters and modulators to a common source, we can greatly reduce the visible effects of co-channel interference.

GPS is gaining widespread popularity for this use. When everything is working correctly, there is no actual frequency difference between two (or more) transmit sites, only a phase shift.

GPS receivers used for this purpose include a disciplined 10 MHz VCXO that is updated periodically by the GPS signals. The quality of the disciplined oscillator ultimately has a lot to do with the quality and stability of the 10 MHz output, because the receiver's control pulses only serve to "fine tune" it.

If a custom GPS-locked reference was used directly to drive the counter, it would virtually eliminate the need to ever align it. Cost for these units is still outside the range of the typical homebrew workshop, but prices *are* falling.

73,

Jack WB3U

3582. Phone Line Status Indicator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: kwebster@ix.netcom.com
Message-ID: <40in01$mgk@ixnews6.ix.netcom.com>
Source record: 111291

I know this isn't Ham-related, but I figure with the tallent on this Newsgroup, I should be able to get an answer...

I'm looking for a circuit that I can add to a phone/phone line to show if the line is in use. A simple LED would be just fine. The problem is that when I'm on the modem, no one in the house knows it and may pick up the phone, bumping me off whatever I'm doing. A simple indicator would be just what I need.

Thanks for the info... Kevin N1EPU

3583. Re: cross reference semiconductors.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: dan drumm <drumm>
Message-ID: <40ipvj$vt@koala.uwec.edu>
Source record: 111292

raiar@inlink.com (Gary V. Deutschmann, Sr.) wrote:
>In article <40g9p6$ev3@koala.uwec.edu>, drumm says...
>>
>>here is a general and specific question. how do I cross reference
>>transistors, chips, etc. I do not want to call up parts stores, because
>>I have so much salvage laying around the house, that I could build a
>>hundred projects, and still not make a dent.
>>
>>I have a NTE cross ref. program, but that only gives me NTE #'s.
>>
>>Is there anything more general I could use?
>>
>>Specifically, this time I was looking for a substitute for a TIP-120
>>I am sure it is a general purpose switching transistor, but it would
>>have been nice to find some listed as a good cross.
>>
>>thanks for the ideas.
>>
>>
>>-- Dan
>>N9vox
>>
>>BTW: Am I the only one who can not stand to see good electronics
>>thrown away? Why buy new what will last forever and is free?
>>
>Tip-120s are very common, the NTE number is the generic number for this
>transistor, usually an ECG number would be the same number. ECGs number is
>261.
>
>If you keep parts the way I do, I finally put every transistor in sorted
>envelopes under the ECG number for that part. That way finding them is
>easy.
>
>Gary

OK, a very simple idea. That's the best kind! I guess I'll have to
sit down for an afternoon and enter part numbers. I'll cross them
all to NTE since I have that program handy.

Thanks.

-- Danny
N9VOX

3584. Re: Calibration of Freq.Counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <40irbh$gbc@vixen.cso.uiuc.edu>
Source record: 111293

In a previous article, ultravis@ix.netcom.com (Guy Scott) says:

>
> Hi all, just had a question on calibrating a freq. counter thats
>been kicking me for a while.
> Ive heard of using wwv broadcasts for calibration but was
>comepletly lost to exactly how this was accomplised. Also if this
>calibration can be done with a home made IE: inexpensive freq. standard
>in the shack?
> All info. is welcome!
> Thanks, Henry (Ke4wbw)
>

I have a freq counter that uses an oddball xtal (3.9 something-or-other MHz.)
What I have is a 10-MHz crystal-oven oscillator and a 100 MHz oscillator
phaselocked to it which will eventually be the base for a 10 GHz SSB
transverter (See Glenn Elmore N6GN articles in Ham Radio.) The 10 MHz
ocsillator is zeroed with WWV.
I use the 100 MHz output to calibrate the freq counter every once in a while.
Makes it a little more accurate than with the 10 MHz signal.

73, Zack W9SZ

3585. Re: Calibration of Freq.Counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <808255249.23046@pinetree.microserve.com>
Source record: 111294

In article <40irbh$gbc@vixen.cso.uiuc.edu>,
w9sz@prairienet.org (Zack Widup) wrote:

>What I have is a 10-MHz crystal-oven oscillator and a 100 MHz
>oscillator phaselocked to it which will eventually be the base for a
>10 GHz SSB transverter (See Glenn Elmore N6GN articles in Ham Radio.)

Out of curiosity, is the 100 MHz oscillator a VCO or VCXO? Is phase
noise a consideration in your design?

73,

Jack WB3U

3586. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <808255764.23046@pinetree.microserve.com>
Source record: 111295

mzenier@netcom.com (Mark Zenier) wrote:

>Anything posted to some groups gets transfered though channels that
>charge by volume.
<snip>
>These recipients have no option. They get no preview of the traffic.
>They end up paying, whether the posting is useful to them or not.

Now that's a valid reason. Of course, it leads to the question of how to distribute a useful binary. I'm lucky enough to have a personal anon FTP area available through my service provider, but that's not always the case. Also, e-mail can be a real pain if too many folks want a copy. Any suggestions for a work-around, other than starting a new group?

73,

Jack WB3U

3587. Re: Calibration of Freq.Counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <40ihhd$hk1@solaris.cc.vt.edu>
Source record: 111296

In article <40i4tc$4v2@ixnews5.ix.netcom.com>,
ultravis@ix.netcom.com (Guy Scott) wrote:
>
> Hi all, just had a question on calibrating a freq. counter thats
>been kicking me for a while.
> Ive heard of using wwv broadcasts for calibration but was
>comepletly lost to exactly how this was accomplised. Also if this
>calibration can be done with a home made IE: inexpensive freq. standard
>in the shack?

To calibrate to WWV, you zero-beat the frequency counter's reference signal (usually 10 MHz) to the WWV carrier. While listening to WWV on 10.000 MHz, switch on the frequency counter and listen for the beat frequency (Let the counter warm up for a half hour or so before adjusting though). Most cheap counters will leak plenty of signal out that it will couple into the receiver antenna. More deluxe ones usually have a "10 MHz out" or such BNC on the back to which you could connect a piece of wire to serve as an antenna. It takes a bit of time to be sure you really have zero beat, when you are close it will sound like the signal strength of WWV is rising and falling periodically.

This works fairly well, certainly for a quick setup of a counter that isn't going to be very stable anyway. An advanced method I have heard of, but not tried, is to modify a Loran-C receiver to bring out a signal synchronized to the received signal timing. The Loran transmitters are controlled by accurate atomic clocks as well, and being ground wave there is less variation due to the atmosphere. Use a 2-channel scope to compare the average phase drift of the oscillator you're calibrating over the Loran pulse, or simply count the GRI frequency (usually 100-200 Hz). A counter which does "period average" measurements would resolve this low frequency better.

A similar technique may exist using GPS as well. Signals derived from TV broadcasts, once regarded as very precise, are now only moderately precise because the TV stations may resynchronize everything to their local crystal oscillator. This is still better than nothing, and can often be done with no equipment by using a wire or loop "antenna" to pick up and count the horizontal-rate pulses (15.734265 KHz, *not* 15.750 KHz any more) radiated by a TV tuned to a stable broadcast signal.

-Mike KD4QDM

3588. Re: VFO stability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <808256566.23046@pinetree.microserve.com>
Source record: 111297

royle@emerald.cse.tek.com (Roy W Lewallen) wrote:

>This has been an interesting thread, and the comments seem to
>generally agree with what I've believed for some time:
<snip>
>3. I suspect but haven't confirmed that inductor drift decreases
pretty much as Q increases. Therefore, a good-sized air-core inductor
would reasonably drift less

I've noticed that too. I wonder if the explanation could be that a
larger conductor incurs less IR loss, and is also better able to
dissipate the minute amount of heat that's generated from this source?

Much excellent information has been published on this subject, but I
haven't seen any in quite some time. I think many of the tried and
true principles that used to be applied have been gradually displaced
by the desire to build ever-smaller components. The advent of
synthesizers has also had an effect on the popularity of this
material.

Some of the best information on VFO stability was published in the
60's, a time when VFO builders were still faced with the effects of
tube heat and changing operating characteristics. The same methods
used then still hold true, and solid-state gear can take even better
advantage of them. The trick is finding the info.

73,

Jack

3589. Re: Help! Source LM359 IC.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: "Chris M. Bridges" <n4fan.vnet.net>
Message-ID: <40ivgm$qo1@ralph.vnet.net>
Source record: 111298

Are you looking for LM 358 or LM 359? you list both in you post.
I have maybe 50 LM358's on hand if that is what you need.
--

Chris M. Bridges
>>>>>N4FAN<<<<<<
n4fan@vnet.net

3590. 4Cx1000/4CX1500

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-12 00:00:00 UTC
From: paul1@wizard.ucs.sfu.ca
Message-ID: <40j4cf$qef@seymour.sfu.ca>
Source record: 111299

I have a pair of each of these, and was wondering if anyone has
any experience using these in a Linier amp???

cheers, Paul

VE7CQK

email: paul1@wizard.ucs.sfu.ca

3591. Re: cross reference semiconductors.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: Stewart Thompson <sthompson@junction.net>
Message-ID: <40k0b9$aa6@felix.junction.net>
Source record: 111300
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

dan drumm <drumm> wrote:
>here is a general and specific question. how do I cross reference
>transistors, chips, etc. I do not want to call up parts stores, because
>I have so much salvage laying around the house, that I could build a
>hundred projects, and still not make a dent.
>
>I have a NTE cross ref. program, but that only gives me NTE #'s.
>
>Is there anything more general I could use?
>
>Specifically, this time I was looking for a substitute for a TIP-120
>I am sure it is a general purpose switching transistor, but it would
>have been nice to find some listed as a good cross.
>
>thanks for the ideas.

There are numerous cross reference guides. Try and get your hands on as many as you can. Other
common ones are ECG, GE, RCA, and even Radio Shack. I never throw these away, new numbers are
always being added or deleted. The way I figure out whether a part will work or not is by
crossing the number I want to say the NTE number. I look this up and find out what the
parameters are. (ie npn Ic Vbc etc.) Then I check my parts bin for likely suspects and cross
them also. Usually I can find an exact match. Sometimes you can find a functionally equivelant
part with a differnt pinout. If your stuck you can usully twist the leads around to work.
Obviously that won't work with an IC but its amazing what a little ingenuity can do. Generic
chips can often be swapped, but you have to watch the circuit in question. When it comes to
specailty chips your probably out of luck. With transistors, there are dozens of numbers which
have essentially the same characteristics. For instance a 2n2222, 2n4401, 2n3904 are common
npn transistors which are essentially the same. bear in mind that modern silicon transistors
are pretty stable. In a well designed circuit, just about any transistor that as adequate gain,
voltage and current ratings for the circuit should work just fine in 90 plus per cent of the
circuits you are likely to encounter. Well I hope this helps. Stu.....VE7BQy

sthompsn@junction.net

3592. Re: WTB: Perimeter Intrusion Alarms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: rdc@freenet.vancouver.bc.ca
Message-ID: <40kdj2$mdb@freenet.vancouver.bc.ca>
Source record: 111301

Ken Navarre (kjn@netcom.com) wrote:
: I'm looking for some of the Vietnam era military surplus seismic
: perimeter intrusion alarms. These units were several inches long and
: about and inch and a half in diameter, had a detachable sensing probe that

If you want to detect intrusions for cheap use a 'door-knob' alarm.
You should be able to buy one for less than $10.00.

Instead of 'hanging' it on the doorknob just hook a wire up to the 'hanger'
and remove the resistor for high sensitivity and connect it to the one
for high sensitivity (to make it MORE sensitive - figure it out for _YOUR_
particular model with a resistor break-out box).

Run the wire around the yard (insulated and buried one inch).
Tape the alerter to make it quieter (mine was so load the person would
have heard it !).

Be aware that the sensitivity _IS_ critical to prevent rain or large trucks
from changing the field and setting it off falsely.

Use two or four to "zone" yourself and place them in the corner of the
room representing the 'zone' (direction) the intrusion comes from.

Works great ! - After a few 'falsies' the cats (feline animal) 'learn'
to avoid setting it off (and your wrath) so false alarms will decrease in
a day or two. Rain _really_ is your WORST enemy, just take the _single_
wire and pull the insulation on the end while sucking some crazy glue
into it and tie it to ensure no leakage - the system will stabilize one
the soil does. - No cheaper or more effective method (even infrared or
ultrasonic units from Radio Shack are worse (for falsies and price - and
cats are not trainable for them as easily as a buried wire for some reason)).

--
Robert Clark
RDC@freenet.vancouver.bc.ca UNIX(r) System V Release 4.0 [142.103.106.2]
http://www.freenet.vancouver.bc.ca incoming:// 49 16 xx N 128 04 xx W
.

3593. Re: WTB: Perimeter Intrusion Alarms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: kjn@netcom.com
Message-ID: <kjnDD8GJI.F4w@netcom.com>
Source record: 111302

I wrote:
: I'm looking for some of the Vietnam era military surplus seismic
: perimeter intrusion alarms.

Wanted to thank all the folks who offered suggestions for locating some of these critters. I picked up a set of "new" condition ones at the Foothill College Swap Meet this morning. 4 transmitters and a receiver. Works great!

Thanks again!
73s
Ken KC6IFF
--

3594. Auction in N. Calif.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: kkoelman@ix.netcom.com
Message-ID: <40k36d$b3c@ixnews7.ix.netcom.com>
Source record: 111303

The annual Amateur Radio Auction by the Palo Alto Amateur Radio Association (PAARA), a non-profit orgabization, will be held in the Ampex cafeteria at 401 Broadway, Redwood City, CA on Saturday, October 7, 1995. Doors will open around 7:30 a.m.

Further details will follow within a week. However, already mark this date on your calendars so that you will not miss this exciting event.

73/Koert KC6WCI

3595. Re: VFO stability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <40jv0s$2mq@maureen.teleport.com>
Source record: 111304

> jackl@pinetree.microserve.com (WB3U) writes:
> royle@emerald.cse.tek.com (Roy W Lewallen) wrote:

> >This has been an interesting thread, and the comments seem to
> >generally agree with what I've believed for some time:
> <snip>
> >3. I suspect but haven't confirmed that inductor drift decreases
> pretty much as Q increases. Therefore, a good-sized air-core inductor
> would reasonably drift less

> I've noticed that too. I wonder if the explanation could be that a
> larger conductor incurs less IR loss, and is also better able to
> dissipate the minute amount of heat that's generated from this source?

> . . .

This stands to reason. Everything else being equal, a higher-Q inductor will generate less heat than a lower-Q one. But all else is seldom equal. The effect of heating is to change the physical dimensions of the coil, which in turn changes the inductance. I would imagine there could be quite a difference in inductance change as a function of temperature depending on the shape of the inductor and the expansion characteristics of the form, if any. Also, as you mention, the amount of temperature rise which results from the heat depends on the heat sinking/dissipating ability of the coil.

Hmmm. . . wonder if a shape could be found such that the inductance is constant if all dimensions change in an equal ratio. I'm sure somebody thought of this a generation or two ago. . .

Roy Lewallen, W7EL
w7el@teleport.com

3596. Re: WTB: Perimeter Intrusion Alarms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1995Aug13.072841.16773@grian.cps.altadena.ca.us>
Source record: 111305

mkeitz@bev.net (Mike Keitz) writes:

>In article <kjnDD626C.LL6@netcom.com>, kjn@netcom.com (Ken Navarre) wrote:
>>Leon Heller (Leon@lfheller.demon.co.uk) wrote:
>>
>>: I vaguely remember reading that they experimented with intrusion alarms
>>: using bed-bugs. When anyone was in the vicinity and presumably producing
>CO2
>>: or whatever it is that bed-bugs detect, the bugs got excited and started
>>: jumping up and down. The movement was detected and triggered the Tx.

I heard the story as the bedbugs began to alert their fellows with sound-
only the noise was at ultrasonic frequencies. The detector was tuned to
a broad range of ultrasonics and triggered the TX.

>technology did not work out. I think I have a couple of receivers for an
>Army intrusion detection system of some sort, they appear to operate on
>149.6 MHz NBFM with some sort of digital code. The transmitter part could
>be excellent for foxhunting if nothing else.

I have one of the TX's somewhere aroudn here. It is packeged in a very
interesting manner.

Mike Morris WA6ILQ | All opinions must be my own since nobody
PO Box 1130 | pays me enough to be their mouthpiece...
Arcadia, CA. 91077 |
ICBM: 34.07.930N, 118.03.799W | Reply to: morris@grian.cps.altadena.ca.us
--

3597. Re: US Military Field Expedient Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: gordy@gbscomms.win-uk.net
Message-ID: <911@gbscomms.win-uk.net>
Source record: 111306
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

>: 4) With the 1/2-Rhombic one end of the antenna wire is attached to a
>: terminating resistor. The idea of this resistor is to give some
>: directionality to the radio wave (I recognise that there is a difference
>: between a resistor and an insulator (in the later case, the manual suggests a
>: piece of wood or a C-ration spoon)). Does anyone have a good idea of what would
>: make a good field expedient resistor ?
>
>On this one you have got me.

iron wire is often used. at rf is has quite high resistance, but it varies
with wire type, condition (corrosion) etc.

Gordy

--
Caution: Keys now changed at random security intervals.
Contact for current armoured transport file.

"You are reminded that this is an insecure circuit. The use of names,
ranks and classified information is forbidden."

3598. NEW HAM RADIO REMOTE CONTROL PRODUCT OFFERED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: Marshall Craw <mcraw@halcyon.com>
Message-ID: <Pine.ULT.3.91.950813154607.13619A-100000@coho.halcyon.com>
Source record: 111307
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I am pleased to announce a new product offered by Positive Time Systems called the RCS-I. This is a radio controller that connects to any VHF/UHF transceiver and can issue x-10 commands. (X-10 is a power line standard for controlling devices throughout a building. Sears, Radio Shack, and others offer these compatible units)
The unit also has an alarm input, a listen feature, a short voicmail box, and responds to all commands in a pleasant female voice. The system IDs with your recorded voice and call sign. This description doesn't do the product justice, so please check out the new homepage at :

http://www.halcyon.com/pos.time.sys/top

or you may email us with you address so that we can promptly send you our brochure and newsletter.

NOTE: This product is intended for US voltages of 120 / 220 VAC. Another version is offered to support other international power standards.

FLASH! NEW FEATURE! The RCS-I has a new feature called Secure Access Mode(SAM). When enabled, the access code changes dozens of times per hour, making it virtually impossible to hack into.

Thank You,

Marshall Craw <mcraw@halcyon.com>
Positive Time Systems
North Bend, WA

3599. Re: Schematic Draw Program Recommendations?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: Matt Reilly <mhr>
Message-ID: <40ku7q$8kd@news.iii.net>
Source record: 111308

I can second the recommendation of PADS/PCB for DOS,
though the schematic capture isn't the nicest I've used,
just the nicest FREE stuff I've used.

Does anyone have a recommendation for a LINUX schematic
capture package? There must be one out there.

matt (KB1VC)

3600. KENWOOD IF-10D Interface WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: William Vynck <wvynck@pi.net>
Message-ID: <NEWTNews.14541.808320470.wvynck@pi-user.pi.net>
Source record: 111309

I'm looking for the schematics to build a Kenwood IF10D interface, to connect
my Kenwood TS-50S to my computer.
Also needs some good mod's for the TS-50.

E-mail

wvynck@pi.net

3601. Motorola nicad specks??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: jedent@Sam.Neosoft.Com
Message-ID: <jedent.22.009CC594@Sam.Neosoft.Com>
Source record: 111310

Could someone give me the AH cap of Motorola NTN 54488 (ALTERNATE TO NTN4825A & NTN5448A) 10 volt NICAD? Also looking at the back of this batt there are four(4) metal terms for charging. I need to know what they are for. I know the left most one is + , next one unknown, next one - (neg), right most unknown. Thanks Joel D. K5ZCX

3602. Re: Calibration of Freq.Counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug13.152829.1630@ke4zv.atl.ga.us>
Source record: 111311

In article <40i4tc$4v2@ixnews5.ix.netcom.com> ultravis@ix.netcom.com (Guy Scott) writes:
>
> Hi all, just had a question on calibrating a freq. counter thats
>been kicking me for a while.
> Ive heard of using wwv broadcasts for calibration but was
>comepletly lost to exactly how this was accomplised. Also if this
>calibration can be done with a home made IE: inexpensive freq. standard
>in the shack?

There are two rather simple ways to calibrate a counter against WWV.
First, if your counter reference oscillator's fundamental or harmonic
falls on a WWV frequency, then you simply use a receiver to zero beat
the reference to WWV. For example, if your counter uses a 10 MHz reference
oscillator, you'd just filch a bit of that signal out of the counter
and inject it into your receiver along with an antenna input for WWV.
Put the receiver in AM mode, and adjust the reference oscillator for
zero beat, a scope can help when you get down to a subaudible beat,
or you can watch the S-meter's rise and fall.

If your counter's timebase isn't a fundamental or harmonic of a WWV
frequency, then you'll need a transfer oscillator. A 10 MHz crystal
oscillator will do. Just zero beat it to WWV with the receiver as
above, and while it's at zero beat, read its frequency with the
counter. Adjust the counter's reference oscillator so that the
counter displays exactly 10 MHz and you are done.

Needless to say, the counter should be warmed up and stable before
attempting this calibration.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3603. FS: Parts, manuals, accessories, misc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: hamrlund@aol.com
Message-ID: <40l8j7$8lk@newsbf02.news.aol.com>
Source record: 111312

****
****
CONTACT: Robert Fowle ....Hamrlund@aol.com
Ph. 517-789-6721.....
1215 Winifred....Jackson, Mich. 49202-1946
----------->the Hammarlund guy

****
****

The following is a list of items that may be of interest,,,,,,to you ?
All pricing includes shipping.....

PARTS**********
Of course Hammarlund, if you need something let me know...to much to list,
NOT even Andrew wanted to take the list... : >)))

****** air variables

have the following for sale, capacity listed where known. most have no
boxes,
all are poly-bagged. will sell by the piece or trade all for Hammarlund
equipment, manuals, accessories, literature, ect.

If no price is listed...it is $10.00 each

qty.- part# - capacity (if known)
Hammarlund:

1/ 34604-5
1/ 34604-6
1/ 351-1059
1/ 4111-49
1/ 48A084
1/ 5003-C C1C
1/ 9404-18-00040
2/ 9411-72-50379
2/ 9411-72-60348
1/ 11727-77
1/ A8H501
1/ APC 25 3.0-25.
4/ ASP 100 G $13.00 ea
1/ APC 100 5.5-100 $13.00 ea
5/ APC 140 6.7-140 $13.00 ea
1/ B-253-124-2
1/ B-7485-440-2
1/ C 67380

3/ CT 1E040 5.0-40
1/ CT 1E075 6.0-75.
1/ CT 1F040 5.0-40.
1/ CT 3C040
1/ CT 14E042-M 5.0-42
1/ CT 14E042-J 3.0-10.
1/ CT 14F010-J 3.0-10.
1/ CT 14F042-J 5.0-42
1/ CT 1316047-J 5.5-47.
2/ ES 676693-5
2/ KS-13772
3/ KS-13998L1
1/ KS 18998L14
1/ MACBF-3 1.3-3.1 N.I.B.
1/ MAC-5 N.I.B.
1/ HF-15-X N.I.B.
1/ HF-50 N.I.B.
1/ MAC-20 2.0-21.5
2/ MABF-8 2.0-7.9
1/ MAPC-100 4.5-100. $13.00
1/ MCD-35 MX 6.0-31. $15.00
1/ MJ-50-5
1/ P-31800014
1/ P-7761345-15
1/ 34452-40
4/ 841690
1/ 7765659-1 $25.00

CARDWELL

2/ A-105623 25MuFD $18.00 ea
3/ ZU-100-AS 3.0-100. $15.00 ea

B&W

1/ CX-62-C : This is the cap used with the KW plug-in coils $75.00 new
no
box

BUD

1/ 1615 AIR GAP-300 75MMFD $65.00 new no box

EFJ

1/ ? DUAL SECTION 14 3/4" L x 5.50" W 1/8" spacing (approx. measurments)
$95.00
1/ 48c075 air gap .175 dual sec., 9.75" L x 4" W $65.00
1/ ? 5.75" L x 4" W single sec. 1/8 " spacing $55.00
1/ 4134MS4 edge wound 41 uh $75.00

******* BOOKS & MANUALS

********** HAMMARLUND MANUAL SALE
****

I have a limited number of new manuals i got when i purchased the
inventory
of
Wayne Cordell.....
These are unused originals. some may have a fade area on the cover from
storage before I got them, yet others look almost as they did 35+ years
ago.
these are new unused and in unread condition.

Here's whats available:

HQ-100.....$23.00 ea
HQ-145-A.....$23.00 ea
HXL ONE AMP.....$23.00 ea
HX 50.....$23.00 ea
HX-500.....$23.00 ea

Get them while they last. I have never made them available in such away
before. This is a unique oppertunity.....
SUPPLIES ARE LIMITED.....FIRST COME FIRST SERVE.....

THE FOLLOWING WILL BE 'COPIES'. Prices are shipped.

HAMMARLUND
Comet Pro 2nd Edition 20.00
Comet Pro manual 3 AVCModel 20.00
Four 20 xmitter & four 11 modulator 20.00
RGB CHC 46140 / CHC 49154 20.00
HQ - 100 18.00
HQ-100A 18.00
HQ-105TR / TRS 18.00
HQ-110 18.00
HQ-110A 18.00
HQ-120X 18.00
HQ-129X

3604. Re: Schematic Draw Program Recommendations?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <808330849.9553@pinetree.microserve.com>
Source record: 111313

In article <40ku7q$8kd@news.iii.net>, Matt Reilly <mhr> wrote:

>I can second the recommendation of PADS/PCB for DOS,
>though the schematic capture isn't the nicest I've used,
>just the nicest FREE stuff I've used.

I've been using an illustrator program program to draw occasional
schematics. It's extremely tedious and time consuming.

Can you tell me where I can find the free software you mentioned?

Thanks & 73,

Jack WB3U

3605. Phone Line Status Indicat

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.4185.546@acenet.com>
Source record: 111314

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

Hi Kevin. I would like to make the same. If you get some info could you
let me know? (Assuming that they will EVENTUALLY repair the Internet
connection that gets us our inbound E-mail here)

E-mail has been down about 2 weeks or more now.

KW>I know this isn't Ham-related, but I figure with the tallent on this
KW>Newsgroup, I should be able to get an answer...

KW>I'm looking for a circuit that I can add to a phone/phone line to show
KW>if the line is in use. A simple LED would be just fine. The problem is
KW>that when I'm on the modem, no one in the house knows it and may pick
KW>up the phone, bumping me off whatever I'm doing. A simple indicator
KW>would be just what I need.

KW>Thanks for the info... Kevin N1EPU

 SLMR 2.1a Why is it that the best taglines are always much too lon

3606. Transceiver "Tether"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: generad@epix.net
Message-ID: <40lpdg$b1k@grape.epix.net>
Source record: 111315

Sometimes... I use my cordless telephone to operate
my 2 meter transceiver. Very handy for when I need to
be in front of my computer (50' away in another room)
or when nature calls in the middle of a QSO!
I designed the circuit about a year ago....and never
went any further with it. The guys on my favorite repeater
tell me it sounds great. (In fact they can't even tell when I'm
using it.)
They call it the "Tether"., and they think I'm nuts for not
marketing it. Maybe they're right.
Is anybody interested? Gene K2LYU (generad@epix.net)

3607. 432 Mhz pre-amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-13 00:00:00 UTC
From: ernie@netvision.net.il
Message-ID: <40lq0b$2fe@elron2.elron.net>
Source record: 111316

```
--
Good bye from:
Hi
I'm looking for a reliable design to be mast-mounted.
It should do 0.5 DB N.F & appx 18 DB gain.
Any ideas ?
Kits are welcome too !!!
Thank you in advance & best regards
Tsachy Lindenbaum, P.O.B 21224 Tel-Aviv 62195, Israel
4Z4TL @ 4Z4AAA.ISR.MDLE
972-9-582959
```

3608. Using ZN414 to receive SSB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: ian.mitchell@research.utas.edu.au
Message-ID: <40misn$rp@franklin.cc.utas.edu.au>
Source record: 111172

Hi,

I'm trying to design a general coverage receiver using
the MC3362 from motorola. I'd like it to receive AM, FM
and SSB/CW signals. FM is built in, and I'd like to think
I can use the ZN414 for AM, by tapping in to the signal
at the output of the second IF filter (455KHz).

The ZN414 is essentialy an RF amplifier and detector with
built in AGC. The problem is how to resolve SSB? Generating
a 455KHz BFO is no problem (using TTL levels), and can be
arranged to switch on and off via uP control.

I am hesitant of providing a direct BFO signal (not TTL) to
the ZN414 for fear of overloading it.

I thought of using the BFO signal to switch the SSB signal on
and off at 455KHz. Another 455KHz IF filter would be used
to reduce harmonics, just before the ZN414.

The question is, would this work?

Best regards to all, Ian

3609. Re: Phone Line Status Indicat

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: ranecurl@engin.umich.edu
Message-ID: <40mlqj$g6h@srvr1.engin.umich.edu>
Source record: 111173

In article <2a6.4185.546@acenet.com>,
Brian Carling <brian.carling@acenet.com> wrote:
>Newsgroups: rec.radio.amateur.homebrew

>KW>I know this isn't Ham-related, but I figure with the tallent on this
>KW>Newsgroup, I should be able to get an answer...
>
>KW>I'm looking for a circuit that I can add to a phone/phone line to show
>KW>if the line is in use. A simple LED would be just fine. The problem is
>KW>that when I'm on the modem, no one in the house knows it and may pick
>KW>up the phone, bumping me off whatever I'm doing. A simple indicator
>KW>would be just what I need.
>
>KW>Thanks for the info... Kevin N1EPU

There are simple circuits for detecting the off-hook condition. For
example, in _The Talking Telephone_ (Tab Books, 1990). Kits are
also available, often at hamfests. These use a separate 9V battery
since the phone company frowns upon users lighting their homes off
the phone battery.

I solved this problem by having another phone line installed. The
inconvenience to my net habits became much less important than the
amount of time I tied up the phone so others could not use it.

Rane Curl N8REG

3610. Re: Using ZN414 to receive SSB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <808383493.26211@pinetree.microserve.com>
Source record: 111174

ian.mitchell@research.utas.edu.au (Ian Mitchell) wrote:

>The ZN414 is essentialy an RF amplifier and detector with
>built in AGC. The problem is how to resolve SSB? Generating
>a 455KHz BFO is no problem (using TTL levels), and can be
>arranged to switch on and off via uP control.
>
>I am hesitant of providing a direct BFO signal (not TTL) to
>the ZN414 for fear of overloading it.

I'm not familiar with the specifics of the ZN414, but the built in AGC might be the most difficult problem. If it's keyed to the detector, you may have a difficult time keeping the BFO from activating the AGC and reducing receiver gain.

73,

Jack WB3U

3611. WTB:small air vary capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: skulyov@freenet.columbus.oh.us
Message-ID: <40mlgl$d04@acme.freenet.columbus.oh.us>
Source record: 111175

I'm looking for the small air vary capacitors with C max about
1000 pf. The QTY up to four (4).

Appreciate for any help.

73! Sergei AA8OT, UA3AP
Columbus, Ohio

3612. keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: Antoon Milatz <antoon.milatz@tek.com>
Message-ID: <40na0t$fks@goodnews.wv.tek.com>
Source record: 111176

Where can I buy the *famous* CW keyer chip ?
I believe it is mentioned in QST.

I need the address and phone/fax number of this company.

regards,

Antoon PA3bwe (email: antoon.milatz@tek.com)

3613. IF transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9507148084.AA808416373@mails.imed.com>
Source record: 111177

Bob (K7NWB) was looking for 1500Khz to 1600 Khz IF transformers.

Bob:
You may have trouble finding the exact parts. (BTW back then they wer
1500 Kc transformers :>)). The Heath HR 10 series of receivers used this
frequency as the IF with a very broad 2 crystal half lattice. You could try to
contact Heath and see if they still have any repair stock left. Another
alternative if you don't care about exactly the right parts woulfd be to find an
old NON-FUNCTIONAL BC454 or BC455 .(PLEASE, PLEASE, please don't destroy a
perfectly good working piece of history). These radios also used an IF in that
range. They also came with a variable BFO, a fact I learned when going through
some 1960's era CQ magazines.

Good luck with your project. It sounds like fun.

Ray Mack
WD5IFS
mack@mails.imed.com

3614. Frequency hopping

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: jbeens@silver.sdsmt.edu
Message-ID: <jbeens.10.302F9769@silver.sdsmt.edu>
Source record: 111178

Hello all!
I am a senior in electrical engineering at the South Dakota School of Mines in Rapid City, SD. I am considering building a frequency hopping radio as my senior desing project. Is there a frequency band that I can legaly do this in?

Thank you,

73's
Jason Beens
KB0CDN

3615. Re: July QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.808441889.16879.jwicklun@mycroftxxx.halcyon.com>
Source record: 111179

In article <40a5qc$rat@wmwap1.math.Uni-Wuppertal.DE>,
<schneide@wrcs1.urz.uni-wuppertal.DE> writes:

> X-Newsreader: TIN [version 1.2 PL2]
>
> Wes Stewart (N7WS@azstarnet.com) wrote:
> : jbaltz@watsun.cc.columbia.edu (Jerry B Altzman) wrote:
> : >Has anyone received their July QEX yet? I'm still waiting for
mine...
> : >
> : >//jbaltz
> : >jerry b. altzman Entropy just isn't what it used to be
+1 212 650 5617
> : >jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET)
NEVIS::jbaltz
>
>
> : Nope!
> Also not!
>
Hope you've received your July issue by now. Just received mine on
the 11th.

73 de KI7RH (Jay)

3616. Re: Help! Source LM359 IC.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DDBpJt.KKy@nsc.nsc.com>
Source record: 111180

They are good parts and you might find them at DIGIKEY at 1-800-344-4539
who sells small quantities of National Semi products.
73, Al

3617. Re: 4Cx1000/4CX1500

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DDBprw.Kop@nsc.nsc.com>
Source record: 111181

Back in the 1960s the ARRL handbook (and old SSB handbook) had a 4cx1000
anp and the Collins 30S1 of similar vintage also used one.
You can get ap-note from Eimac in Utah which has the same articles.
The 4cx1000/1500 makes a dandy linear amp!
73, Al

3618. Re: US Military Field Expedient Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: Jim Hendrickson <jhendrickson@shell.monmouth.com>
Message-ID: <40m8qa$t8f@shell.monmouth.com>
Source record: 111317
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

The terminating resistor is 600 ohms, non inductive.

3619. Re: US Military Field Expedient Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: ibmdelf@aol.com
Message-ID: <40mjmv$mej@newsbf02.news.aol.com>
Source record: 111318
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

You can also use a standard 'lead' (graphite core) pencil. Attach a wire at each end where you expose the core (alligator clips?). The amount of resistance will vary with the graphite core length, density, diameter. You can increase the resistance by filing through the pencil more or less in the middle but just don't cut all the way through the core or you've ruined it.. The deeper the cut into the graphite core, the higher the resistance, BUT, you will lower the amount of power it can dissipate at that point. The assumption here is that you have some means of determining the resistance as you file into the core if you are concerned about a specific value such as 600 Ohms.

Del, KD4B
Raleigh, NC

3620. HUMOR - 10 Commandments for Technicians

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: mikek@deltanet.com
Message-ID: <40n5p0$g9q@news1.deltanet.com>
Source record: 111319

10 COMMANDMENTS FOR TECHNICIANS

I. BEWARE THE LIGHTNING THAT LURKETH IN THE UNDISCHARGED CAPACITOR, LEST IT CAUSE THEE TO BOUNCE UPON THY BUTTOCKS IN A MOST UNTECHNICIAN-LIKE MANNER.

II. CAUSE THOU THE SWITCH THAT SUPPLIETH LARGE QUANTITIES OF JUICE TO BE ONPENED AND THUSLY TAGGED, THAT THY DAYS IN THIS EARTHLY VEIL OF TEARS MAY BE LONG.

III. PROVE TO THYSELF THAT ALL CIRCUITS THAT RADIATH AND UPON WHICH THOU WORKETH ARE GROUNDED AND THUSLY TAGGED LEST THEY LIFT THEE TO RADIO FREQUENCY POTENTIAL AND CAUSETH THEE ALSO TO MAKE LIKE A RADIATOR.

IV. TARRY NOT AMONGST THOSE FOOLS WHO ENGAGETH IN INTENTIONAL SHOCKS FOR THEY ARE SURELY NONBELIEVERS AND ARE NOT LONG FOR THIS WORLD.

V. TAKE CARE THAT THOU USETH THE PROPER METHOD WHEN THOU TAKEST THE MEASURE OF A HIGH-VOLTAGE CIRCUIT LEST THOU INCINERATE BOTH THYSELF AND THY METER, FOR VERILY, THOUGH THOU HAST NO ACCOUNT NUMBER AND CAN EASILY BE SURVEYED, THE TEST METER DOTH HAVE ONE AND, AS A CONSEQUENCE, BRINGETH MUCH WOE UNTO THE SUPPLY DEPARTMENT.

VI. TAKE CARE THAT THOU TAMPERETH NOT WITH SAFETY DEVICES AND INTERLOCKS, FOR THIS INCURETH THE WRATH OF THY

SUPERVISOR AND BRINGETH THE FURY OF THY SAFTEY INSPECTOR UPON THY HEAD AND SHOULDERS.

VII. WORK THOU NOT ON ENERGIZED EQUIPMENT, FOR IF THOU DOST, THY FELLOW WORKERS WILL SURELY BUY BEERS FOR THY WIDOW AND CONSOLER HER IN OTHER WAYS.

VIII. SERVICE THOU NOT EQUIPMENT FOR ELECTRICAL COOKING. IT IS A SLOTHFUL PROCESS AND THOU MIGHT SIZZLE IN THINE OWN FAT FOR HOURS UPON A HOT CIRCUIT BEFORE THY MAKER SEE FIT TO END THY MISERY.

IX. TRIFFLE THOU NOT WITH RADIOACTIVE TUBES AND SUBSTANCES LEST THOU COMMENCE TO GLOW IN THE DARK LIKE A LIGHTNING BUG AND THY WIFE HAVE NO FURTHER USE FOR THEE EXCEPT THY WAGES.

X. THOU SHALT NOT MAKE UNAUTHORIZED MODIFICATIONS TO EQUIPMENT, BUT CAUSETH THOU TO BE RECOREDED ALL FIELD CHANGES AND AUTHORIZED MODIFICATION MADE BY THEE, LEST THY SUCCESSOR TEAR HIS HAIR AND GO SLOWLY MAD IN HIS ATTEMPT TO DECIDE WHAT MANNER OF CREATURE HATH MADE A NEST IN THE WIRING OF SUCH EQUIPMENT.

3621. How to Space-Wind Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <808363044.19680@pinetree.microserve.com>
Source record: 111320

The other day I was in a sporting goods store and noticed
that monofilament line starts at a diameter of about 0.005" (2 lb
test) and goes up in increments of about 0.002 or 0.003 from there.

This is close to the size of many common wire gauges and I'm wondering
if anyone has ever used fishing line to space-wind a coil? I know the
diameter of different brands will vary, but is it reasonably
consistent throughout the same spool? For my purpose, the exact
spacing is less critical than the need for it to be consistent from
one end of the finished coil to the other.

Thanks & 73,

Jack WB3U

3622. Re: KENWOOD IF-10D Interface WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-14 00:00:00 UTC
From: ibmdelf@aol.com
Message-ID: <40mjhc$md2@newsbf02.news.aol.com>
Source record: 111321

I built my own interface using just a MAX232 chip and four 10uF caps. However, before diving into this project I had read somewhere, and verified for myself after connecting the TS-50 to my computer, that several of the control features found in other Kenwoods are missing from the TS-50. The most serious omission is the capability to write a frequency to any of the memory channels. Any of the Kenwood control programs I've ever used would be crippled when used with this radio. All of the programs allow you to read and write frequencies to the memory channels in Kenwoods that support this. This would allow you to have several "pre-load" files with frequencies to program into your radio. For instance, if you have 100 freqs for SWBC, just load the file and the memories are reprogramed in seconds and you're set to go. Have another file for aero-traffic on the SW bands, etc. The TS-50 does not allow you to do this. I was very dissappointed when I confirmed the crippled nature of this radio. About the only way around this may be to write a program that provides "virtual memory channels" which you select from your computer screen and it will write each virtual memory channel frequency into the 'A' or 'B' VFO as you select different 'virtual memories' on the computer screen.

A point of observation: I have the service manual for this unit and in the block diagram of the system, where a computer and RS232 interface connect to the 'digital board' in the radio there is a notation: "For factory and debug". That just about sums up Kenwood's reason for building it in. It certainly wasn't included for full remote-control usage by the owner. I guess Kenwood just couldn't imagine anyone wanting to connect a computer to a mobile unit. Don't you just love how the manufacturer looks out for you?

On an up note: this radio is a fine piece of gear, particularly for mobile work. I've mounted it in the console right below the AM/FM/Tape factory radio and it blends well. I do miss a notch filter such as the one on my TS-440 though.

I have made some mods to it including restoration of full spectrum transmit capability which for me serves two purposes: a test signal into a dummy load when aligning other gear including the TS-440 and for use on the CAP bands.

If you would like a copy of the MAX232 schematic as it applies to the TS-50, drop me a note. Although I have drawn the schematic in .BMP format, I cannot upload it onto the Internet from my access point so I would have to mail the hardcopy to you.

I also have one for the TS-440 if anyone is interested. The TLL signals of the two radios are NOT the same so if anyone was thinking of using the

same one for both, forget it. You have to build an interface with a hex inverter added to the MAX232.

Del, KD4B
Raleigh, NC

3623. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: dcurtis@xcs150.sc.intel.com
Message-ID: <40opc9$b0i@inews.sc.intel.com>
Source record: 111182

In article <2a6.4067.546@acenet.com> brian.carling@acenet.com (Brian Carling) writes:
>Newsgroups: rec.radio.amateur.homebrew
>From: brian.carling@acenet.com
>
>JO>The EPROM image for the CMOS Keyer in August QST is not available
>JO>from ARRL or the author. Also, according to the author, the security
>JO>bit is set in the microcontroller which would prevent anyone from
>JO>duplicating the chip.
>
>JO>Does this bother other builders? I'm sure the ARRL frequents this
>JO>newsgroup and would be interested in how you feel.
>

There should be absolutely no place whatsoever for this in QST.
The software is as much a part of the project as the PC artwork
and the bypass capacitors. We must rise up against this kind of
tyranical nonesense and put a stop to it! It is OK by me if the
company wants to buy 4 full pages of advertising to push their
proprietary designs in the form of a product. It is in no wayh,
shape or form suitable for editorial material in QST to contain
proprietary software.

Dave NG0X

3624. Got patent approved - but need antenna help.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: dbonham@dbonham.seanet.com
Message-ID: <40pdeo$7jv@kaleka.seanet.com>
Source record: 111183

I'm looking for someone who would like to work on a recently patented wildife monitoring system. The
amount of available money will depend on how well a prototype does at a national conference of
biologists in Portland next month.
I have lots of questions - but one is fairly urgent. I need to transmit at 220 MHz between two fixed,
line-of-sight points. I can use directional antennas at both ends, but my transmitter can put out only
10 mW. What's the best general antenna design and how far can I expect to detect an FM signal
that has a deviation of only 300 Hz?
If anyone is interested in helping with this project - let me know.
thanks,
D. Bonham

3625. Eimac 8874's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: wayne@nexus.interealm.com
Message-ID: <40pd7l$5q7@nexus.interealm.com>
Source record: 111184

Looking to buy a single new 8874.
wayne/wa2kec/wayne@nexus.interealm.com

3626. EIMAC 4CX1500A Valve

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: paul_git@cix.compulink.co.uk
Message-ID: <DDC6Ev.II2@cix.compulink.co.uk>
Source record: 111185

Hello All

A friend of mine has an EIMAC 4CX1500A with only 6500 hours running life so far. He is open to offers, so if anybody is interested then please mail me DIRECTLY as I do not read this group frequently.

--
Regards,
Paul

Internet (Home) : paul_git@cix.compulink.co.uk
CompuServe : 100446,2006

3627. 572B/T160L Valves

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: paul_git@cix.compulink.co.uk
Message-ID: <DDC6Ew.IIn@cix.compulink.co.uk>
Source record: 111186

I am looking for two new 572B/T160L at competitive prices, if anybody has any or knows a good supplier could they please email me directly.

--
Regards,
Paul

Internet (Home) : paul_git@cix.compulink.co.uk
CompuServe : 100446,2006

3628. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_808498601@rtfm.mit.edu>
Source record: 111187
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

```
Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb,
rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet
mailing list counterparts and complements. It is intended to serve as a
guide for the new reader on what to find where. Questions and comments may
be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at
jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October
1994 to add the discussion of non-Usenet mailing lists and streamline most
of the history discussion, and to change the moderator information for
rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list
for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions
were held on the mailing list, and sent to the mailboxes of those who had
signed up for it. When the Usenet software was created, and net news as we
now know it was developed, a newsgroup was created for hams: net.ham-radio.
The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became
progressively higher. First one by one, and then as part of two
reorganizations, what was once one group became many. In the process,
developments elsewhere on the net were reflected in the groups as they were
created, most notably the change to place all of the ham radio groups in one
hierarchy.

The collection of newsgroups continues to grow as more people join the net,
and as more topics of discussion gain volume, I expect to see more groups be
created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the
notable exception being rec.radio.swap. There are also a few mailing lists
that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them,
and not to the groups that aren't. The whole idea of having different
```

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

3629. Re: cross reference semiconductors.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: "Edwin J. Bailen" <n5kzw@eden.com>
Message-ID: <Pine.BSD/.3.91.950815185519.17014A-100000@matrix.eden.com>
Source record: 111188
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

The "P" in TIP stands for POWER. The TIP120 is rated at 65W, 80V Vce,
hFE of 1000, and fT of 5mhz.

On 11 Aug 1995, dan drumm wrote:

> here is a general and specific question. how do I cross reference
> transistors, chips, etc. I do not want to call up parts stores, because
> I have so much salvage laying around the house, that I could build a
> hundred projects, and still not make a dent.
>
> I have a NTE cross ref. program, but that only gives me NTE #'s.
>
> Is there anything more general I could use?
>
> Specifically, this time I was looking for a substitute for a TIP-120
> I am sure it is a general purpose switching transistor, but it would
> have been nice to find some listed as a good cross.
>
> thanks for the ideas.
>
>
> -- Dan
> N9vox
>
> BTW: Am I the only one who can not stand to see good electronics
> thrown away? Why buy new what will last forever and is free?
>
>
>

3630. TS-440 RS232 Command Set

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: adercole@mezzrtm.lasc.lockheed.com
Message-ID: <40qbkt$9qe@butch.lmsc.lockheed.com>
Source record: 111189

Does anyone have data on the use of the RS232 port for the TS-440 ?
I need to know the command/response protocoal.

If you know anything please post or mail to:
adercole@rtm0.lasc.lockheed.com

TNX

3631. Re: PCB & Iron-on transfer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.808499703.24431.jwicklun@mycroftxxx.halcyon.com>
Source record: 111190

In article <40dj8e$gmv@unisql.unisql.com>, <jstrohm@blazer> writes:
>
> The iron-on transfer method was described in QST last year, I
> believe.
> You should use the clay-coated paper that's specifically for
> ink-jet printers, and turn up the toner density on the printer or
> copier.
>
>
> Then iron it on to the PCB. YMMV, and so far the process hasn't
worked
> for me.
>
> Jim N6OTQ
>
I haven't had much luck with it either. I seem to end up with
uneven density of toner on the traces and other copper areas. I've
tried it both with my HP laserjet, and with a standard office
copier. The other problem that I had was patches (both small and
large) that didn't attach to the copper clad when I transferred the
pattern. I sure would like to see an easy way to get the resist
pattern onto the board.

Jay (KI7RH)

3632. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: yee@mipgsun.mipg.upenn.edu
Message-ID: <40qi7e$pju@netnews.upenn.edu>
Source record: 111191

OK. The source to the CMOS Keyer III is not available. Does anyone have the source to the Keyer II? I have the manual for it in machiine readable form and ahve converted it to LaTeX. I can probably dig them up in one of my directories. I don't think the licencing precludes me from redistributing them.

--
Medical Image Processing Group | 73 de Conway Yee, N2JWQ | DON'T
411 Blockley Hall | EMAIL : yee@mipg.upenn.edu | TREAD
423 Guardian Drive | TELEPHONE : 1 (215) 662-6780 | ON
Philadelphia, PA 19104-6021 (USA) | FAX : 1 (215) 898-9145 | ME!

3633. VLF receiver question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: dgordon@sadira.gb.nrao.edu
Message-ID: <40qi3k$g5@solitaire.cv.nrao.edu>
Source record: 111192

Could an audio amplifier be used as a VLF receiver???
Antenna, diode and a capacitor hooked up to the input???
Broadbanded yes, but will this work? Frequency is from dc to
15 KHz. Opinions/comments/suggestions welcomed as to any
schmatics.

David - KB4LCI
dgordon@nrao.edu

3634. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: lekollar@nyx10.cs.du.edu
Message-ID: <40qo7c$r11@nyx10.cs.du.edu>
Source record: 111193

Thus spake WB3U <jackl@pinetree.microserve.com>:

> I'm lucky enough to have a personal
>anon FTP area available through my service provider, but that's not
>always the case. Also, e-mail can be a real pain if too many folks
>want a copy. Any suggestions for a work-around, other than starting a
>new group?

There are several FTP-by-mail servers around the country (and around
the world). It's not instant gratification, but I can say from per-
sonal experience that they *do* work for people downloading files.

For all the gory details, scan news.answers for the "Accessing the
Internet by E-mail" FAQ. That's not the exact title, but it's some-
thing close.

73 de KC4WZK
--
Larry Kollar, Dawsonville GA | *** Hatred is murder *** (1 Jn 3:15)
lekollar@nyx10.cs.du.edu | Crawling down the infobahn at 1200 baud...

3635. Hammarlund web site?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: hamrlund@aol.com
Message-ID: <40qtj9$rbc@newsbf02.news.aol.com>
Source record: 111194

anyone know of such a site?

robert

3636. Power Good line on PC P/S

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <40qv88$s0e@unisql.unisql.com>
Source record: 111195

Hi

I want to use a surplus PC power suppply to power some non-RF ham goodies.
What signal does the Power Good line need to see to turn on the power supply?

Does anybody have a simple schematic to provide this signal?

Please don't suggest a motherboard -- I already have an XT and an AT
motherboard I can use, but I consider it overkill.

TIA
Jim N6OTQ

3637. Re: VLF receiver question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <40r2eu$stc@newsbf02.news.aol.com>
Source record: 111196

>>>>.Could an audio amplifier be used as a VLF receiver???
Antenna, diode and a capacitor hooked up to the input???
Broadbanded yes, but will this work? Frequency is from dc to
15 KHz. Opinions/comments/suggestions welcomed as to any
schmatics.

David - KB4LCI
dgordon@nrao.edu<<<<<<<

David, Actually the diode would be un-necessary if your hearing was very good! The problem is that buzzes from power lines, whistles and pops from lightning, and all kinds of other junk would wipe out what you wanted to hear, so you would need an input filter.

Unless your ears are better than mine you would need to convert that 15 kHz to a lower tone to be comfortable with it!

73 Tom

3638. Re: Power Good line on PC P/S

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <40r7rs$egj@solaris.cc.vt.edu>
Source record: 111197

In article <40qv88$s0e@unisql.unisql.com>,
Jim Strohm <jstrohm@blazer> wrote:
>Hi
>
>I want to use a surplus PC power suppply to power some non-RF ham goodies.
>What signal does the Power Good line need to see to turn on the power
supply?

The Power Good line is an *output* from the supply, which indicates to the
PC that it is supplying good power. It is used to reset the CPU during
power-on, and also to reset it in case the input voltage drops or something
else goes wrong. The line is TTL compliant, high while power is "good" and
low when it is not.

Most cheap clone supplies only supply a short pulse at power-on. The ones
built to IBM specifications would generally have a more elaborate circuit
to compare each output voltage to what it should be, and output the power
good signal only if all were OK.
>
>Does anybody have a simple schematic to provide this signal?

You can leave it unconnected. The supply will operate without a load on
it.

What the supply will often not operate without a load on is the +5V output.
This is probably why you couldn't get it to work without connecting a
mother board. The supplies regulate the +5V output, as this is the only
critical one for the computer. If that output can't be kept in range, the
supply will shut down. The other outputs are proportional to the +5V
output by virtue of the ratio of the turns on the transformer.

So what you need to do is either modify the supply so regulation is based
on the +12V output (which would also be good since you could then turn it
up to +13.5 V or so to possibly get better radio performance) or,
less optimally, but not requiring modification, provide a load of about 1A
on the +5V output. Some may require even more loading before the +12V
output will be capable of its full rating, and again that output is not
directly regulated so it can vary 10% or so. These supplies are designed
primarily to supply +5V. The other voltages are sort of "along for the
ride". But you can power a few small radio devices off of one if nothing
better is available.

-Mike KD4QDM

3639. Re: Got patent approved - but need antenna help.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <40rfik$6lm@news.duke.edu>
Source record: 111198

dbonham@dbonham.seanet.com wrote:

> I need to transmit at 220 MHz between two fixed,
>line-of-sight points. I can use directional antennas at both ends,
>but my transmitter can put out only
>10 mW. What's the best general antenna design
>and how far can I expect to detect an FM signal
>that has a deviation of only 300 Hz?
>If anyone is interested in helping with this project - let me know.

The *best* antenna would be a dish the size of a radio astronomy
telescope. You could expect to put the transmitter on the *moon* and
still be able to hear it from the earth.

I expect though, that that is out of the question. There are many
variables to be considered. Give me a personal E-mail message and
I'll try to help you sort them out.

Jim "With an FCC licence." Meyer <jimbob@acpub.duke.edu>

P.S. It would make reading your messages easier if you could find out
how to make each line average out to about 70 characters in
length.

3640. Re: How to Space-Wind Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DDD37t.3nF@sunsrvr6.cci.com>
Source record: 111199

In article <808363044.19680@pinetree.microserve.com>,
WB3U <jackl@pinetree.microserve.com> wrote:
>The other day I was in a sporting goods store and noticed
>that monofilament line starts at a diameter of about 0.005" (2 lb
>test) and goes up in increments of about 0.002 or 0.003 from there.
>
>This is close to the size of many common wire gauges and I'm wondering
>if anyone has ever used fishing line to space-wind a coil? I know the
>diameter of different brands will vary, but is it reasonably
>consistent throughout the same spool? For my purpose, the exact
>spacing is less critical than the need for it to be consistent from
>one end of the finished coil to the other.
>
>Thanks & 73,
>
>Jack WB3U

How about winding on the threads of a bolt or machine screw? It works
great. Thanks to Ten-Tec for this tip, from their 6-meter transverter
kit instructions.

73...Jim N2VNO

3641. A place to download schemtics/fun electronics projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-15 00:00:00 UTC
From: bacca_roberto@bah.com
Message-ID: <AC56AF18966862286@128.229.243.2>
Source record: 111200

Does anyone know of an FTP site wherei can download Schematics/Electoincs projects.

If you do please E-Mail me at:

bacca_roberto@bah.com

3642. Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: Gary Davis <gdavis@gladstone.uoregon.edu>
Message-ID: <40rleh$i0h@pith.uoregon.edu>
Source record: 111201

My frequency counter tops out at 30Mhz. I would like to build a
divide by ten front end to increase the range to 300Mhz. Can anyone
refer me to a schematic that would serve this purpose? Any and all replies
will be most appreciated.

Regards,
Gary Davis

3643. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: Ross Steinwedel <keebra@peg.apc.org>
Message-ID: <40rl5n$5fv@dingo.cc.uq.oz.au>
Source record: 111202

Does anyone know any mods for an Icom 21a hand held
Please excuse our protocol as this is all very new to us!

Roy Lowe, teacher, Keebra Park High School, Gold Coast Australia

3644. Inductor coil

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: root@localhost.com
Message-ID: <40rtad$187j@msunews.cl.msu.edu>
Source record: 111203

Hey...I'm building this Radio and I chipped about 20% off of the
inductor coil that screws into this metal silver box. The RF signal quality
is pretty bad, and I'm associating it with the chipped coil. I've reordered
a new one, but it seems odd to me that it still works with the chipped coil.
should there be much improvement with the whole coil intact? I don't really
know much about how this thing works (all I know is that it tunes the freq.)
and I don't know what quality signal to expect. If someone could explain
this inductor coil for me...
thanks

3645. RF amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: root@localhost.com
Message-ID: <40rtn3$187j@msunews.cl.msu.edu>
Source record: 111204

Does anyone know how to make a cheap RF amplifier? I got this schem
out of radio shack, but haven't tried it yet. It says it will increase the
signal by 2x.
its:

```
|
| 9v battery +
=
= 1k resistor
|-------------------------> signal + out
-----
1uf cap| D
------|---| 2N3819 transistor.
+ in | S
------
-----------------|-------------------------> signal - out
- in 9v battery -
```

Sorry for the crappy schematic, but will this work?

3646. Re: EIMAC 4CX1500A Valve

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <DDE0yv.2v4@eskimo.com>
Source record: 111205

In article <DDC6Ev.II2@cix.compulink.co.uk>, paul_git@cix.compulink.co.uk
says...
>
>Hello All
>
>A friend of mine has an EIMAC 4CX1500A with only 6500 hours running life
>so far.
-snip-

>>
ONLY 6500 hours?? How long are these things supposed to last? I'm building
a 4CX1000A amp right now (slightly different tube, but similar construction)
and I'd be quite pleased to learn that 6500 hours is not much.... is it?

73, Bill W7LZP
wrt@eskimo.com

3647. ** FLEA at MIT ** Sunday 20 August Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: w1gsl@ATHENA.MIT.EDU
Message-ID: <40scpn$j5t@senator-bedfellow.MIT.EDU>
Source record: 111206
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics,ne.forsale,ne.general,rec.radio.amateur.homebrew

This comming Sunday...

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FLEA all SUMMER at MIT
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9AM-2PM

Come to the city for a great flea - plenty of free parking.

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MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

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****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

3648. ***** FS Tubes, Tubes, Tubes ******

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: questusa@ix.netcom.com
Message-ID: <40tga6$ipp@ixnews3.ix.netcom.com>
Source record: 111207
Cross-posted to: rec.antiques.radio+phono,rec.audio.marketplace,rec.radio.swap,rec.radio.amateur.homebrew

We have tens of thousands of tubes For Sale. The old 4-5-6 & 7 pin tubes, octales, 7 & 9 pin minature tubes. For radios TVs, industrial equinment, & test equipment.

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3649. terminal node controler

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: hurleyr@delphi.com
Message-ID: <B1Dgbic.hurleyr@delphi.com>
Source record: 111208

if anyone could give the plans to build a terminal node controller that work useing a baycomsin
using the baycom soft ware if possable the circuit using the am7910 chip thanx

3650. TNC plans needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: hurleyr@delphi.com
Message-ID: <BZMjzCd.hurleyr@delphi.com>
Source record: 111209

if there is someone that has plans to build a tnc or some kind
of a modem that would work with the baycom software please send
it to me.

HURLEYR@DELPHI.COM
thanx

3651. Request for info on Toko S18 coils. URGENT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: webbat1@cf.ac.uk
Message-ID: <DDEo26.JB5@cf.ac.uk>
Source record: 111210

am looking for infomation on the following Tomo S18 coils:-
Ferrite cored white
ferite cored Violet
ferrite cored yellow

air cored orange
air cored yellow
air cored blue

Mainly I need the inductances for these coils, and the name of a
supplier in Europe to get them from.

Also I am looking for the formulae relating the inductance of a coil to
the wire diameter, the coil diameter and the number of turns.

Thanks in advance.

Andrew Webb,

webbat1@cf.ac.uk

3652. Re: VHF Coaxial Collinear Plans Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: dbeach@kean.ucs.mun.ca
Message-ID: <1995Aug16.090102.1@noah>
Source record: 111211

>>I need some construction advice on coaxial collinear VHF antennas (you
>>know, built out of RG/8 or similar).
>
> The reason they are now mute is the early articles (in QST and the
> Handbooks) were non-functioning antennas.
>
> Why not build a skirt collinear or a phased stacked dipole array?
>
> 73 Tom
>
The reason I am interested in the coax version is I have a surplus
150Mhz whip
that I think is a coax collinear inside (I x-rayed it!)
Before I start hacking it apart to get is to work on 146 Mhz
I thought I would try to get some info on the theory.
I could, of course, just hammer-and-tongs the project by starting
at it with a saw but...

Anyway, that's why I wasn't considering some of the other types
of antennas as they would not fit inside the hollow mast.

I have a very noisy line today - sorry if there are garbage
characters!!

David Beach VO2BD

3653. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: ORBAN@amt00.ime.nrc.ca
Message-ID: <40st8u$h1t@nrcnet0.nrc.ca>
Source record: 111212

In <40rleh$i0h@pith.uoregon.edu> Gary writes:

> My frequency counter tops out at 30Mhz. I would like to build a
> divide by ten front end to increase the range to 300Mhz. Can anyone
> refer me to a schematic that would serve this purpose? Any and all replies
> will be most appreciated.
>

Those circuits usually use a 11C90 which is an ECL circuit with TTL interface,
if I am correct.
Does anyone know who sells that chip in small quantities as well as the Harris
(Intersil) ICM7216 series chips?

Thanks, Peter
--
Peter Orban
National Research Council of Canada
Internet: peter.orban@nrc.ca

3654. 48 MHz circuit. please take a look

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: Andrew Webb <webbat1@cf.ac.uk>
Message-ID: <Pine.OSF.3.91.950816162859.7470B-100000@thor>
Source record: 111213

A circuit for a 48 MHz TX unit has been uploaded to
http://www.cf.ac.uk/uwcc/suon/radio/badger.gif

PLease could you take a look, and tell me what you think?
The circuit is a 12 MHz crystal osc. followed by a tuned buffer stage,
two doubler stages and a driver stage. Output is from the wire that
disappears off the right hand side of the screen.

The values of the inductors is not included on the diagram. they have
been calculated to be resonant at 12, 24, and 48 mhz as
appropriate.
The inductor in the driver stage is made up of three white Toko S18 air
cored coils in series

Thanks in advance

Andrew Webb, GERME

Remember, Be yourself, cos if you're not you, WHO ARE YOU?

3655. Pin Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: thubbard@earth.execpc.com
Message-ID: <40t9ir$l3t@earth.alpha.net>
Source record: 111214

Is it possible to distinguish a pin diode from any other switching type diode found on a hf receiver board? Any ifno appreciated.

3656. Where to ftp schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: Cesare.Lavazza@interland.it
Message-ID: <5df_9508162002@interland.it>
Source record: 111215

Hello All!

Does anyone know where to ftp schematics, especially about radio circuits
(preamplifiers, transmitters, receivers)?

E-mail: cesare.lavazza@interland.it

3657. Re: Request for info on Toko S18 coils. URGENT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <808602761snz@lfheller.demon.co.uk>
Source record: 111216

In article <DDEo26.JB5@cf.ac.uk> webbat1@cf.ac.uk "Andrew T. Webb Esq." writes:

> am looking for infomation on the following Tomo S18 coils:-
> Ferrite cored white
> ferite cored Violet
> ferrite cored yellow
>
> air cored orange
> air cored yellow
> air cored blue
>
> Mainly I need the inductances for these coils, and the name of a
> supplier in Europe to get them from.
>
> Also I am looking for the formulae relating the inductance of a coil to
> the wire diameter, the coil diameter and the number of turns.

Go to your local branch of WH Smith and buy a copy of the Cirkit catalogue.
Cirkit stock most of the Toko range, and you'll find the S18 parts in
the catalogue. If you have problems, phone Cirkit on (01992) 448899.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3658. Re: A place to download schemtics/fun electronics projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: cj@algonet.se
Message-ID: <40tlmc$1hp@alecto.algonet.se>
Source record: 111217

bacca_roberto@bah.com (Roberto Bacca) wrote:

>Does anyone know of an FTP site wherei can download Schematics/Electoincs
>projects.

Try ftp.ee.ualberta.ca in the /pub/cookbook directory.

/Christer

-=-
* High Tech Horizon - Christer Johansson - * email: cj@algonet.se *
-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web - http://www.algonet.se/~cj/catalog.html <<
-=-

3659. August QST Rock Bender Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: bpwagner@chattanooga.net
Message-ID: <40tj5t$q0q@news.chattanooga.net>
Source record: 111218

I am trying to build this thing and I cannot get hold of Y1 (a 7Mhz crystal supposily sold by Ocean State Electronics). The phone number in QST is wrong. Also where do you get a Mini-Circuits SBL-1 Mixer? Any help would be greatly appreciated.

3660. Re: Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <40tq3r$niu@abyss.West.Sun.COM>
Source record: 111219

In article <40tk40$5ik@cismsun.univ-lyon1.fr>, Elendir <elendir@enst.fr> wrote:
>Well -
>I may be horribly wrong on this, but why not use an Armstrong FM modulator ?
>I have a very fuzzy remembering of this type of modulator, but I faintly
>remember that it involves a phase shifter and no PLL, other than the one
>needed to generate the unmodulated carrier.
>With this scheme, you avoid completly the lock up time.
>
>Without any type of warranty !
>
>Vincent, f5rcs

Any kind of phase modulation (versus frequency modulation) is
going to have inherent pre-emphasis and very poor low frequency
response. For sending baseband data (such as 9600 baud GMSK),
these are both disadvantages. For sending voice or audio
modulated data (such as 1200 baud Bell 202), this is fine.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

3661. Re: RF amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DDFG6p.AK9@nsc.nsc.com>
Source record: 111220

Not likethat it won't. you will need a resistor from gate to ground, maybe a few hundred k ohm and a parallel capacitor/resistor from the source to ground (or - battery) of a few k ohm and few thousand picofarad.
You would be better to use one of the little broadband amps from Mini-Circuits that sells for a few bucks unless you are somewhat familiar with FET designs.
Regards, Al

3662. Re: Pin Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <40tj0o$6vl@hpscit.sc.hp.com>
Source record: 111221

In article <40t9ir$l3t@earth.alpha.net>,
Terry Hubbard <thubbard@earth.execpc.com> wrote:
>Is it possible to distinguish a pin diode from any other switching type diode
>found on a hf receiver board? Any ifno appreciated.

You can unsolder it and connect it to a signal generator and excite
it at 10 MHz. A regular diode (assuming it's not a power rectifier
type) should have little trouble recovering in the 50 nSec. available.
A PIN diode will have a very long recovery time and be unable to
rectify the 10 MHz. Compare to a known reference like a 1N4148
switching diode.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

3663. Re: Modulating VCO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <40tk40$5ik@cismsun.univ-lyon1.fr>
Source record: 111222

Well -
I may be horribly wrong on this, but why not use an Armstrong FM modulator ?
I have a very fuzzy remembering of this type of modulator, but I faintly
remember that it involves a phase shifter and no PLL, other than the one
needed to generate the unmodulated carrier.
With this scheme, you avoid completly the lock up time.

Without any type of warranty !

Vincent, f5rcs

3664. Re: RF amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-1608952248400001@squaw-d115.sierra.net>
Source record: 111223

In article <40rtn3$187j@msunews.cl.msu.edu>, root@localhost.com (Phil Storm) wrote:

> Does anyone know how to make a cheap RF amplifier? I got this schem
> out of radio shack, but haven't tried it yet. It says it will increase the
> signal by 2x.
> its:
>
> |
> | 9v battery +
> =
> = 1k resistor
> |--------------------------> signal + out
> -----
> 1uf cap| D
> ------|---| 2N3819 transistor.
> + in | S
> ------
> -----------------|--------------------------> signal - out
> - in 9v battery -
>
> Sorry for the crappy schematic, but will this work?

It will work even better if you replace the 1k resistor with an inductor/capacitor tuned to the frequency of interest, or just an inductor if you can't find one of those cute little variable caps that look like jelly beans. Depending on your frequency of interest, you might start at an inductor value with a reactance of 1kOhms at that frequency. For example, at 10 MHz, the required inductor value would be about 20 microHenries. The C to resonate at that frequency would be about 20 picoFarads. IF you stay at 1k Ohms, you can scale to other frequencies.

You will also need to run a high value resistor to 9V minus from the gate of the FET for it to work; about 100K or more Ohms (very uncritical).

Furthermore, the 9V minus supply is not strictly necessary if you make that ground instead of minus. The extra 9V gives you more range for large input voltages without distortion, but is unnecessary if you are only interested in milliVolts or less.

3665. Phone Line Status Indicat

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-16 00:00:00 UTC
From: clint.bradford@woodybbs.com
Message-ID: <93.1455.7584.0NFBADF0@woodybbs.com>
Source record: 111224

Subject: Phone Line Status Indicator

>>I'm looking for a circuit that I can add to a phone/phone line to show
>>if the line is in use.

Radio Shack carries such an item. . .uses a 9-Volt battery - which lasts
over a year. I installed mine on the kitchen phone, so my family would
know if I was on the modem in the office....
---
 wcECHO 4.1 AR-Net: ATTENTION to Details Mira Loma, CA 909-681-6221

3666. TRADE: ICOM IC-r1 receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: Old Man <70401.134@CompuServe.COM>
Message-ID: <40uebjvq1@mhafn.production.compuserve.com>
Source record: 111225
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Trade?
ICOM IC-R1 receiver, with Hi-capacity NiCad battery, fast charge adapter for internal battery,
ICOM drop-in charger, service manual..all excellent. This is the unblocked model.
Will consider trade for BRAND new unused SONY SW-100S receiver (Model with hard carrying case, active antenna, power supply accessories) Shipping/insurance prepaid.
Sandy Blaize Internet: 70401.134@compuserve.com

3667. Re: cross reference semiconductors.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-160895173608@160.205.101.24>
Source record: 111226

In article <40ipvj$vt@koala.uwec.edu>, dan drumm <drumm> wrote:
>
> raiar@inlink.com (Gary V. Deutschmann, Sr.) wrote:

(snip)

> >Tip-120s are very common, the NTE number is the generic number for this
> >transistor, usually an ECG number would be the same number. ECGs number is
> >261.
> >
> >If you keep parts the way I do, I finally put every transistor in sorted
> >envelopes under the ECG number for that part. That way finding them is
> >easy.
>
> OK, a very simple idea. That's the best kind! I guess I'll have to
> sit down for an afternoon and enter part numbers. I'll cross them
> all to NTE since I have that program handy.
>

Doing this is indeed an excellent idea. However, one needs to remember that oftentimes the NTE part may have significantly higher ratings than the original part. For example, the 1N4001 through 1N4005 diodes crosslist to the same NTE part (NTE 116), which w/ its 600 V PIV rating can be used as a single substitute for these JEDEC parts. Having a bunch of 1N4001 through 1N4005 parts in a bin marked "NTE 116" is OK, but mindlessly grabbing a 1N4001 out of the bin for use in a circuit where a 400 V PIV rated device is called for could result in a failed circuit. My point is, be aware of reduced component ratings if you mix together a bunch of different parts in a bin. You could try segregation of parts within your bins (through bagging or other means) to help prevent putting a "runt" part in a circuit.

As another poster suggested in this thread, there are other crosslisting resources available. I've used NTE, ECG & SK cross reference guides for years, and I've also used the old Raytheon REN and Motorola HEP guides as well. Sams has published transistor substitution books in the past, and I'd recommend getting your hands on one. There's a shareware tool for IBM PCs called SCRL (can't remember the exact name corresponding to the acronym @ the moment); I believe you can find it on the SimTel mirrors or on other ftp sites - look for a file named scrl50.zip. Sometimes, old manufacturers' databooks can be useful - for instance, the mid '60s Motorola databooks had a fairly complete listing of 1N & 2N parts (for that time), the minimum characteristics of each JEDEC part, & some Motorola recommended substitutes for a given part. Some databooks (such as Siliconix and old Sprague books) give good clues to devices which share a common fabrication process, and could be an alternate cross reference

source. You might also consider getting your hands on some Japanese transistor specification books, such as the ones MCM Electronics has sold periodically; such books may be the only way to get device ratings for a 2Sx part if you can't find it listed in the usual cross reference guides.

TGB

\\ The opinions expressed herein are my own. //

3668. Re: Schematic Draw Program Recommendations?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: Matt Reilly <mhr@iii.net>
Message-ID: <40u8cv$el@news.iii.net>
Source record: 111227

jackl@pinetree.microserve.com (WB3U) wrote:
>
>I've been using an illustrator program program to draw occasional
>schematics. It's extremely tedious and time consuming.
>
>Can you tell me where I can find the free software you mentioned?

I looked in the comp.lsi.cad faq (on the web and at rtfm.mit.edu)
and found

url: ftp://wuarchive.wustl.edu/systems/ibmpc/simtel/cad/pads*.zip

the archive was busy when I checked, but a LYCOS search for PADS and PCB
together should yield a hit or two...

matt (kb1vc)

3669. Drake TR7

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: Jim_pestell@mindlink.bc.ca
Message-ID: <40u9gs$kd0@fountain.mindlink.net>
Source record: 111228

I have a Drake tr7 and wish to put it on the new 17 and 12 meter
bands, some one heard that it is just a simple matter of cutting out 2
diods, any one know about this??

3670. Re: Drake TR7

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <40ucui$mrq@news.azstarnet.com>
Source record: 111229

Jim_pestell@mindlink.bc.ca (jim pestell) wrote:
>I have a Drake tr7 and wish to put it on the new 17 and 12 meter
>bands, some one heard that it is just a simple matter of cutting out 2
>diods, any one know about this??
>
It's even simplier than that. As I recall I did it by opening one circuit trace on the bottom
of the motherboard. Off hand, I don't remember which one, but I'll dig out the manual (it's in my storage room) when I get over my cold. If you don't get another answer, email me to jog
my memory, cuz this newsreader trashes things sometimes.

73, Wes -- n7ws@azstarnet.com
or wdstewart@ccgate.hac.com

3671. Drake TR7 help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: archive@flash.ATC.Olivetti.Com
Message-ID: <40vtrv$bc8@olivea.ATC.Olivetti.Com>
Source record: 111230
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I have the problem with the receiver part of the transceiver Drake TR7
serial number 6052. The audio reproduction is not clear compared with
the other trtx connected to the same antenna and tuned to the same signal.
I don't know if it is a fault of the my rtx , or the rtx produced at a certain
period, and if successive versions have eliminated the problem, and how.
Is anybody able to help me?

Tanks in advance

My e-mail address is: maurizio@caramba.ico.olivetti.com

3672. Re: Pcb & iron-on transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <808614707.AA03258@hamlink.mn.org>
Source record: 111231

AA>From: ai657@freenet.toronto.on.ca (Paul Egan)
AA>Newsgroups: rec.radio.amateur.homebrew
AA>Subject: PCB & Iron-on transfer?
AA>Organization: Toronto Free-Net Inc., Toronto, Ontario, Canada
AA>Reply-To: ai657@freenet.toronto.on.ca (Paul Egan)
AA>Message-ID: <DD3ou6.D6.0.queen@torfree.net>
AA>Date: Thu, 10 Aug 1995 15:10:53 GMT
AA>
AA>
AA>I have heard about this method but can't find the product.
AA>I believe that the material is run through a photocopier
AA>and then ironed to a copper clad board. Sounds like a quick
AA>way of getting to the etching stage, without having to use
AA>photo-sensitized boards and developer.
AA>Any help would be appreciated.
AA>Thanks.
AA>Paul VE3GFY
AA>
AA>
AA>---
AA> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
AA>(1:282/100.0)Hi Paul,
For what its worth I have tryed this product and was very disapointed.
Lots of trouble with traces comming up. Maybe I did something wrong, but
don't think so. It is available from Digi-Key in Thief River Falls MN.
I can get you the address if you need it.
Good luck.
72 Bob WB0POQ

Technology is OUT of control.....

3673. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: djch@rivers.dra.hmg.gb
Message-ID: <DJCH.95Aug17142140@tamar.dra.hmg.gb>
Source record: 111232

ARRL 1991 handbook has a nice counter front-end, with a MMIC amplifier before the divider. I'm using this, except I use two MAV-3 amps, as they were to hand. I get about 10-20 mV rms upto 550 MHz.

--David G8SQH

3674. Trouble with MRF141G - 300 watt amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: pff@bfs.uwm.edu
Message-ID: <pff.15.000D283B@bfs.uwm.edu>
Source record: 111233

I am having trouble with an amplifier I have built per motorola application note AR313. The trouble is the MOSFET conducts (drain to source) when no gate voltage is applied. This is not supposed to happen. This happens regardless of the configuration the gate is in. By this I mean the gate is not supposed to float or be left open at any time. I ground the gate and the devive still conducts! I have checked and rechecked the circuit and all components two dozen times. I have compleletly disassembled the amp and put it back together a piece at a time testing the circuit at each step of the process. It still conducts. The device is not completely turned on as it draws about 700ma. Several other strange things are occuring. When I turn the power off my amp meter still shows the device drawing about 5ma? Stranger yet is that this 5ma draw seems to change with respect to the amount of sunlight hitting the device? When shaded the current draw drops to around 2ma. This is a very simple design and should be easy to build. I have had nothing but trouble. The only thing I can think of is that I am going about testing and setting the idle current all wrong. Does the device need to have input and output loading on it when setting idle current? Or in any testing? Any help would be greatly appreciated.

3675. high-speed packet modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: frankyb@glo.be
Message-ID: <40vhhu$485@news.INbe.net>
Source record: 111234

Hello and thanks for reading my article

I'm a belgian Ham who's looking for drawings (shematics)
of high-speed (example: G3RUH) modems for packet usage.
Or an FTP-site where I can FTP the files of the drawings.

Thanks in advance
Frankyb@glo.be
ON1BP JO11RB

3676. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <40vmdd$97f@detroit.freenet.org>
Source record: 111235

I have been informed by a number of sources that the 11C90 is no
longer available. I have not seen any divide by 10 (or 100)
IC's available for some time, now. Check with some surplus
equipment dealers for used counter converters, such as
Tucker Electronics (ask for the test equipment catalog)
(they also have a general electronics,communications catalog).
--

3677. Re: Pcb & iron-on transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug17.163714.4246@ke4zv.atl.ga.us>
Source record: 111236

In article <808614707.AA03258@hamlink.mn.org> Bob.Liesenfeld@f100.n282.z1.fidonet.org (Bob Liesenfeld) writes:
> For what its worth I have tryed this product and was very disapointed.
>Lots of trouble with traces comming up. Maybe I did something wrong, but
>don't think so. It is available from Digi-Key in Thief River Falls MN.
>I can get you the address if you need it.

The copper has to be *clean*, I mean *really* clean, and the iron
has to be at the right temperature (cotton high, and use a cover
cloth and a lot of pressure).

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3678. RF TRANSISTORS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: mitchell@dtcs70.kodak.com
Message-ID: <40vt2k$njf@kodak.rdcs.Kodak.COM>
Source record: 111237

Where can I get RF transistors besides RF Parts. They seem a little pricy?
73

```
-----------------
| ___ ________ | Bradley S. Mitchell Senior Project Development Engineer
| | / / | | Eastman Kodak Company
| | / / | | KEMD Electronic Products
| |< < K O D A K| | Circuit Board Assembly Dept. 606 Test Engineering
| | \ \ | | 901 Elmgrove Road Rochester, N.Y. 14653-5211
| |__\ \________| | (716) 726-5775, FAX (716) 726-7109
| | INTERNET: bmitchel@kodak.com
----------------- Amateur Radio Callsign WB8YGG
```

3679. Re: PCB & Iron-on transfer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DDGp1B.75t@sunsrvr6.cci.com>
Source record: 111238

In article <NEWTNews.808499703.24431.jwicklun@mycroftxxx.halcyon.com>,
Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
>
>I haven't had much luck with it either. I seem to end up with
>uneven density of toner on the traces and other copper areas. I've
>tried it both with my HP laserjet, and with a standard office
>copier. The other problem that I had was patches (both small and
>large) that didn't attach to the copper clad when I transferred the
>pattern. I sure would like to see an easy way to get the resist
>pattern onto the board.
>
>Jay (KI7RH)

We got a laser printer for home use a year or two ago. I got "demo"
pages from several brands at the local computer stores, took them home,
and tried ironing them to a PC board.

There was a wide variation in how well the toner sticks. The cheaper
Brother laserprinter was best.

73...Jim N2VNO

3680. Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: au@ix.netcom.com
Message-ID: <4105og$ev3@ixnews4.ix.netcom.com>
Source record: 111239

I looking for old plans for a spark gap transmitter. If you have any
I'd be happy to pay for copying them.

PLEASE no flames! I know that they are illegal to use. This is for a
science project and will not be used on amateur or commerical bands.

George N7BUI

3681. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: bacca_roberto@bah.com
Message-ID: <AC58516096682DAC5@128.229.243.2>
Source record: 111240

In article <808255764.23046@pinetree.microserve.com>,
jackl@pinetree.microserve.com (WB3U) wrote:

> mzenier@netcom.com (Mark Zenier) wrote:
>
>>Anything posted to some groups gets transfered though channels that
>>charge by volume.
> <snip>
>>These recipients have no option. They get no preview of the traffic.
>>They end up paying, whether the posting is useful to them or not.
>
>Now that's a valid reason. Of course, it leads to the question of how
>to distribute a useful binary. I'm lucky enough to have a personal
>anon FTP area available through my service provider, but that's not
>always the case. Also, e-mail can be a real pain if too many folks
>want a copy. Any suggestions for a work-around, other than starting a
>new group?
>
>73,
>
>Jack WB3U

With the quantity of knowledge and the buying power of this group, we should send a letter to a company like Motorola, Radio Shack MCM electronics etc., and ask them if they would found a web server to store, post, schematics, they could also advertise their parts, new products etc. after all they already have an Internet connection (I�m assuming) they would only need a server. Any Ideas

bacca_roberto@bah.com

3682. Re: Pin Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DDH171.7vK@nsc.nsc.com>
Source record: 111241

Really, you can only tell by part number. It is unlikely that any but the most recent receivers would have PIN diodes. They are a bit more expensive.

3683. Re: Pin Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: Garry Foster <gmfoster@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950817164431.13991B-100000@mango.epix.net>
Source record: 111242

On 16 Aug 1995, Richard Karlquist wrote:

:> In article <40t9ir$l3t@earth.alpha.net>,
:> Terry Hubbard <thubbard@earth.execpc.com> wrote:
:> >Is it possible to distinguish a pin diode from any other switching
:type diode > >found on a hf receiver board? Any ifno appreciated.
:>
:>
:> You can unsolder it and connect it to a signal generator and excite
:> it at 10 MHz. A regular diode (assuming it's not a power rectifier
:> type) should have little trouble recovering in the 50 nSec. available.
:> A PIN diode will have a very long recovery time and be unable to
:> rectify the 10 MHz. Compare to a known reference like a 1N4148
:> switching diode.
:>
:> Rick Karlquist N6RK
:> rkarlqu@scd.hp.com
">
:>
:>

Could you post a little more information on this. Do we need to load it with a resistor? Can we just hook it up to a multimeter and see if the RF is detected and varries as we move the signal gen level up and down? It sounds too easy....We all want to make it diffucult.

Garry
wb0nno

3684. Re: Pcb & iron-on transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: Garry Foster <gmfoster@grape.epix.net>
Message-ID: <Pine.SUN.3.91.950817165224.13991C-100000@mango.epix.net>
Source record: 111243

There is a very complete article on this in this months issue of "Nuts and Volts". The author is sold on it but has went to some expense in setting up. There have been some good discussions on this is sci.electronics over the past few months. Many swear by it and some swear at it. I have no experance but from what I have read would give it a try if I had a laser printer.

Garry

PS
I've found many reluctent to allow anyon eto stick strange stuff in thier printers/copiers.

3685. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <410dd4$rej@grape.epix.net>
Source record: 111244

au@ix.netcom.com (Einstein) wrote:
:I looking for old plans for a spark gap transmitter. If you have any
:I'd be happy to pay for copying them.
:
:PLEASE no flames! I know that they are illegal to use. This is for a
:science project and will not be used on amateur or commerical bands.
:
:>George N7BUI
:
Just exactly what bands are left?<G> Military/ avation/
And isn't one reason they are illegal is that they cover a large piece of
spectrum..

3686. Re: Pin Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: Grant Youngman <us007699@interramp.com>
Message-ID: <410bbn$ebp@usenet1.interramp.com>
Source record: 111245

thubbard@earth.execpc.com (Terry Hubbard) wrote:
>Is it possible to distinguish a pin diode from any other switching type diode
>found on a hf receiver board? Any ifno appreciated.
>

Not visually, I'm afraid. Check the schematic and match part nos.

Grant/NQ5T

3687. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <410efh$9ln@news.azstarnet.com>
Source record: 111246

au@ix.netcom.com (Einstein) wrote:
>I looking for old plans for a spark gap transmitter. If you have any
>I'd be happy to pay for copying them.
>
>PLEASE no flames! I know that they are illegal to use. This is for a
>science project and will not be used on amateur or commerical bands.
>
>George N7BUI
>
If you are aware of the illegality of their use, why do you still want to build one.
These were outlawed many years ago for good reason. The reasons are even "gooder" today.

Please consider the unintended consquences of using one of these and find another project.

Maybe you could explain "your" theory. <g>

Sincerely, Wes -- N7WS

3688. Re: Pin Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: bens@mdhost.cse.tek.com
Message-ID: <410g3s$769@tekadm1.cse.tek.com>
Source record: 111247

In article <40t9ir$l3t@earth.alpha.net>, thubbard@earth.execpc.com (Terry Hubbard) writes:
|> Is it possible to distinguish a pin diode from any other switching type diode
|> found on a hf receiver board? Any ifno appreciated.
|

My experience was PIN diodes have about 1 volt forward drop, while regular
silicon signal diodes have 0.6 volt, while Germanium and Schottky Diodes
have about 0.3 volt.

Regards,

Benjamin Sam
KC7FGP
>

3689. Re: August QST Rock Bender Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: mtracy@mgate.arrl.org
Message-ID: <40vcua$h7e@mgate.arrl.org>
Source record: 111248

Brian Wagner (bpwagner@chattanooga.net) wrote:
: I am trying to build this thing and I cannot get hold of Y1 (a 7Mhz
: crystal supposily sold by Ocean State Electronics). The phone number in
: QST is wrong. Also where do you get a Mini-Circuits SBL-1 Mixer? Any
: help would be greatly appreciated.

Brian,
The phone number in QST is off by one digit - the area code should
be 401, rather than 400 (ie., 401-596-3080).

Note to folks trying to reach Ocean State - their 800 number is no longer in
service. Also note that they are swamped with orders whenever their number
is published, so if you can't get through (busy or no answer), keep trying.

73 de Michael, KC1SX, ARRL Technical Information Services

3690. Re: Calibration of Freq.Counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <40vlvu$7ag@detroit.freenet.org>
Source record: 111249

One other method that works well is to build a simple 10 Mhz
oscillator with a buffer stage. Use a T coax adaptor on the
output to drive a piece of wire for the WWV rcvr, and a direct
connection to the counter. Zero beat the oscillator, easier
brecause of the stronger signal, and adjust the counter when
audio beat is no longer flucuating (watch S-Meter on rcvr.)
This method will allow you to input a signal directly to the
counter on any range input, and adjust even the divide by
256 prescalers (3.90425 Mhz crystals).
--

3691. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: jherman@hawaii.edu
Message-ID: <DDH0tE.1wz@news.hawaii.edu>
Source record: 111250

Garry Foster <gmfoster@epix.net> writes:
>au@ix.netcom.com (Einstein) wrote:

>:I looking for old plans for a spark gap transmitter. If you have any
>:I'd be happy to pay for copying them.
>:PLEASE no flames! I know that they are illegal to use. This is for a
>:science project and will not be used on amateur or commerical bands.
>:>George N7BUI

>Just exactly what bands are left?<G> Military/ avation/
>And isn't one reason they are illegal is that they cover a large piece of
>spectrum..

If it's a low wattage unit and not connected to an antenna then it's
not illegal to operate. Various vintage radio groups will fire up
their sparkers occassionally to make recordings to send to members and
such. The California Wireless Society made such tapes `off-the-air'.

George: The best place to start would be to check a college library.
Here at UH we have a wealth of info about the history of radio,
with many books written by the famous pioneers themselves.

Jeff NH6IL

3692. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: donrm@sr.hp.com
Message-ID: <410852$3mn@canyon.sr.hp.com>
Source record: 111251

Gary Davis (gdavis@gladstone.uoregon.edu) wrote:
> My frequency counter tops out at 30Mhz. I would like to build a

Try the Motorola MC12080; a 1.1GHz prescaler that will divide by
10,20,40 or 80. Runs off 5 volts, consumes 3.7 mA, in a 8 pin
plastic DIP or SOIC. Operating window looks like it might make it
down to 2 meters.

Don Montgomery, K6LTS
donrm@sr.hp.com

3693. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istDDH2oF.HCK@netcom.com>
Source record: 111252

In article <4105og$ev3@ixnews4.ix.netcom.com> au@ix.netcom.com (Einstein) writes:
-I looking for old plans for a spark gap transmitter.
-PLEASE no flames! I know that they are illegal to use. This is for a
-science project and will not be used on amateur or commerical bands.

?! It sure will be on the amateur and commercial bands, all at once!
We had someone demoing a spark-gap transmitter at the Hoss Traders flea
a few years back. Ruined quite a few sales before they announced it on
the PA. All HF rigs were braaping the same CW message, no matter where
they were tuned :-)

/mike
--
\|/ Michael L. Ardai N1IST Teradyne ATB, Boston MA
-*- ---
/|\ ardai@maven.dnet.teradyne.com n1ist@netcom.com

3694. Re: Phone Line Status Indicat

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: bcdlr@aol.com
Message-ID: <410bnc$k7a@newsbf02.news.aol.com>
Source record: 111253

I have a several schematics laying around to do this. If you want one, email me, and we can talk about which one you would like. Just bought several volumes of the encyclopedia of electronic circuits, by Graf. There are several in there.....
Dan Reynolds, bcdlr@aol.com, KB9JLO
Dan Reynolds, bcdlr@aol.com, KB9JLO

3695. Longwave Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-17 00:00:00 UTC
From: ka7oei@uugate.wa7slg.ampr.ORG
Message-ID: <2545@uugate.wa7slg.ampr.org>
Source record: 111254

Having operated a "LowFER" station for several years, I might make a comment or two on 'interpretations' of the part 15 rules.

The rules actually limit the antenna length to 50 feet (I can't recall if it's given in feet, or as a metric length, but that's close enough...)

The was this is interpreted by most LowFERs is a 35 foot mast, with a 15 foot radius tophat, or something along those lines.

With the "typical good" Lowfer transmitter station, the radiated power (with 1 watt "input to the PA" (which can translate to about 960 milliwatts or so with a WB7CAK-type transmitter...) will likely be in the 1 milliwatt region, although 'CAK *did* acheive an efficiency of approximately 1% - but after doing things like having a heavier-guage Litz-wire lo
ading coil, auto-antenna tuner, etc.)

Officially, the FCC "frowns" on using amateur calls on non-amateur frequencies, but I don't think that it is necessarily illega
l. Use of them in leiu of the
appropriate call for that frequency/service would be illegal, of course. Many LowFERs use some portion of their ham call as th
eir LowFER call (i.e. 9HDQ, or
8LXJ) such that one could logically determine the operator.

As for receiving LowFER stations, I have just used my Drake TR-7 along with both an Active whip, and a loaded random-wire (an HF-antenna with a TV-horizontal oscillator coil in series, tuned for resonance) and from a previous QTH (Flagstaff, AZ) I have heard a number of California LowFERs, as well as 9HDQ and 8LXJ in Indiana and Ohio, respectively. I could reliably hear the better-equipped California LowFERs almost any night the static wasn't too terrible...

<Clint>

ka7oei@uugate.wa7slg.ampr.org
turner@vsat.ussc.com

3696. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <413990$e34@solaris.cc.vt.edu>
Source record: 111122

In article <4105og$ev3@ixnews4.ix.netcom.com>,
au@ix.netcom.com (Einstein) wrote:
>I looking for old plans for a spark gap transmitter. If you have any
>I'd be happy to pay for copying them.
>
>PLEASE no flames! I know that they are illegal to use. This is for a
>science project and will not be used on amateur or commerical bands.
>
>George N7BUI
>
and then the readers of rec.radio.amateur.homebrew (with a few exceptions) responded with a barrage of flames. On first glance, three things about the post suggest it is worthy of flaming:

* Use of a handle ("Einstein") rather than a real name. However, on closer inspection, a real (first) name and ham callsign are given. N7BUI has been issued to an Oregon resident named George. It is of course hard to prove that he is the actual writer of the post.

* Explanation that the intention was a "science project". Many times this is used to conceal actual intentions. However, I would consider a spark gap transmitter (unlike a "K3Wl BoMb") an interesting piece of scientific history that would make a good science project. Many sets of plans for the various types of spark gap transmitters are likely to be old and of historical interest as well.

* "I know they are illegal to use," but... Come on guys, it is obvious they are illegal to use. It would most likely only be used for a brief short-range (limited power, no antenna) demonstration, if at all. If one is even built. A study of the various designs and an interpretive presentation of the advances in this technology would be a credible science project, without actually building a working transmitter. If he wanted a practical radio transmitter or jamming device, one using more modern technology would be much more suitable.

Since I'm not familiar with spark transmitter technology (although I'm now at least a little informed after reading Tom's and some of the other responses), I can't directly answer George's request. But I did want to comment on the knee-jerk negative reactions I saw from many.

-Mike KD4QDM

3697. Re: Can Schems/Diags be Posted here? *.uue??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: gay@sfu.ca
Message-ID: <4132e1$9u5@seymour.sfu.ca>
Source record: 111123

In article <AC58516096682DAC5@128.229.243.2>,
bacca_roberto@bah.com (Roberto Bacca) wrote:
>In article <808255764.23046@pinetree.microserve.com>,
>jackl@pinetree.microserve.com (WB3U) wrote:
>With the quantity of knowledge and the buying power of this group, we
>should send a letter to a company like Motorola, Radio Shack MCM
>electronics etc., and ask them if they would found a web server to
store,
>post, schematics, they could also advertise their parts, new products
etc.
>after all they already have an Internet connection (I m assuming) they
>would only need a server. Any Ideas

Motorola already have such a site. Try http://www.mot.com. If you browse through the links, you can find some useful stuff, e.g. at http://motserv.indirect.com/cgi-bin/dlsrch there is a form which allows you to retrieve data sheets by part number. (Not complete yet, but lots of stuff) As a test, I just downloaded the data for MRF174. It's essentially identical to what's in the RF Device Data handbook - specs, graphs, Smith charts, the lot. (But a bit slower than flipping open the book, if you have one :-)

3698. Re: Power Good line on PC P/S

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: ponion@wally.srd.bt.co.uk
Message-ID: <412149$n29@pheidippides.axion.bt.co.uk>
Source record: 111124

Jim Strohm (jstrohm@blazer) wrote:
: Hi

: I want to use a surplus PC power suppply to power some non-RF ham goodies.
: What signal does the Power Good line need to see to turn on the power supply?

: Does anybody have a simple schematic to provide this signal?

: TIA
: Jim N6OTQ

Just something to watch for....

I had a friend who ran a 145MHz rig from an Ex-computer PSU. Due to the rather poor filtering of the output of the switch-mode PSU, he came out every 20Khz or so over the whole of 144 to 145Mhz (and probably more either side of the band).

This was about 10 years ago, so PC-PSUs may be better these days!

Peter Onion
G0DZB
ponion@srd.bt.co.uk

3699. Re: TNC plans needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: greg@core.rose.hp.com
Message-ID: <DDJ41M.9H7@icon.rose.hp.com>
Source record: 111125

(moritz@ipers1.e-technik.uni-stuttgart.de) wrote:
: begin 644 btnc.gif
: M1TE&.#=AZ`/N`K,``/___P``````_^#@__\```#_`/___P```/___P``````
: M_^#@__\```#_`/___P```"P`````Z`/N`@`$_Q#(2:N]..O-N_]@*(YD:9YH

Neat schematic... Where does one get the TCM3105 chip? Software?

Greg KO6TH

3700. Re: Trouble with MRF141G - 300 watt amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DDJ3tt.Lu5@nsc.nsc.com>
Source record: 111126

Sounds like the gate has somehow been shorted to the drain. The device has thousands of gates (and transistors) in parallel and if a few of the gates get shorted to the drain due to ESD, the condition you see will exist. You could (carefully) check with an ohmmeter between gate to drain or source and if there is any resistance value less than infinite, you may have killed the part. Despite the fact it is a 'power transistor', MOSFETS are ESD sensitive and can be all too easily damaged.
If you cannot measure any reisistance less than infinity on the highest range, try a putting a few (<5) volts negative on the gate and see if the current will diminish. It's very rare but sometimes a contamination can shift the threshold down.
I think the device is woulded. Sorry.
73, Al

3701. Re: Phone Line Status Indicat

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: butch@apollo.wes.army.mil
Message-ID: <412a3b$23a@prop.wes.army.mil>
Source record: 111127

In article <410bnc$k7a@newsbf02.news.aol.com>, bcdlr@aol.com (BCdlr) says:
>
>Marlin P. Jones & Assoc. Inc, has a few little kits that would be fun
30-40 min projects for phone line monitor. address is POBox 12685
Lake Park FL 33403-0685
phone 407-848-8263 for catalog. Lots of odds-n-ends, peices-n-parts.

Butch

3702. Re: RF TRANSISTORS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: fas@exu.ericsson.se
Message-ID: <412evj$kli@cnn.exu.ericsson.se>
Source record: 111128

Try Richardson Elelc. Ltd @ (800) RF POWER (in USA)
or http://www.rell.com Good Luck

_____
Frank Scaraglino scaraglino@egertp.ericsson.se KA2FWC

3703. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4133dd$3rl@news.azstarnet.com>
Source record: 111129

Grant H Youngman <us007699@interramp.com> wrote:
>Wes Stewart <N7WS@azstarnet.com> wrote:
>>au@ix.netcom.com (Einstein) wrote:
[snip]

>GOOD GRIEF GUYS!!! Is everyone on USenet a JERK??

No, just some of you:)

> If you don't have the
>plans he has been asking for then just shut up, hit the frigging delete
>key and move on to the next message.
>
>This is totally uncalled for, boorish, and JUST PLAIN RUDE.

In your not so humble redundant opinion. (Are you a lawyer BTW?)

Perhaps this medium isn't the best way to offer what was intended to be constructive advice.
The point most of us (I think) were trying to make is that careless operation of this thing could be a problem. I obviously don't know George and HE certainly hasn't given me reason to
be insulting. If you read this group often, you will note many questions which are coming from
inexperienced individuals (not I said inexperienced, not stupid) who are attempting to do something inappropriate. Perhaps it's my "Elmer" nature of wanting to help, getting me in trouble with you. Frankly, it doesn't matter.

I really doubt that the intention was to use four foot diameter coils and operate in a Faraday
cage. When the man says "I know it's illegal but... I want to do it anyway", what does it say
to you? I was and am trying to dissuade George from radiating a signal with this device.

SK

3704. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DDItI9.BAA@hpcvsnz.cv.hp.com>
Source record: 111130

Einstein (au@ix.netcom.com) wrote:
: I looking for old plans for a spark gap transmitter. If you have any
: I'd be happy to pay for copying them.

: PLEASE no flames! I know that they are illegal to use. This is for a
: science project and will not be used on amateur or commerical bands.

: George N7BUI

George then got soundly flamed for even suggesting building such a horrid thing. It seems to me from the responses I've seen that more people _should_ build spark transmitters, so that others could gain a better understanding of just how they work. A good spark transmitter is NOT just an EMP generator that puts out seeminly unlimited power on all frequencies at once. Spark transmitters were generally used on low frequencies, where a tank with a loaded Q approaching 100 could be rather narrow-band. The spark itself does not generate the transmitted energy: the spark is a switch that completes the tank circuit in a very low impedance way. If you couple to that tank with additional filtering (multiple coupled tuned circuits), the result can reasonably be a signal with a very few percent bandwidth, or even less, and if you don't care about efficiency, it should be possible to generate signals that have a bandwidth not a whole lot worse than AM on the 75 meter band. To do that, expect to use BIG coils with very carefully designed shielding. (A helical resonator on 75 meters??!! You can apparently get an unloaded Q in excess of 5000 with a 4 foot diameter shield.)

There has been a series on spark transmitters in the British magazine "Electronics and Wireless World" recently. I haven't followed all the articles, but those that I saw were enlightening. Consider that spark transmitters that generated a significant fraction of a MEGAwatt were used to communicate on VLF between the South Pacific and Europe, and the bandwidth was in the kilohertz range.

3705. Re: A 1915 spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: jherman@hawaii.edu
Message-ID: <DDIyyy.AJI@news.hawaii.edu>
Source record: 111131

myers@West.Sun.COM (Dana Myers) writes:
><jherman@hawaii.edu> wrote:

>>If it's a low wattage unit and not connected to an antenna then it's
>>not illegal to operate. Various vintage radio groups will fire up
>>their sparkers occassionally to make recordings to send to members and
>>such. The California Wireless Society made such tapes `off-the-air'.

>Umm, Jeff, maybe you ought to have a look at 47 CFR Part 15 regarding
>permissible levels of unintended radiation before you make a
>blanket declaration of the legality of operating a spark gap
>transmitter. I'd guess all but the wimpiest SG transmitter
>violates some of the limits.

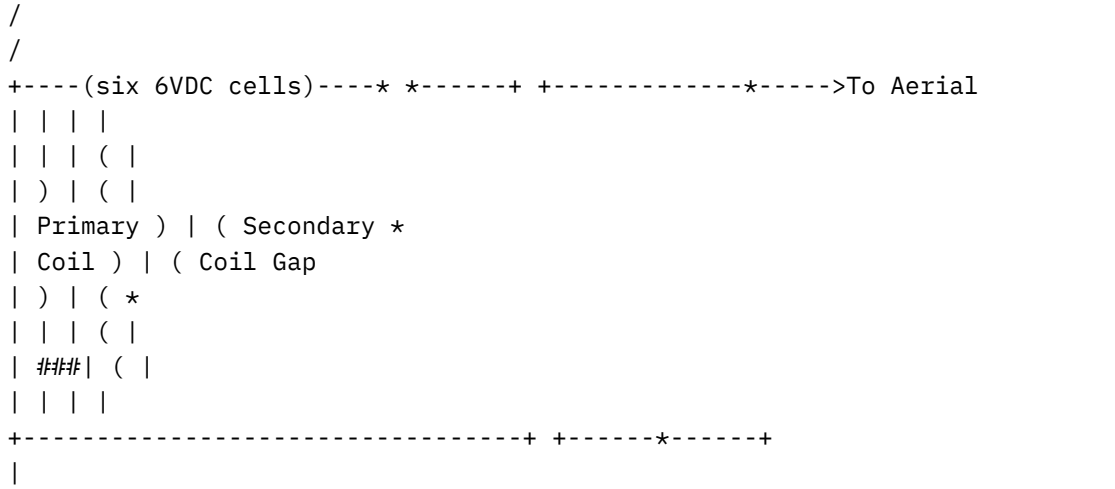
Umm, Dana, if we restrict the power lever to that required to fire
the spark plugs on your motorcycle, then we'll satisfy Part 15. (Have
you checked your bike for Part 15 compliance? ;)

My `blanket declaration' mentioned low wattage with no aerial. A
potentiometer in series with the primary coil will allow the operator
to find the minimal voltage needed to fire a spark across the
electrodes' gap, and we'll want to keep that gap very small. Field
measurements can then be taken to insure compliance with Part 15,
while increasing the voltage across the primary coil.

The previous poster made it sound *completely* illegal to operate
such an apparatus.

When are you going to get your distemper shot? |-O

From _The_Book_Of_Wireless_ by A. Frederick Collins (1915):



\ \ \ Earth Ground

The ### is an ``...interrupter - a device which makes and breaks the battery current several hundred times a minute.'' This is necessary to induce current flow in the secondary. Try using various relays with the battery voltage going through the Normally-Closed contacts. (His version actually used the primary's iron core as an electro-magnet to pull-in a piece of spring steel thus breaking the current to the primary, which then released the spring steel so that contact was once again made, and the cycle repeats. This would give a modulated signal whose audio frequency matched that of the interrupter's freq.

He gives details for a rather complex 1/2 kilowatt transmitter, also.

From the Regulations governing Radio Operators (in force at that time):

Paragraph 122 - Amateur First Grade. The applicant must have a sufficient knowledge of the adjustment and operation of the apparatus which he wishes to operate and of the regulations of the International Convention and Acts of Congress in so far as they relate to interference with other radio communication and impose certain duties on all grades of operators. The applicant must be able to transmit and receive in Continental Morse at a speed sufficient to enable him to recognize the distress calls or the official Keep-Out signals. A speed of at least five words per minute (five letters to the word) must be attained.
...amateur stations shall not use a wave length when transmitting which shall exceed 200 meters; or a transformer having an input exceeding one kilowatt...
...The written examination consists of seven question and to answer these you should know:
1. How to make a diagram of the transmitting and receiving apparatus.
2. How the transmitting apparatus is made and how it works.
3. How the receiving apparatus is made and how it works.
4. The International regulations for wireless communication and the United States wireless laws and regulations.
...

Jeff NH6IL

3706. 3cx800A7 tubes wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: Larry Wald <lwwald@convx1.lerc.nasa.gov>
Message-ID: <NEWTNews.808787434.25046.lwwald@mrwald>
Source record: 111132

Interested in picking up 2 of the subject tubes. E-mail me with your asking price and condition of the tubes. Thanks.

Larry, KE8GW

3707. Info on X band TWT???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Aug18.230234.346@nad.com>
Source record: 111133
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Hi,
I came across a Teledyne/MEC M5842-A TWT. Based on the WR90 output flange, it looks like it may be usable on 10Ghz. Anybody have any info on it, data sheet, or a contact to the mfr?

Thanks,
Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for mysel

3708. Re: RF TRANSISTORS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DDJ42G.M4v@nsc.nsc.com>
Source record: 111134

Several places. Richardson Electronics, Penstock, Allied Radio, Newark Electronics, etc.
They all use the same price lists and for small quantities they will all be about the same price.
Ham or electronic Flea markets or surplus dealers are another possibility but may not have what you want and may be more trouble than the money you save.
Unfortunately there are not many manufacturers and thus not much competition, especially in very small quantities.

3709. Need help modifying older handheld for 2M

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: Kendel McCarley <kendelm@stat.nursing.arizona.edu>
Message-ID: <Pine.SUN.3.90.950818183418.16104A-100000@stat.nursing.arizona.edu>
Source record: 111135

I picked up a box of older, crystal-controlled 150 MHz band FM transceivers that were headed for the trash can after the owner denuded them of antennaes. They will all operate on two channels and have seperate crystals for send and receive. The two models that I have several of seem to have remarkable similar circuitry (same Motorola parts, similar layout, etc.). Yes, they all seem to work for their current frequencies.

Changing the crystals seems rather trivial, but I don't know what I need to do to tune the rest of the radio for two meter use. I don't have any schematics for these radios. Does somebody have any pointers to schematics or (better yet) advice on how to use these on two meters. I've had my license for over a year and, being a poor grad student, would just love to finally get on the air for the cost of a little time.

The radios are: Regency UC102 and Fujitsu Ten Limited FTP15-292L

Thanks,

Kendel McCarley kendelm@ece.arizona.edu
KC7FRS http://www.nursing.arizona.edu/~kendelm

3710. Re: Pcb & iron-on transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: "Chris M. Bridges" <n4fan.vnet.net>
Message-ID: <411lnv$ob2@mindy.vnet.net>
Source record: 111136

I agree with Gary. But with practice it works ok.
I have also use standard transparency with pretty good results.
But it takes even more practice to use it.
Also the standard film heat tolerance is a lot closer.
You have to have iron at just the right temprature.
But it beats using film on smaller projects.

--

Chris M. Bridges
>>>>>N4FAN<<<<<<
n4fan@vnet.net

3711. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <410pb4$f0i@abyss.West.Sun.COM>
Source record: 111255

In article <DDH0tE.1wz@news.hawaii.edu>, <jherman@hawaii.edu> wrote:
>Garry Foster <gmfoster@epix.net> writes:
>>au@ix.netcom.com (Einstein) wrote:
>
>>:I looking for old plans for a spark gap transmitter. If you have any
>>:I'd be happy to pay for copying them.
>>:PLEASE no flames! I know that they are illegal to use. This is for a
>>:science project and will not be used on amateur or commerical bands.
>>:>George N7BUI
>
>>Just exactly what bands are left?<G> Military/ avation/
>>And isn't one reason they are illegal is that they cover a large piece of
>>spectrum..
>
>If it's a low wattage unit and not connected to an antenna then it's
>not illegal to operate. Various vintage radio groups will fire up
>their sparkers occassionally to make recordings to send to members and
>such. The California Wireless Society made such tapes `off-the-air'.

Umm, Jeff, maybe you ought to have a look at 47 CFR Part 15 regarding
permissible levels of unintended radiation before you make a
blanket declaration of the legality of operating a spark gap
transmitter. I'd guess all but the wimpiest SG transmitter
violates some of the limits.

Of course, you can operate anything you want in a Faraday cage...

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

3712. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: ranecurl@engin.umich.edu
Message-ID: <410sv3$t85@srvr1.engin.umich.edu>
Source record: 111256

In article <DDH0tE.1wz@news.hawaii.edu>, <jherman@hawaii.edu> wrote:
>Garry Foster <gmfoster@epix.net> writes:
>>au@ix.netcom.com (Einstein) wrote:
>
>>:I looking for old plans for a spark gap transmitter. If you have any
>>:I'd be happy to pay for copying them.
>>:PLEASE no flames! I know that they are illegal to use. This is for a
>>:science project and will not be used on amateur or commerical bands.
>>:>George N7BUI
>
>George: The best place to start would be to check a college library.
>Here at UH we have a wealth of info about the history of radio,
>with many books written by the famous pioneers themselves.
>
>Jeff NH6IL

One interesting reference is _Wireless Telegraphy and Telephony Simply Explained_ by Alfred P. Morgan (Norman W. Henley Publishing Co., 1915). It shows many circuit diagrams - with the components drawn as pictures - for both untuned and tuned spark transmitters, and also *spark telephony transmitters*. Antenna systems are shown in some detail. There are many photographs of the components (crystal and electrolytic detectors, close coupled helixes, complete station and portable (military) equipment...and photos of Jack Irwin and Fesenden. (The description of the operation of the "Audion" - which was used then only as a detector - is of course not entirely correct.)

Rane Curl N8REG

3713. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-1708952211070001@amber1.ultranet.com>
Source record: 111257

In article <40vmdd$97f@detroit.freenet.org>, rburgan@detroit.freenet.org (Roland B. Burgan) wrote:

> I have been informed by a number of sources that the 11C90 is no
> longer available. I have not seen any divide by 10 (or 100)
> IC's available for some time, now. Check with some surplus
> equipment dealers for used counter converters, such as
> Tucker Electronics (ask for the test equipment catalog)
> (they also have a general electronics,communications catalog).
> --

Motorola makes an ECL part called a universal hexadecimal counter (MC10H136P, $12.54 in single quanity according to a recent Newark catalog). As I understand it, this counter can be used as a programmable divider with the divisor having any desired value between 1 and 256, including 10. This is done by presetting the counter with a (binary equivalent) value of 256-(desired divisor), and then counting the carry output. Each time the counter rolls over, it resets to the preset value, and counts from there to 256. It would be easy to make a switchable divide by 10--divide by 100 counter by switching the preset between 246 and 156. This counter works up to 550 MHz if I remember the spec. correctly.

Good luck!

Jon

--
Jon Goguen

"Nothing worth knowing can be understood by the human mind."

3714. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <410u0p$qk6@usenet1.interramp.com>
Source record: 111258

Wes Stewart <N7WS@azstarnet.com> wrote:
>au@ix.netcom.com (Einstein) wrote:
>>I looking for old plans for a spark gap transmitter. If you have any
>>I'd be happy to pay for copying them.
>>
>>PLEASE no flames! I know that they are illegal to use. This is for a

>Please consider the unintended consquences of using one of these and find another project.
>
>Maybe you could explain "your" theory. <g>
>

>

GOOD GRIEF GUYS!!! Is everyone on USenet a JERK?? If you don't have the
plans he has been asking for then just shut up, hit the frigging delete
key and move on to the next message.

This is totally uncalled for, boorish, and JUST PLAIN RUDE.

Grant/NQ5T

3715. RCA BT-1

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: wayne@nexus.interealm.com
Message-ID: <4117ub$e02@nexus.interealm.com>
Source record: 111259

I am looking for some of the great RCA engineers or folks who used to work on the old BT-1 AM transmitters. I specifically am looking for a source of the inductor clips that were used on the inductors. They sort of slipped in and locked onto the inductor that was about 3/8". I build verticles and have a number of the inductors and am trying to locate those magic clips.

Wayne / wa2kec
wayne@nexus.interealm.com

3716. WTB: Eimac 8874

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: wayne@nexus.interealm.com
Message-ID: <41188c$e02@nexus.interealm.com>
Source record: 111260

Looking for a new Eimac 8874

wayne / wa2kec

3717. NEW HAM RADIO REMOTE CONTROL PRODUCT OFFERED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: Marshall Craw <mcraw@halcyon.com>
Message-ID: <Pine.ULT.3.91.950818221612.4145A-100000@coho.halcyon.com>
Source record: 111261
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I am pleased to announce a new product offered by Positive Time Systems called the RCS-I. This is a radio controller that connects to any VHF/UHF transceiver and can issue x-10 commands. (X-10 is a power line standard for controlling devices throughout a building. Sears, Radio Shack, and others offer these compatible units)
The unit also has an alarm input, a listen feature, a short voicmail box, and responds to all commands in a pleasant female voice. The system IDs with your recorded voice and call sign. This description doesn't do the product justice, so please check out the new homepage at :

http://www.halcyon.com/pos.time.sys/top

or you may email us with you address so that we can promptly send you our brochure and newsletter.

NOTE: This product is intended for US voltages of 120 / 220 VAC. Another version is offered to support other international power standards.

FLASH! NEW FEATURE! The RCS-I has a new feature called Secure Access Mode(SAM). When enabled, the access code changes dozens of times per hour, making it virtually impossible to hack into.

Thank You,

Marshall Craw <mcraw@halcyon.com>
Positive Time Systems
North Bend, WA

3718. Re: Drake TR7 help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug18.145511.8228@ke4zv.atl.ga.us>
Source record: 111262
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <40vtrv$bc8@olivea.ATC.Olivetti.Com> archive@flash.ATC.Olivetti.Com (DCG Mktg Docmnt (Ivrea)) writes:
>I have the problem with the receiver part of the transceiver Drake TR7
>serial number 6052. The audio reproduction is not clear compared with
>the other trtx connected to the same antenna and tuned to the same signal.
>I don't know if it is a fault of the my rtx , or the rtx produced at a certain
>period, and if successive versions have eliminated the problem, and how.
>Is anybody able to help me?

What do you mean, "is not clear"? Do you mean the frequency response is
not flat across the bandwidth of the filter in use, or do you mean that
the audio is distorted, or do you mean that the signal is weak and noisy,
etc? More information please. Detail the symptoms, and the conditions under
which they appear, and we'll try to help.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3719. New Web site for Amateur Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: csakkas@iglou.com
Message-ID: <DDIFxJ.L2D@iglou.com>
Source record: 111263
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

We've recently added an Amateur Radio page to our web site!

Our web address is:
http://www.iglou.com/ITU

and our anonymous ftp address is:
ftp://iglou.com/members/ITU

We also have some files on PC-interfacing and general electronics-related material available on our ftp site.

We would appreciate any comments and suggestions, especially additions or corrections to links on our page. Please keep in mind that we have just added this page and will continue to make updates!

Thanks!

Chris

Chris B. Sakkas (csakkas@iglou.com) http://www.iglou.com/ITU
ITU Technologies (ITUTec@aol.com) ftp://iglou.com/members/ITU
Complete PIC programming packages starting at only $29!
See our web page or e-mail us today for more info!

3720. Mail Failure - Apology

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: MUENZLERK@uthscsa.edu
Message-ID: <01HU81X7EAAA004FRS@uthscsa.edu>
Source record: 111264
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space

My apologies to the list(s). We had a system failure on our end.
It has been corrected.

Kevin, WB5RUE
muenzlerk@uthscsa.edu

3721. Re: Help! Need schematics for FM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <412v51$f11@news2.deltanet.com>
Source record: 111265
Cross-posted to: sci.electronics,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Try the one on ftp://ftp.ee.ualberta.ca/pub/cookbook/rf/. I can't
remember what the filename is, but they're only a few in that directory.
Other alternative is to buy one as advertised in the back of the
electronics magazines. Ramsey makes the FM-4, under $15.

John LaMartina (jlamar@yrkpa.kias.com) penned:
: Victor C. Limary (vcl@mickey.cc.utexas.edu) wrote:
: : Hi. I was wondering if anyone had schematics for a small FM transmitter.
: : I need to design a wireless FM microphone for a school project. It needs to
: : be capable to transmitting to at least 20 feet away, to an ordinary FM
: : receiver. E-mails would be appreciated, but I will check the newsgroups.

: : Victor Limary |The University of Texas at Austin
: . . . . . .
: Do you want to design it or build it. Seems that if we send you the
: schematics, there's not a lot left to design :)
: -= 73 =- john k3nxu jlamar@yrkpa.kias.com
--
#===#
John Lundgren - Elec Tech - Info Tech Svcs	jlundgre@delta1
Rancho Santiago Community College District	.deltanet.com or
17th St. at Bristol \ Santa Ana, CA 92706	@rancho.cc.ca.us
Standard Disclaimers Apply (Blah-Blah...)	
"He who toys with the most dies, wins."	Dr. Kevorkian?
#===========PGP=key=available=upon=request=========================#

3722. RE: Mail Failure

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: MUENZLERK@uthscsa.edu
Message-ID: <01HU7W53QW8I0040Q6@uthscsa.edu>
Source record: 111266
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space

My apologies to the list(s). We had a system failure on our end.
It has been corrected.

Kevin, WB5RUE
muenzlerk@uthscsa.edu

3723. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: bk296@FreeNet.Carleton.CA
Message-ID: <DDI809.CFE@freenet.carleton.ca>
Source record: 111267

I, for one, think that building a spark gap transmitter is a great idea.
After all, I have just rounded up the parts and designed a transmitter
using PP 10s to go with my 2-tube regenerative ham band receiver.

I shall scan my library and send this intrepid enthusiast whatever
I have. We builders, after all, must stick together!

Gordon Symonds
Newsletter Editor, Ottawa Vintage Radio Club
(and ham-to-be with my 1926 rig)

3724. Returned mail: Local configuration error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199508181332.IAA08543@ooz.backbone.uoknor.edu>
Source record: 111268

```
This is a MIME-encapsulated message

--IAA08543.808752779/ooz.backbone.uoknor.edu

The original message was received at Fri, 18 Aug 1995 08:32:57 -0500
from aardvark.ucs.uoknor.edu [129.15.10.11]

----- The following addresses had delivery problems -----
<arees@elect1.chem.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@elect1.chem.uoknor.edu>... Local configuration error

----- Original message follows -----

--IAA08543.808752779/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with ESMTP id IAA08536 for
<arees@elect1.chem.uoknor.edu>; Fri, 18 Aug 1995 08:32:57 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HU7NHPQJHC0011EE@aardvark.ucs.uoknor.edu>; Fri,
18 Aug 1995 08:35:35 -0500 (CDT)
Date: Fri, 18 Aug 1995 08:35:35 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #252
To: arees@elect1.chem.uoknor.edu
Message-id: <01HU7NHPSYAQ0011EE@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect1.chem.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HU7NHGQMLS0011E9@aardvark.ucs.uoknor.edu>; Fri,
18 Aug 1995 08:35:24 -0500 (CDT)
Received: by mail.ucsd.edu; id EAA14504 sendmail 8.6.12/UCSD-2.2-sun Fri,
18 Aug 1995 04:30:36 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id EAA14497 sendmail 8.6.12/UCSD-2.2-sun Fri,
18 Aug 1995 04:30:34 -0700 for ham-homebrew-ddist
Date: Fri, 18 Aug 1995 04:30:32 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
```

Subject: Ham-Homebrew Digest V95 #252
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199508181130.EAA14497@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Fri, 18 Aug 95 Volume 95 : Issue 252

Today's Topics:
(no subject)
A place to download schemtics/fun electronics projects
Divide by ten front end for frequency counter (3 msgs)
How to Space-Wind Coils?
Inductor coil
Modulating VCO's (2 msgs)
PCB & Iron-on transfer?
Pin Diodes
Trouble with MRF141G - 300 watt amp
Where can I find plans for a spark gap transmitter?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 16 Aug 1995 02:29:11 GMT
From: Ross Steinwedel <keebra@peg.apc.org>
Subject: (no subject)

Does anyone know any mods for an Icom 21a hand held
Please excuse our protocol as this is all very new to us!

Roy Lowe, teacher, Keebra Park High School, Gold Coast Australia

----

Date: Tue, 15 Aug 1995 20:07:52 -0600
From: bacca_roberto@bah.com (Roberto Bacca)
Subject: A place to download schemtics/fun electronics projects

Does anyone know of an FTP site wherei can download Schematics/Electoincs
projects.

If you do please E-Mail me at:

bacca_roberto@bah.com

Date: 16 Aug 1995 02:33:53 GMT
From: Gary Davis <gdavis@gladstone.uoregon.edu>
Subject: Divide by ten front end for frequency counter

My frequency counter tops out at 30Mhz. I would like to build a
divide by ten front end to increase the range to 300Mhz. Can anyone
refer me to a schematic that would serve this purpose? Any and all replies
will be most appreciated.

Regards,
Gary Davis

Date: 17 Aug 1995 13:21:40 GMT
From: djch@rivers.dra.hmg.gb (David Hutchinson)
Subject: Divide by ten front end for frequency counter

ARRL 1991 handbook has a nice counter front-end, with a MMIC amplifier before
the divider. I'm using this, except I use two MAV-3 amps, as they were to hand.
I get about 10-20 mV rms upto 550 MHz.

--David G8SQH

Date: 18 Aug 1995 03:06:08 GMT
From: acj@ultranet.com (Jon Goguen)
Subject: Divide by ten front end for frequency counter

In article <40vmdd$97f@detroit.freenet.org>, rburgan@detroit.freenet.org
(Roland B. Burgan) wrote:

> I have been informed by a number of sources that the 11C90 is no
> longer available. I have not seen any divide by 10 (or 100)
> IC's available for some time, now. Check with some surplus
> equipment dealers for used counter converters, such as
> Tucker Electronics (ask for the test equipment catalog)
> (they also have a general electronics,communications catalog).
> --

Motorola makes an ECL part called a universal hexadecimal counter
(MC10H136P, $12.54 in single quanity according to a recent Newark
catalog). As I understand it, this counter can be used as a programmable
divider with the divisor having any desired value between 1 and 256,
including 10. This is done by presetting the counter with a (binary
equivalent) value of 256-(desired divisor), and then counting the carry

output. Each time the counter rolls over, it resets to the preset value,
and counts from there to 256. It would be easy to make a switchable divide
by 10--divide by 100 counter by switching the preset between 246 and 156.
This counter works up to 550 MHz if I remember the spec. correctly.

Good luck!

Jon

--
Jon Goguen

"Nothing worth knowing can be understood by the human mind."

Date: Tue, 15 Aug 1995 16:59:52 GMT
From: jdc@cci.com (James D. Cronin)
Subject: How to Space-Wind Coils?

In article <808363044.19680@pinetree.microserve.com>,
WB3U <jackl@pinetree.microserve.com> wrote:
>The other day I was in a sporting goods store and noticed
>that monofilament line starts at a diameter of about 0.005" (2 lb
>test) and goes up in increments of about 0.002 or 0.003 from there.
>
>This is close to the size of many common wire gauges and I'm wondering
>if anyone has ever used fishing line to space-wind a coil? I know the
>diameter of different brands will vary, but is it reasonably
>consistent throughout the same spool? For my purpose, the exact
>spacing is less critical than the need for it to be consistent from
>one end of the finished coil to the other.
>
>Thanks & 73,
>
>Jack WB3U

How about winding on the threads of a bolt or machine screw? It works
great. Thanks to Ten-Tec for this tip, from their 6-meter transverter
kit instructions.

73...Jim N2VNO

Date: 16 Aug 1995 04:48:13 GMT
From: root@localhost.com (Phil Storm)
Subject: Inductor coil

Hey...I'm building this Radio and I chipped about 20% off of the
inductor coil that screws into this metal silver box. The RF signal quality
is pretty bad, and I'm associating it with the chipped coil. I've reordered
a new one, but it seems odd to me that it still works with the chipped coil.
should there be much improvement with the whole coil intact? I don't really

know much about how this thing works (all I know is that it tunes the freq.)
and I don't know what quality signal to expect. If someone could explain
this inductor coil for me...
thanks

Date: 16 Aug 1995 20:23:28 GMT
From: elendir@enst.fr (Elendir)
Subject: Modulating VCO's

Well -
I may be horribly wrong on this, but why not use an Armstrong FM modulator ?
I have a very fuzzy remembering of this type of modulator, but I faintly
remember that it involves a phase shifter and no PLL, other than the one
needed to generate the unmodulated carrier.
With this scheme, you avoid completly the lock up time.

Without any type of warranty !

Vincent, f5rcs

Date: 16 Aug 1995 22:05:47 GMT
From: myers@West.Sun.COM (Dana Myers)
Subject: Modulating VCO's

In article <40tk40$5ik@cismsun.univ-lyon1.fr>, Elendir <elendir@enst.fr> wrote:
>Well -
>I may be horribly wrong on this, but why not use an Armstrong FM modulator ?
>I have a very fuzzy remembering of this type of modulator, but I faintly
>remember that it involves a phase shifter and no PLL, other than the one
>needed to generate the unmodulated carrier.
>With this scheme, you avoid completly the lock up time.
>
>Without any type of warranty !
>
>Vincent, f5rcs

Any kind of phase modulation (versus frequency modulation) is
going to have inherent pre-emphasis and very poor low frequency
response. For sending baseband data (such as 9600 baud GMSK),
these are both disadvantages. For sending voice or audio
modulated data (such as 1200 baud Bell 202), this is fine.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

Date: Thu, 17 Aug 1995 15:43:59 GMT
From: jdc@cci.com (James D. Cronin)
Subject: PCB & Iron-on transfer?

In article <NEWTNews.808499703.24431.jwicklun@mycroftxxx.halcyon.com>,
Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
>
>I haven't had much luck with it either. I seem to end up with
>uneven density of toner on the traces and other copper areas. I've
>tried it both with my HP laserjet, and with a standard office
>copier. The other problem that I had was patches (both small and
>large) that didn't attach to the copper clad when I transferred the
>pattern. I sure would like to see an easy way to get the resist
>pattern onto the board.
>
>Jay (KI7RH)

We got a laser printer for home use a year or two ago. I got "demo"
pages from several brands at the local computer stores, took them home,
and tried ironing them to a PC board.

There was a wide variation in how well the toner sticks. The cheaper
Brother laserprinter was best.

73...Jim N2VNO

Date: 16 Aug 1995 20:04:40 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: Pin Diodes

In article <40t9ir$l3t@earth.alpha.net>,
Terry Hubbard <thubbard@earth.execpc.com> wrote:
>Is it possible to distinguish a pin diode from any other switching type diode
>found on a hf receiver board? Any ifno appreciated.

You can unsolder it and connect it to a signal generator and excite
it at 10 MHz. A regular diode (assuming it's not a power rectifier
type) should have little trouble recovering in the 50 nSec. available.
A PIN diode will have a very long recovery time and be unable to
rectify the 10 MHz. Compare to a known reference like a 1N4148
switching diode.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

Date: Thu, 17 Aug 1995 08:37:03 UNDEFINED
From: pff@bfs.uwm.edu (Paul Fischer)
Subject: Trouble with MRF141G - 300 watt amp

I am having trouble with an amplifier I have built per motorola application
note AR313. The trouble is the MOSFET conducts (drain to source) when no gate

voltage is applied. This is not supposed to happen. This happens regardless of the configuration the gate is in. By this I mean the gate is not supposed to float or be left open at any time. I ground the gate and the devive still conducts! I have checked and rechecked the circuit and all components two dozen times. I have compleletly disassembled the amp and put it back together a piece at a time testing the circuit at each step of the process. It still conducts. The device is not completely turned on as it draws about 700ma. Several other strange things are occuring. When I turn the power off my amp meter still shows the device drawing about 5ma? Stranger yet is that this 5ma draw seems to change with respect to the amount of sunlight hitting the device? When shaded the current draw drops to around 2ma. This is a very simple design and should be easy to build. I have had nothing but trouble. The only thing I can think of is that I am going about testing and setting the idle current all wrong. Does the device need to have input and output loading on it when setting idle current? Or in any testing? Any help would be greatly appreciated.

Date: 18 Aug 1995 02:30:49 GMT
From: Grant H Youngman <us007699@interramp.com>
Subject: Where can I find plans for a spark gap transmitter?

Wes Stewart <N7WS@azstarnet.com> wrote:
>au@ix.netcom.com (Einstein) wrote:
>>I looking for old plans for a spark gap transmitter. If you have any
>>I'd be happy to pay for copying them.
>>
>>PLEASE no flames! I know that they are illegal to use. This is for a

>Please consider the unintended consquences of using one of these and find another project.
>
>Maybe you could explain "your" theory. <g>
>

>

GOOD GRIEF GUYS!!! Is everyone on USenet a JERK?? If you don't have the plans he has been asking for then just shut up, hit the frigging delete key and move on to the next message.

This is totally uncalled for, boorish, and JUST PLAIN RUDE.

Grant/NQ5T

End of Ham-Homebrew Digest V95 #252
****

--IAA08543.808752779/ooz.backbone.uoknor.edu--

3725. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: jbaltz@konichiwa.cc.columbia.edu
Message-ID: <4125gn$983@apakabar.cc.columbia.edu>
Source record: 111269

In article <4105og$ev3@ixnews4.ix.netcom.com>,
Einstein <au@ix.netcom.com> wrote:
>I looking for old plans for a spark gap transmitter. If you have any
>I'd be happy to pay for copying them.

Years ago, when I had one of those Radio Shack 100-in-1-run-wires-to-springs electronics kits, one of the projects they had was a "spark gap generator", which they said you could test by "looking for interference on your TV" whenever you turned it on.

Try one of those.

>PLEASE no flames! I know that they are illegal to use. This is for a
>science project and will not be used on amateur or commerical bands.

It will be on *all* the bands, unless you are in a Faraday cage...

>George N7BUI

//jbaltz
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

3726. OScope for VHF/UHF VSWR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: Tim Deagan <tim@thinkagain.com>
Message-ID: <412ljl$kr4@tivoli.tivoli.com>
Source record: 111270

I just got my tech class ticket and am starting to put my
shack together. I don't have much radio gear (yet ;-)
but I do have a lot of electronics gear.

I have OScopes at 35MHz, 50MHz and 75MHz. I would love to put
these to use in my shack. Can someone point me at articles
that would help me in getting the most out of these for use in
HAM activity (I'm a digital guy, I've only used them for
monitoring trigger conditions, etc.)?

I would specifically like to put off purchasing a VSWR meter
for a little while (until my the cost of a new HT wears off :-)

Advice in mail or news is also appreciated!

73
--Tim, KC5QFG

--
,----, <> ReVTiM <> .----.
{ <> /-------------------\ KC5QFG /---------------------\ <> }
`--(tim@thinkagain.com http://www.fc.net/~tdeagan)--'
`---'

3727. An image rejection filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-18 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4131ub$d5n@cismsun.univ-lyon1.fr>
Source record: 111271

Hi again and again.

Having recently stumbled upon a 26,730 MHz XTAL, I have planned to build a simpleCB canal 19 RX (26,730 + 455 kHz = 27,185) - that's very handy over here for traffic infos.
Anyhow, I must build an input filter that allows 27,185 to pass freely while attenuating the image at 26,275 by at least 40 dB. I don't want a 9th order elliptic filter, obviously it's a fancy to build. What can I do (except buying a 27,185 XTAL ?)

Thx es 73 de ...
Vincent

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

3728. Re: Pin Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4145ld$n1m@newsbf02.news.aol.com>
Source record: 111137

>>Try building a half wave rectifier with it. A PIN diode won't
>>rectify very well.

>>N6RK

Add to that....at higher frequencies. They work fine at low frequencies and depending on doping they have about the same forward drop as a conventional rectifier at dc.

The best way to tell is to look up the number in a listing or contact the manufacturer. Any test would have to be exhaustive and involve testing at the operating frequency range of the diodes. Some PIN diodes work as PIN's at fairly low frequencies (like 1.8 or 3.5 MHz), but most do not behave like PIN diodes until mid HF, upper HF, or VHF is reached. The voltage drop is no way to tell, and neither is LF or any dc parameters.

73 Tom

3729. Re: A 1915 spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-19 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <413uqt$5lj@abyss.West.Sun.COM>
Source record: 111138

In article <DDIyyy.AJI@news.hawaii.edu>, Jeff NH6IL <jherman@hawaii.edu> wrote:
>myers@West.Sun.COM (Dana Myers) writes:
>><jherman@hawaii.edu> wrote:
>
>>>If it's a low wattage unit and not connected to an antenna then it's
>>>not illegal to operate. Various vintage radio groups will fire up
>>>their sparkers occassionally to make recordings to send to members and
>>>such. The California Wireless Society made such tapes `off-the-air'.
>
>>Umm, Jeff, maybe you ought to have a look at 47 CFR Part 15 regarding
>>permissible levels of unintended radiation before you make a
>>blanket declaration of the legality of operating a spark gap
>>transmitter. I'd guess all but the wimpiest SG transmitter
>>violates some of the limits.
>
>Umm, Dana, if we restrict the power lever to that required to fire
>the spark plugs on your motorcycle, then we'll satisfy Part 15. (Have
>you checked your bike for Part 15 compliance? ;)

Given that all three of my remaining motorcycles have resistor spark plugs (which lengthen the time the spark takes place and significantly reduces the RFI issue) and happen to contain the spark gaps inside very small chambers (especially small on the YSR50), they don't create much interference. I suspect they'll do just fine from a Part 15 perspective.

>My `blanket declaration' mentioned low wattage with no aerial. A
>potentiometer in series with the primary coil will allow the operator
>to find the minimal voltage needed to fire a spark across the
>electrodes' gap, and we'll want to keep that gap very small. Field
>measurements can then be taken to insure compliance with Part 15,
>while increasing the voltage across the primary coil.

That's not what you originally wrote, but I'm delighted to see that you can benefit from Internet participation and learn something ;-).

>The previous poster made it sound *completely* illegal to operate
>such an apparatus.
>
>When are you going to get your distemper shot? |-O

Oh, I don't know; my kids think I'm pretty nice, and my office mate sometimes accuses me of being a wuss (though I think he's projecting).

When are you going to spend some time learning radio theory and upgrade that embarrassing General class license? ;-) ;-) ;-)

I know, I still owe you a book publish in the 1980's; I'll hit Jun's and get the latest Solid State Design for you, though some of the parts in it are already obsolete, it will be better than a 1915 book....

;-)

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

3730. Re: TNC plans needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-19 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <4139oe$e34@solaris.cc.vt.edu>
Source record: 111139

In article <DDJ41M.9H7@icon.rose.hp.com>,
greg@core.rose.hp.com (Greg Dolkas) wrote:
> (moritz@ipers1.e-technik.uni-stuttgart.de) wrote:
>: begin 644 btnc.gif
>: M1TE&.#=AZ`/N`K,``/___P``````_^#@__\```#_`/___P```/___P``````
>: M_^#@__\```#_`/___P```"P`````Z`/N`@`$_Q#(2:N]..O-N_]@*(YD:9YH
>
>Neat schematic... Where does one get the TCM3105 chip? Software?
>
>Greg KO6TH

TCM3105's are still made, probably solely for the ham market. Newark, JDR, and Jameco would be good US places to check, as well as any full-line TI distributor. I don't think anyone other than Texas Instruments made them.

I didn't look at the schematic, make sure there is a provision for adjusting the bias level on Pin 7 as this is critical for good reception. Sometimes the design is cheapened by using 2 fixed resistors rather than a pot there and this may not work well with some 3105's.

As for software, download Baycom 1.5 from your choice of a large number of ftp archives. This is good entry-level end-user AX.25 terminal software. Various other software drivers for other applications are also available. The Baycom group also maintains a Web page at http://www.baycom.de.

-Mike KD4QDM

3731. Need B-Scan Scope Tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-19 00:00:00 UTC
From: aglass@ix.netcom.com
Message-ID: <413b7t$7mc@ixnews4.ix.netcom.com>
Source record: 111140

I am looking for a source for a B-Scan S159P1 Scope tube. It is 3" round and goes in an old O.A.R. direction finding unit. Any leads you could give me would be appreciated... 73 Andy WD4MYL

3732. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug19.143730.12189@ke4zv.atl.ga.us>
Source record: 111141

In article <410u0p$qk6@usenet1.interramp.com> Grant H Youngman <us007699@interramp.com>
writes:
>GOOD GRIEF GUYS!!! Is everyone on USenet a JERK?? If you don't have the
>plans he has been asking for then just shut up, hit the frigging delete
>key and move on to the next message.
>
>This is totally uncalled for, boorish, and JUST PLAIN RUDE.
>
>Grant/NQ5T

Yes, you are.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3733. Delcom Tranciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-19 00:00:00 UTC
From: bcase@micron.net
Message-ID: <4151q9$7f3@mis02.micron.net>
Source record: 111142

I have a Delcom 960Air Aviation Tranciever that need repaired. Does anyone know where I can find a schematic for this radio, or where to send it to have it repaired.

Thanks
Brian

Please email responses to bcase@micron.net

Brian bcase@micron.net

3734. Re: Pcb & iron-on transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-19 00:00:00 UTC
From: csakkas@iglou.com
Message-ID: <DDKHAL.KKG@iglou.com>
Source record: 111143

In article <Pine.SUN.3.91.950817165224.13991C-100000@mango.epix.net>,
Garry Foster <gmfoster@grape.epix.net> wrote:
>There is a very complete article on this in this months issue of "Nuts
>and Volts". The author is sold on it but has went to some expense in
>setting up. There have been some good discussions on this is
>sci.electronics over the past few months. Many swear by it and some swear
>at it. I have no experance but from what I have read would give it a try
>if I had a laser printer.
>
> Garry
>
>PS
>I've found many reluctent to allow anyon eto stick strange stuff in thier
>printers/copiers.

I've had _very_ good results using Techniks' Press-n-Peel Blue sheets. Some experimentation is required to find the appropriate ironing temperature, and you must allow the board to cool completely before removing the sheet. I've made many single and double sided prototypes this way with great results! I'm using a laserjet 4P printer, if that makes any difference.

Good luck,

Chris

Chris B. Sakkas (csakkas@iglou.com) http://www.iglou.com/ITU
ITU Technologies (ITUTec@aol.com) ftp://iglou.com/members/ITU
Complete PIC programming packages starting at only $29!
See our web page or e-mail us today for more info!

3735. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-19 00:00:00 UTC
From: Eliot Fenton <72633.3247@compuserve.com>
Message-ID: <415gsd$4l9@bud.shadow.net>
Source record: 111144

Motorola has a MECL divide by 10 with TTL outputs that's good to 550 MHz; MC12013. In addition, Newark, Hammond, etc. have enhanced 7216 series counter chips that provide period measurement, etc. It should not be too difficult to build a 3 GHz unit using a divide by four, xtal reference, "mar" front end and a handful of support chips.

3736. Re: Pin Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-19 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <413vc1$277@hpscit.sc.hp.com>
Source record: 111145

In article <Pine.SUN.3.91.950817164431.13991B-100000@mango.epix.net>,
Garry Foster <gmfoster@grape.epix.net> wrote:
>
>
>
>Could you post a little more information on this. Do we need to load it
>with a resistor? Can we just hook it up to a multimeter and see if the RF
>is detected and varries as we move the signal gen level up and down? It
>sounds too easy....We all want to make it diffucult.
>
> Garry
> wb0nno

Try building a half wave rectifier with it. A PIN diode won't
rectify very well.

N6RK

3737. World Record Attempt, High Power Rockets

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-19 00:00:00 UTC
From: UYFA59A@prodigy.com
Message-ID: <415t18$12ui@usenetz1.news.prodigy.com>
Source record: 111146

Help!

The Las Vegas chapter of Tripoli -- the national association of high power rocket enthusiasts -- is preparing to challange the world altitude record for high power rockets -- currently about 37,000 feet. We need help locating plans or a schematic for a tracking transmitter, antenna and receiver for the record attempt. Here's what we need:

The transmitter must be able to fit into a tube that is 1-1/2" in diameter and no longer than 12 inches. It must operate for a minimum of one hour on batteries and be as light as possible. The operating frequency is not important as long as it is in the amateur bands. We need a minimum range of about 15 miles line of sight. The body of the rocket is constructed from phenolic-impregnated Kraft paper overwrapped with fiberglass. An antenna can be glued to the outside of the rocket body -- perhaps copper foil tape or some similar method. Radiation pattern from the transmitter should be omnidirectional, because we have no idea as to the position in which the rocket will land.

The receiver can be just about anything that we can carry, as long as it is battery operated. The receiving antenna should be highly directional and hand held.

If you have any suggestions on how I can obtain or construct a transmitter/receiver combination that will accomplish this task, please e-mail me at

UYFA59A@ Prodigy.Com

If you have any interest in being a part of this, let me know also. The attempt will be made in about 6 months, most likely in the Black Rock Desert of northern Nevada -- about 80 miles NNE of Reno.

Thanks very much for your assistance.

Jim Cullen, KA7RAF
9456 Mast Drive
Las Vegas, NV 89117-0286
(702) 254-8815

3738. Re: How to Space-Wind Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-19 00:00:00 UTC
From: horowitz@nosc.mil
Message-ID: <1995Aug19.031228.21475@nosc.mil>
Source record: 111147
Cross-posted to: rec.radio.amateur.homebrew,rec.crafts.metalworking

jdc@cci.com (James D. Cronin) writes:

>>This is close to the size of many common wire gauges and I'm wondering
>>if anyone has ever used fishing line to space-wind a coil? I know the
>>diameter of different brands will vary, but is it reasonably
>>consistent throughout the same spool? For my purpose, the exact
>>spacing is less critical than the need for it to be consistent from
>>one end of the finished coil to the other.
>>Jack WB3U

>How about winding on the threads of a bolt or machine screw? It works
>great. Thanks to Ten-Tec for this tip, from their 6-meter transverter
>kit instructions.

Sounds good. What are the tolerances of garden-variety bolts, with respect
to threads-per-inch and linearity thereof?

3739. VCO noise, again - with a PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <41725m$h8t@cismsun.univ-lyon1.fr>
Source record: 111148

Hi everybody,
I'm back with that VCO noise problem.

This time, however, I'd like to know how much can a PLL with, let's say a reference of F Hz, reduce a VCO noise under F.
Does anybody have any clue ?
And then, is there a special way to design the loop filter in order to improve the noise figure while keeping all other parameters (lock time, sideband suppression) acceptable ?

Thanks,
Vince

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

3740. Ramsey LPA-1 amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: clinton.peebles@saloon.bcbbs.net
Message-ID: <9508200701273065@saloon.bcbbs.net>
Source record: 111149

Does anyone have the schematics for Ramsey's PA-1 2 meter amp? If so can I please have a copy? E-mail me and I'll e-mail my fax number if you wish, or my snail mail address, or if you have a scanner, e-mail me a GIF. My E-Mail address is clinton.peebles@saloon.bcbbs.net

Thanks. Clinton VE7KNL

3741. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <417g8e$1id@usenet1.interramp.com>
Source record: 111150

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>In article <410u0p$qk6@usenet1.interramp.com> Grant H Youngman <us007699@interramp.com>
writes:
>>GOOD GRIEF GUYS!!! Is everyone on USenet a JERK?? If you don't have the
>>plans he has been asking for then just shut up, hit the frigging delete
>>key and move on to the next message.
>>
>>This is totally uncalled for, boorish, and JUST PLAIN RUDE.
>>
>>Grant/NQ5T
>
>Yes, you are.
>
>

I'm just doing my gol' darndest to keep up with everyone else around
here..... It someone else can be rude, well, I'll show 'em -- I can be
as rude as the next guy.

Grant/NQ5T

Enough, already

3742. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <417fns$1id@usenet1.interramp.com>
Source record: 111151

Wes Stewart <N7WS@azstarnet.com> wrote:
>
>No, just some of you:)
>
>> If you don't have the
>>plans he has been asking for then just shut up, hit the frigging delete
>>key and move on to the next message.
>>
>>This is totally uncalled for, boorish, and JUST PLAIN RUDE.
>
>In your not so humble redundant opinion. (Are you a lawyer BTW?)
>

Actually, I DO read the groups quite often. My inflamatory response was directed at ALL of the "gee you sure are stupid for asking that kind of question" responses, not just the poor sole that finally drove me over the edge of inFLAMity :-) So it wasn't personal though I'm sure it seemed that way.

I see a fellow ask a perfectly innocent question, and the first 10 responses imply he needs a new science project. These responses all have the flavor of the parent chiding the uneducated child for being about to stick his finger in the flaming gas burner.

No one seems to make the presumption that the gentleman knows what he is doing, understands the law, and then proceeds to answer his question or at least enter in to an interesting discussion on building spark transmitters.

This kind of behaviour is common here on the newsgroups. But my original statement prevails -- it IS RUDE. And its unnecessary. One could certainly say the same thing about my post -- but, this was the third thread I had read today which consisted of the same kind of responses and I quite simply lost my cool. Which is no excuse, but some explanation.

I personally get tired of reading the stuff -- since it costs me money to access these newsgroups. The net has become overcrowded with folks who seem to take great delight in pointing out the flaws in what someone has said. Fortunately, one occasionally finds something of value amongst the chaff - and there have even been some posts on spark gap references.

Peace ....

Grant/NQ5T

3743. Re: A place to download schemtics/fun electronics projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <417jaihip1@mhafm.production.compuserve.com>
Source record: 111152

What format shcematic are you looking for? I have a slug of stuff I've done in Circad format. Course I can output ACAD, Tango, Protel, OrCAD and more with Circad. What do you want and in what format? <grin> Lots of my stuff is in the HAMNET area of Compuserve right now if you have access. Go to LIB 6 and search Circad or WB0VNE.
73

--
73, Jay WB0VNE - AAV5TH

3744. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <417jmmhip2@mhafm.production.compuserve.com>
Source record: 111153

There are people (like myself) that make a living selling electronic gadgets.
In my Article "Weekend DigiVFO" I included the full source code to the project.
However, depending on the project I think it is up to the author if he or she
wants to spill the beans totaly on a project. The buyers have to decide if
they want to buy something that way. If it's ment to be a learning article
complete (and understandable) details are important. If it's 2 part Microprocessor
Project that took 3 years to code then..... As long as money is involved you
have to expect some of that. This is America <grin> not a collective.
--
73, Jay WB0VNE - AAV5TH

3745. Re: Drake TR7

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <417k0rhip3@mhafm.production.compuserve.com>
Source record: 111154

I have one as well. If I remember right it's just one cut to open up the radio to full 1.8 to 30MHz. Now as to how to do it? I might have a print someplace. Give me a call on the phone (612) 492-3913 I have it somewhere. OH just call Drake they are still in Biz!

--

73, Jay WB0VNE - AAV5TH

3746. Who had problem with MRF141G?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <417r1e$jvq@newsbf02.news.aol.com>
Source record: 111155

Are you still here? I possibly have some hints that could be helpful.

Pat, KE1C

3747. Re: July QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: KF8QU@msn.com
Message-ID: <00001fee+000007e2@msn.com>
Source record: 111156

Got mine... but its now August 20, 1995 -- so hope you got yours too!

Bob

73 KF8QU

3748. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: poco@nervm.nerdc.ufl.edu
Message-ID: <poco-2008951602370001@ppp-25-ts1.nerdc.ufl.edu>
Source record: 111157

In article <417jmmhip2@mhafm.production.compuserve.com>, Jay Craswell <73016.27@CompuServe.COM> wrote:

> There are people (like myself) that make a living selling electronic gadgets.
> In my Article "Weekend DigiVFO" I included the full source code to the project.
> However, depending on the project I think it is up to the author if he or she
> wants to spill the beans totaly on a project. The buyers have to decide if
> they want to buy something that way. If it's ment to be a learning article
> complete (and understandable) details are important. If it's 2 part Microprocessor
> Project that took 3 years to code then..... As long as money is involved you
> have to expect some of that. This is America <grin> not a collective.
> --
> 73, Jay WB0VNE - AAV5TH

Agreed. Just don't feature it as a construction article which was clearly done (see the cover.)

Gary
KA9RAO

3749. Items forsale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: hamrlund@aol.com
Message-ID: <4189mo$on0@newsbf02.news.aol.com>
Source record: 111158

****
****
CONTACT: Robert Fowle.......Hamrlund@aol.com
Ph.517-789-6721.....
1215 Winifred....Jackson, Mich. 49202-1946
| |
---|---|---> the Hammarlund guy
| |
****
****
the following is a list of items for sale
All pricing includes shipping.....
REVISED: 8-4-95-PM
PARTS**********
Of course Hammarlund, if you need something let me know...to much to list,
NOT even Andrew wanted to take the list... : >)))

****** air variables

have the following for sale, capacity listed where known. most have no
boxes,
all are poly-bagged. will sell by the piece or trade all for Hammarlund
equipment, manuals, accessories, literature, ect.

If no price is listed...it is $10.00 each

qty.- part# - capacity (if known)
Hammarlund:

1/ 34604-5
1/ 34604-6
1/ 351-1059
1/ 4111-49
1/ 48A084
1/ 5003-C C1C
1/ 9404-18-00040
2/ 9411-72-50379
2/ 9411-72-60348
1/ 11727-77
1/ A8H501
1/ APC 25 3.0-25.
4/ ASP 100 G $13.00 ea
1/ APC 100 5.5-100 $13.00 ea
5/ APC 140 6.7-140 $13.00 ea
1/ B-253-124-2
1/ B-7485-440-2

1/ C 67380
3/ CT 1E040 5.0-40
1/ CT 1E075 6.0-75.
1/ CT 1F040 5.0-40.
1/ CT 3C040
1/ CT 14E042-M 5.0-42
1/ CT 14E042-J 3.0-10.
1/ CT 14F010-J 3.0-10.
1/ CT 14F042-J 5.0-42
1/ CT 1316047-J 5.5-47.
2/ ES 676693-5
2/ KS-13772
3/ KS-13998L1
1/ KS 18998L14
1/ MACBF-3 1.3-3.1 N.I.B.
1/ MAC-5 N.I.B.
1/ HF-15-X N.I.B.
1/ HF-50 N.I.B.
1/ MAC-20 2.0-21.5
2/ MABF-8 2.0-7.9
1/ MAPC-100 4.5-100. $13.00
1/ MCD-35 MX 6.0-31. $15.00
1/ MJ-50-5
1/ P-31800014
1/ P-7761345-15
1/ 34452-40
4/ 841690
1/ 7765659-1 $25.00

CARDWELL

2/ A-105623 25MuFD $18.00 ea
3/ ZU-100-AS 3.0-100. $15.00 ea

B&W

1/ CX-62-C : This is the cap used with the KW plug-in coils $75.00 new
no
box

BUD

1/ 1615 AIR GAP-300 75MMFD $65.00 new no box

EFJ

1/ ? DUAL SECTION 14 3/4" L x 5.50" W 1/8" spacing (approx. measurments)
$95.00
1/ 48c075 air gap .175 dual sec., 9.75" L x 4" W $65.00
1/ ? 5.75" L x 4" W single sec. 1/8 " spacing $55.00
1/ 4134MS4 edge wound 41 uh $75.00

******* BOOKS & MANUALS

********** HAMMARLUND MANUAL SALE
****

I have a limited number of new manuals i got when i purchased the
inventory
of
Wayne Cordell.....
These are unused originals. some may have a fade area on the cover from
storage before I got them, yet others look almost as they did 35+ years
ago.
these are new unused and in unread condition.

Here's whats available:

HQ-100.....$23.00 ea
HQ-145-A.....$23.00 ea
HXL ONE AMP.....$23.00 ea
HX 50.....$23.00 ea
HX-500.....$23.00 ea

Get them while they last. I have never made them available in such away
before. This is a unique oppertunity......
SUPPLIES ARE LIMITED.....FIRST COME FIRST SERVE.....

THE FOLLOWING WILL BE 'COPIES'. Prices are shipped.

HAMMARLUND
Comet Pro 2nd Edition 20.00
Comet Pro manual 3 AVCModel 20.00
Four 20 xmitter & four 11 modulator 20.00
RGB CHC 46140 / CHC 49154 (120X) 20.00
HQ-100 18.00
HQ-100A 18.00
HQ-105TR / TRS 18.00
HQ-110 18.00
HQ-110A 18.00
HQ-120X 18.

3750. Re: Pcb & iron-on transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: frbspd@crl.com
Message-ID: <418bvo$45m@crl14.crl.com>
Source record: 111159

I am not sure why everyone is stuck on the iron-on transfers. I have tried this with limited results. Instead, we just have the circuit board house we work with laminate the positive working film they use to a blank panel. Then in a dark room, I just cut off the size needed for a prototype. Just run your pattern on overhead film for the positive and expose the board with a UV rich light source (sun lamp). Develop in sodium carbonate (one cup per 15 gallons of H2O), rinse and then etch. This is far cheaper than what is charged for the film and produces much better and consistent results. Most areas have circuit board shops that will probably be willing to do this. It seems someone could really do the home shop market a service by just buying a laminator and supplying via mail order panels already to go. We are busy enough but a retired amateur could certainly augment his or her income in this manner.

Stephen Dunifer

3751. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-20 00:00:00 UTC
From: jphipps@aztec.asu.edu
Message-ID: <417m9d$7su@news.asu.edu>
Source record: 111160

Indeed, you DO deserve a reply. When a small tad (am now 67, I think....), I built my first spark gap transmitter using a Ford Model T spark coil with "plans", if you can call them than, from the Encyclopedia Britannica Jr.

It certainly put out a signal around OUR house and the neighbors, too. Got me interested in radio.

There should be any number of historical referrences that would contain instructions on how to build one - you've been instructed by others concerning the legality issues and I need not comment on them. Rotary spark gaps provided a higher "purity" signal than fixed gaps.

There shold be a wealth of info in rec.antiques.radio+phono. Followers of that group will provide you with any info you require, I'm sure.

John, K7BTA

3752. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <89631433wnr@ifwtech.demon.co.uk>
Source record: 111072

In article: <poco-2008951602370001@ppp-25-ts1.nerdc.ufl.edu> poco@nervm.nerdc.ufl.edu (Gary M.
Belcaster) writes:
:
: In article <417jmmhip2@mhafm.production.compuserve.com>, Jay Craswell
: <73016.27@CompuServe.COM> wrote:
:
: >[snip]
: > The buyers have to decide if
: > they want to buy something that way. If it's ment to be a learning article
: > complete (and understandable) details are important.
:
: Agreed. Just don't feature it as a construction article which was clearly
: done (see the cover.)
:

It depends what you want from the project. If you want an excellent keyer at a much lower price than a fully-assembled unit, it's a bargain. People who buy for this reason won't be interested in the internal coding, any more than they'd be interested in how a fully-assembled commercial unit works internally.

ARRL promoted the keyer in the above way, but also as a simple, reliable project for the beginning constructor. You might call it nothing more than "assembly", but for a raw beginner the techniques of stuffing a PC board, deciding where to locate the major components and drilling the necessary holes in the box are all something that's got to be learned. With very little help, a complete beginner can end up with the satisfaction of having built a top-class keyer (and that will incidentally help to develop an active interest in CW - a clever bit of promotion on ARRL's part.) As with the "users", this group will have relatively little interest in the detailed coding - their interest is primarily in a construction project.

The third group are the computer techies who are interested in how it's done. This is the only group that might protest about the lack of information. (It's also worth noting that this group may be over-represented here on the Internet, relative to the amateur population as a whole.)

Several thousand people have bought the kit and been delighted with it. Before buying one myself, I asked here and directly to US hams, and the response was unanimously enthusiastic. The keyer is just one example of a whole class of projects which use quite complex digital technology to do something very practical and easy-to-use. The vast

majority of users will be very happy to leave it at that, and grateful to whoever did the digital wizardry.

The particular feature of this keyer is that it was developed with strong input from world-class CW operators, DXers and contesters. Some quite subtle thought has gone into the provision of the needed features in a way that's easy to use - but I don't imagine that the coding itself is particularly subtle.

Remember that this keyer was NOT promoted as teaching anybody anything about programming. It was promoted directly to the users and constructors, and for them it has been a resounding success. If the article had been presented as a programming tutorial project, it would have been far higher-level than the actual article was. If you really want to know how the CMOS Super-Keyer is coded, read the specification and functional description in the manual that comes with the kit, and write a 'clean room' clone of your own.

I agree with Gary, that the people who developed the program are entitled to hang on to the source code. If you add up all the costs of purchasing the components, burning the chip, assembling the kit, printing the manual and handling the administration and mailing - not to mention the untold hours of development time - they're not making much profit out of your $45. By setting the security bit they are also protecting themselves against hassles due to other people selling rip-off copies and circulating well-meaning "improvements" that actually aren't.

Here's my challenge: is there anyone in this newsgroup who has actually *bought* the keyer and still begrudges the money?

There are also the practicalities of magazine publishing to consider. Every article has to compete for space with other articles, on grounds of interest and relevance. As a professional author and editor myself, I would have accepted the Super Keyer exactly as QST did, as a constructional article. If the same authors had also submitted a long and detailed article on how it was coded - and it *would* have been very long and detailed - as an editor I'd have thought very hard before accepting it, because it's only the end-product that is directly connected to amateur radio. Most of the techniques described would be equally applicable to programming the proverbial toaster, I'd probably have suggested the authors rewrite the article for a general-interest digital electronics magazine.

Some people may interpret the Super Keyer as a "dumbing down" of QST and amateur radio in general. Personally I think the editors are right to try and keep the focus of the magazine on *radio* techiques, and to devote all the page-space they can to that.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'

'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

3753. Re: VCO noise, again - with a PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: Eliot Fenton <72633.3247@compuserve.com>
Message-ID: <41a4f2$ue1@bud.shadow.net>
Source record: 111073

Vince.....
I came into your discussion late, however it appears you are asking about phase noise with regards to VCO's and loop filters. In a nutshell:

Phase noise is related to reference noise, vco noise, divider noise, VCC noise, etc.. The output noise of the VCO within the 3 db bandwidth of the loop filter is approximately (and I use that term "very loosely) equal to 20logN times the phase noise of the reference oscillator, where N is the division ratio. For example, if your reference oscillator is 1 MHz with a phase noise of -150 dBc at 10 KHz, and your 300 MHz VCO is phase locked to it, then your 300 MHz phase noise at 10 KHz offset would be 20log(300MHz/1MHz) + (-150 dBc) = -100.5 dBc. Essentially, the phase noise of the reference is "multiplied up" by the division ratio.

The Phase noise limit for CMOS dividers is approx. -150 dBc; for ECL approx. -130 dbc. This should give you an idea of the ultimate phase noise floor you will achieve with various components.

As far as your question regarding sideband suppression and noise, these are all tradeoffs which the designer has to contend with. When designing low noise units, it's customary to use different phase detectors for different applications. A sample and hold is good for low noise, but not for acquisition or switching speed. Conversely, the tri-state detector is good for speed and acquistion, but only mediocre as far as noise is concerned.

Obviously, there is a great deal of information that you will have to digest to understand the subject completely, certainly much more than I can explain here. I suggest starting with a book by Floyd Gardner, PLL techniques (I think that's the name, but don't quote me) which is a classic in the industry. Keep me posted on your progress.

Incidentally, my company specializes in VCO and synthesizer design, so if you run into any problems, one of our engineers is sure to have an answer, or at the very least steer you in the right direction.

Best Regards,

Eliot Fenton
ICS

3754. Re: Pcb & iron-on transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: ddonald@primenet.com
Message-ID: <ddonald-2108950954450001@ip160.msp.primenet.com>
Source record: 111074

I have found overhead transparencies and a copy machine work well. The toner is consistant and the lines are crisp. I could never get the paper method to work. Could not get the pressure proper. Be carefull with the transparencies though, they will melt to heated to hot.

Dave, WB7dru

3755. An image rejection filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: MUENZLERK@uthscsa.edu
Message-ID: <01HUBX2KKAW200534M@uthscsa.edu>
Source record: 111075

elendir@enst.fr (Elendir)

>Hi again and again.
>
>Having recently stumbled upon a 26,730 MHz XTAL, I have planned to build a
>simpleCB canal 19 RX (26,730 + 455 kHz = 27,185) - that's very handy over
>here for traffic infos.
>Anyhow, I must build an input filter that allows 27,185 to pass freely
while
>attenuating the image at 26,275 by at least 40 dB. I don't want a 9th
order
>elliptic filter, obviously it's a fancy to build. What can I do (except
buying
>a 27,185 XTAL ?)
>
>Thx es 73 de ...
>Vincent
>
>--
>F5RCS - Worldwide Friendship through Amateur Radio
>ENST, Ecole Nationale Superieure des Telecommunications, Paris

It would be much simpler to build one using the 27.185 crystal and use
the 26.730 for receive. You can cannibalize an old broadcast band receiver
for the 455kHz IF. Be careful if you bring it to the US, homebrew CB is
illegal here.

73,
Kevin, WB5RUE
muenzlerk@uthscsa.edu

3756. Re: An image rejection filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <41a7vg$jad@cismsun.univ-lyon1.fr>
Source record: 111076

Muenzler, Kevin (MUENZLERK@uthscsa.edu) wrote:

: It would be much simpler to build one using the 27.185 crystal and use
: the 26.730 for receive. You can cannibalize an old broadcast band receiver
: for the 455kHz IF. Be careful if you bring it to the US, homebrew CB is
: illegal here.

Well, I don't intend to use it as an emitter, just for RX. So I guess
that even American law does not prhibit channel 19 receivers !
Ok for buying a 27.185 MHz XTAL. I guess it's the only cheap and
reliable solution.

Vincent
--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

3757. Antennas on side of towers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: derekt@col.hp.com
Message-ID: <41aac8$go4@nonews.col.hp.com>
Source record: 111077

Can anyone point me to reference material (books or articals)
about how an antenna's radiation pattern is affected by the postion of
the antenna on the side of a tower. Since this is done all the time
in the commerical business I would think its well documented.
Thanks in advance

Derek Toeppen
WA0ZTI
derekt@col.hp.com

3758. Follow-up: Power Good line on PC PS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <41a96q$4me@unisql.unisql.com>
Source record: 111078

Hi all

Thanks for the help with the PC power supply. I followed the advice of the first responder, who suggested loading the supply to make it work.

I paralleled two 10-ohm, 2-watt resistors and plugged these into the 5-volt rail, and all was well. So if you can use a PC power supply for another project, This makes for a really simple go/no go tester.

Filtering the hash from the supply won't be necessary for my application, but should be trivial. And providing decent shielding for the power supply should be do-able with aluminum window screen.

When/if I have more updates I'll share them. By the way, junked power supplies are an excellent source of muffin fans, and some power supplies have usable high-voltage filter caps suitable for voltage multiplier HV supplies. The trick lies in getting the kitchen can opener to work on the supply case.

Jim N6OTQ
standard disclaimer

3759. Re: TNC plans needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: djwang@ginger.mmrrcc.upenn.edu
Message-ID: <41a33l$e8m@netnews.upenn.edu>
Source record: 111079

You can get TCM3105 at either Jameco Electronic or Active Electronic.

D.J., N2YKP

3760. Re: TNC plans needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: greg@core.rose.hp.com
Message-ID: <DDoLyz.1Dz@icon.rose.hp.com>
Source record: 111080

Mike Keitz (mkeitz@bev.net) wrote:
: TCM3105's are still made, probably solely for the ham market. Newark, JDR,
: and Jameco would be good US places to check, as well as any full-line TI
: distributor. I don't think anyone other than Texas Instruments made them.
:

Thanks; I think I have one of their catalogs around here someplace.

: I didn't look at the schematic, make sure there is a provision for
: adjusting the bias level on Pin 7 as this is critical for good reception.
: Sometimes the design is cheapened by using 2 fixed resistors rather than a
: pot there and this may not work well with some 3105's.

It's there. 47K pot from +5 to GND, wiper goes to pin 7.

:
: As for software, download Baycom 1.5 from your choice of a large number of
: ftp archives. This is good entry-level end-user AX.25 terminal software.
: Various other software drivers for other applications are also available.
: The Baycom group also maintains a Web page at http://www.baycom.de.
:

Got Baycom 1.5, but I had to dig. Finally found it at

ftp://ftp.ucsd.edu/hamradio/packet/baycom

The Baycom group's site must be busy, 'cause I couldn't get in.

: -Mike KD4QDM
:
:
:
:

Greg KO6TH

p.s. there is also an archive file MANUAL.ZIP at the same site with the
detailed instructions. It also lists the component values, as some are a little
hard to read on the GIF file posted here previously (although it seems some
of the part numbering changed!)

3761. Re: OScope for VHF/UHF VSWR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug21.162344.21228@ke4zv.atl.ga.us>
Source record: 111081

In article <419ktr$oec@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>In article <412ljl$kr4@tivoli.tivoli.com>,
>Tim Deagan <tim@thinkagain.com> wrote:
>>I would specifically like to put off purchasing a VSWR meter
>>for a little while (until my the cost of a new HT wears off :-)
>
>Sorry to say so, but oscilloscopes are about as usefull for measuring
>swr as are CD players. If cash is an issue, consider building a SWR
>meter, or sell your hand held to buy some decent equipment.

Actually, SWR meters are vastly overrated devices, and not one of the first instruments an amateur should purchase or build. A VOM is the most cost effective instrument an amateur can own, but an oscilloscope is the most genuinely useful and flexible instrument an amateur can own.

You *can* use an oscilloscope to read SWR if you have reason to care what SWR some transmission line may exhibit (but frankly you usually don't have reason to care). All you need to build is a simple bridge to separate the forward and reverse currents, display the voltages across the respective bridge legs using RF probes on two channels of the oscilloscope, and find their relative amplitudes by inverting one channel and summing, then adjust the gain of one preamp to null the trace. The difference in gain settings of the two channels is then the ratio of forward to reflected currents, or the reflection coefficient. That's usually sufficient, but if you want SWR from that, just crank it through the formula relating reflection coefficient to SWR.

But if you are adjusting an antenna, a relative field strength indicator will be a much more useful device than a SWR meter, and an RLC bridge will be much more useful for measuring the degree, both resistive and reactive, of mismatch in any system. You can use an oscilloscope as the readout for either of those simple devices.

An oscilloscope is valuable because it shows phase effects in the time domain that meter movements do not show. And it is valuable because it shows transient behaviors that meters also do not show. It is easy to spot distortion in signals with an oscilloscope, very hard with just a meter. To learn what you can do with an oscilloscope, a good starting place is the book _101 Ways To Use The Oscilloscope_ published by SAMS.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3762. Re: OScope for VHF/UHF VSWR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: dkelly@iquest.com
Message-ID: <dkelly-2108952050320001@dkelly.iquest.com>
Source record: 111082

In article <419ktr$oec@info4.rus.uni-stuttgart.de>,
moritz@ipers1.e-technik.uni-stuttgart.de () wrote:

> In article <412ljl$kr4@tivoli.tivoli.com>,
> Tim Deagan <tim@thinkagain.com> wrote:
> >I would specifically like to put off purchasing a VSWR meter
> >for a little while (until my the cost of a new HT wears off :-)
>
> Hi Tim,
>
> Sorry to say so, but oscilloscopes are about as usefull for measuring
> swr as are CD players. If cash is an issue, consider building a SWR
> meter, or sell your hand held to buy some decent equipment.

I find both oscilloscopes _and_ CD players to be most useful for measuring SWR.

Here's how:

CD Player:
Put some good loud music in the CD player.
Headphones over your ears.
Tune out the lab gossip and tune into your task.

Oscilloscope:
Drive the antenna at very low power with a sweep generator,
Thru a forward directional coupler and a reverse directional coupler.
Each coupler to a channel on the scope.
Subtract the forward channel from the reverse channel.
Trigger on start of sweep.
Enjoy your SWR plot to the sound of good music. :-)

73,
--
David Kelly N4HHE, n4hhe@amsat.org, dkelly@iquest.com
==
The human mind ordinarily operates at only ten percent of its
capacity -- the rest is overhead for the operating system.

3763. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <41atcn$k91@abyss.West.Sun.COM>
Source record: 111083

In article <410u0p$qk6@usenet1.interramp.com>,
Grant H Youngman <us007699@interramp.com> wrote:
>
>GOOD GRIEF GUYS!!! Is everyone on USenet a JERK??

Yes.

Any further questions?

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

3764. Re: How to Space-Wind Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <818258446wnr@ifwtech.demon.co.uk>
Source record: 111084

In article: <1995Aug19.031228.21475@nosc.mil> horowitz@nosc.mil (Alan M. Horowitz) writes:
:
: jdc@cci.com (James D. Cronin) writes:
:
: >>This is close to the size of many common wire gauges and I'm wondering
: >>if anyone has ever used fishing line to space-wind a coil? I know the
: >>diameter of different brands will vary, but is it reasonably
: >>consistent throughout the same spool? For my purpose, the exact
: >>spacing is less critical than the need for it to be consistent from
: >>one end of the finished coil to the other.
: >>Jack WB3U
:
: >How about winding on the threads of a bolt or machine screw? It works
: >great. Thanks to Ten-Tec for this tip, from their 6-meter transverter
: >kit instructions.
:
: Sounds good. What are the tolerances of garden-variety bolts, with respect
: to threads-per-inch and linearity thereof?

Much closer than you're likely to need, or could maintain after removing
the bolt. If the application is really critical, try using using a
threaded former made on a screw-cutting lathe. Wind the wire on tightly
and secure it with coil dope.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

3765. Re: PCB & Iron-on transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: cusick@dstos3.dsto.defence.gov.au
Message-ID: <1995Aug21.082841.1@dstos3.dsto.defence.gov.au>
Source record: 111085

For those who are interested, I have used ordinary photocopy paper, and transfered the image onto the PCB using the usual hot iron trick.

To remove the paper, soak the board and paper in a strong (50%) blend of household bleach and water. After a few minutes, the paper will dissolve leaving the toner behind. By carefully using your finger, you can remove the fur left behind.

Greg
VK3BRQ

3766. New Mac Ham Radio Test Simulators

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: john@wd1v.mv.com
Message-ID: <john-2108950532420001@wd1v.mv.com>
Source record: 111161

The new Macintosh Ham Test Simulators are HERE!

Novice Ham Test 5.0 SA.sea
Technician Ham Test 5.0 SA.sea
General Ham Test 5.0 SA.sea
Advanced Ham Test 5.0 SA.sea
Extra Ham Test 5.0 SA.sea

The latest versions feature:

HyperCard 2.3 as a stand-alone application (SA) eliminating the need to have HyperCard. All you need is a Mac with 4 Meg of memory and version System 7 or greater.

Each version 5 Ham Test Simulator has the latest questions as prepared by the Question Pool Committee.

Each Ham Test Simulator is FREE OF CHARGE and work the same way as the originals written by Diana, KC1SP.

You may obtain a Ham Test Simulator by mailing me a *FORMATTED disk (1 per test) and include a Self Addressed and Stamped disk mailer for the return.

Each Ham Test Simulator is also bundled with a shareware CW program called MacMorse 1.4 written by Doug, WB0EON.

Also included are a collection of text files that relate an interesting variety of ideas about the best way to study CW and prepare for tests.

or warm your phone line and get just the tests:

America On Line - Macintosh Ham Radio Section

ftp://oak.oakland.edu//pub3/hamradio/mac/theory-and-morse/AdvancedHamTest1.sea.bin
ftp://oak.oakland.edu//pub3/hamradio/mac/theory-and-morse/ExtraHamTest.sea.bin
ftp://oak.oakland.edu//pub3/hamradio/mac/theory-and-morse/GeneralHamTest.sea.bin
ftp://oak.oakland.edu//pub3/hamradio/mac/theory-and-morse/NoviceHamTest.sea.bin
ftp://oak.oakland.edu//pub3/hamradio/mac/theory-and-morse/TechnicianHamTest.sea.bin

Your comments and suggestions for future versions are always welcome. Stay in touch and good luck with your next test!

73,

\/
John D. Seney, WD1V Internet: john@wd1v.mv.com
144 Pepperidge Drive America On Line: jseney@aol.com

Manchester, NH 03103-6150 AX.25 Pkt: wd1v@wb1dsw.nh.usa.na
(H) 603-668-1096 Ampernet: wd1v@wd1v.ampr.org
\/
LeCroy Sales Engineering - Maine, New Hampshire, and Northeastern Massachusetts
(O) 800-553-2769 (F) 603-627-1623 (P) 800-SKYPAGE #5956779

All opinions are my own, including Digital Storage Scope.FAQ

To obtain the latest copy automatically, simply send me an EMAIL
with "subscribe scope.faq" in the subject field.
\/

3767. Re: OScope for VHF/UHF VSWR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <419ktr$oec@info4.rus.uni-stuttgart.de>
Source record: 111162

In article <412ljl$kr4@tivoli.tivoli.com>,
Tim Deagan <tim@thinkagain.com> wrote:
>I would specifically like to put off purchasing a VSWR meter
>for a little while (until my the cost of a new HT wears off :-)

Hi Tim,

Sorry to say so, but oscilloscopes are about as usefull for measuring
swr as are CD players. If cash is an issue, consider building a SWR
meter, or sell your hand held to buy some decent equipment.

73, Moritz DL5UH

3768. Re: Need help modifying older handheld for 2M

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <419leh$17e6@info4.rus.uni-stuttgart.de>
Source record: 111163

In article <Pine.SUN.3.90.950818183418.16104A-100000@stat.nursing.arizona.edu>,
Kendel McCarley <kendelm@stat.nursing.arizona.edu> wrote:
>Changing the crystals seems rather trivial, but I don't know what I need
>to do to tune the rest of the radio for two meter use. I don't have any
>schematics for these radios.

Kendel,

changing the crystals might be trivial, but nowdays you might find
it difficult to obtain the needed crystals at a price substantially
less than a s/h 2m HT. If you can find the frequencies of the crystals
employed you may be able to work out the frequency for your desired
channels. the rest is fairly easy, even without schematics: Locate
the TX and RX multiplier chains, tweak them up with a diode RF probe
(You may have to check if you are on the right overtone)
tweak the RX input and PA, and off you go.

73, Moritz DL5UH

3769. Needed Electrolytic Caps 500-600 uF 450-550 VDC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: davsachz@postoffice.ptd.net
Message-ID: <DDn2t8.Ksy@postoffice.ptd.net>
Source record: 111164

Need 6-8 Electrolytic caps to repair Strobe unit. cylyndrical in shape
with screw top terminals approx 1.5" x 5.5" 500-600 uf 450-600 VDC.
Origionals are sprague but mfg now uses Mallory. If you got them e-mail
direct to DavSayChez @ aol.com

3770. Re: Where can I find plans for a spark gap transmitter? Good Grief!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: au@ix.netcom.com
Message-ID: <41961u$pqi@ixnews4.ix.netcom.com>
Source record: 111165

This was seriously not intended for flame bait. The device was going
to used into a dummy load of some type AND be low power!
An all band reciever would demonstrate the width of a spark signal.

My thanks to the many who responded! Flamers, what can I say but
surely you must have better things to do with your time.

George Worthington
N7BUI (Eugene, OR)

3771. Re: Power Good line on PC P/S

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1995Aug21.031440.11268@grian.cps.altadena.ca.us>
Source record: 111166

Jim Strohm <jstrohm@blazer> writes:

>I want to use a surplus PC power suppply to power some non-RF ham goodies.
>What signal does the Power Good line need to see to turn on the power supply?

>Does anybody have a simple schematic to provide this signal?

>Please don't suggest a motherboard -- I already have an XT and an AT
>motherboard I can use, but I consider it overkill.

Sorry - the power good line is an output - not an input. It tells the
motherboard that the power has failed about 1/20 of a second before
power to the motherboar dactually dies (i.e. the filter caps in the
supply discharge. Programs that can use it (neither DOS nor windows can)
save info to the hard disk before the caps die.

Sorry.

PC supplies are switchers. they need a load before they work right.
Each output needs at least a 10% load. The fans are generally powered
by the +12 output, and consume about 50-100 ma.

--

Mike Morris morris@grian.cps.altadena.com
I have others, but this works the best.
This message assembled from 100% recycled electrons (and pixels).

3772. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <808990317.16999@pinetree.microserve.com>
Source record: 111167

Sheesh. One question about a science project and everyone thinks
they're his mother.

Good thing he wasn't asking how to build an electric chair.

73,

Jack WB3U

3773. Re: How to Space-Wind Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: shoppa@almach.caltech.edu
Message-ID: <21AUG199511243432@almach.caltech.edu>
Source record: 111168
Cross-posted to: rec.radio.amateur.homebrew,rec.crafts.metalworking

In article <1995Aug19.031228.21475@nosc.mil>, horowitz@nosc.mil (Alan M. Horowitz) writes...

>>How about winding on the threads of a bolt or machine screw? It works
>>great. Thanks to Ten-Tec for this tip, from their 6-meter transverter
>>kit instructions.
>
> Sounds good. What are the tolerances of garden-variety bolts, with respect
> to threads-per-inch and linearity thereof?

The worst piece of new 1/4"-20 threaded rod I've ever run across was off by about half a thread over a length of one foot. That would be 1/40th of an inch out of 12 inches, or about 1 part in 500. At the time I did the measurement, I thought this was pretty good for ordinary hardware-store threaded rod; I would expect bolts to be much more precise.

In my experience with winding coils, 1 part in 500 in the spacing is *not* something to worry about! When you remove the coil from the bolt, the spacing is likely to change much more than this.

The diameter of a bolt (or the depth of the threads) is likely to vary much more than the thread spacing, but still probably wouldn't be all that important compared to the distortion that will happen after the bolt is removed.

Tim. (shoppa@altair.krl.caltech.edu)

3774. Re: How to Space-Wind Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: gcouger@jsun.agen.okstate.edu
Message-ID: <41amfs$1be6@bubba.ucc.okstate.edu>
Source record: 111169
Cross-posted to: rec.radio.amateur.homebrew,rec.crafts.metalworking

In article <1995Aug19.031228.21475@nosc.mil>,
Alan M. Horowitz <horowitz@nosc.mil> wrote:
>jdc@cci.com (James D. Cronin) writes:
>
>>How about winding on the threads of a bolt or machine screw? It works
>>great. Thanks to Ten-Tec for this tip, from their 6-meter transverter
>>kit instructions.
>
> Sounds good. What are the tolerances of garden-variety bolts, with respect
> to threads-per-inch and linearity thereof?
The tolarances are very high for threads. Much higher than any thing that
could effect a coil as much as other components in the coils field.

Good luck
Gordon
AB5DG
Gordon Couger - 624 Cheyenne, Stillwater, OK 74075
gcouger@master.ceat.okstate.edu 405-624-2855 evenings
I do not speak for my employer

3775. Wanted: Old Test Equip. Catalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: geotek@cent.com
Message-ID: <NEWTNews.809020150.11887.geotek@geotek.cent.com>
Source record: 111170
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

I would like to purchase old test catalogs for my library. I am interested in catalogs and data sheets from the 50's through the mid 70's. If you have any H.P., Tektronix, General Radio, Wavetek, Boonton Radio, or similar catalogs please contact George Carlson at Email geotek@cent.com or telephone office-(713)376-4606, home-(713)376-8307

3776. *** 826 Tube Info/Sources desired ***

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-21 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <41addc$446c@lamar.ColoState.EDU>
Source record: 111171
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Greetings all. I just got a Gonset 6m amp that uses two 826 tubes. UPS gave the amp an interesting trip, as one of the 826's doesn't heat up, so I'm looking for 826's or a replacement... ?

Any help is greatly appreciated,
galen, KF0YJ

3777. Re: Calibration of Freq.Counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.208.000A1F25@TRL.OZ.AU>
Source record: 111086

> Ive heard of using wwv broadcasts for calibration but was
>comepletly lost to exactly how this was accomplised. Also if this
>calibration can be done with a home made IE: inexpensive freq. standard
>in the shack?
> All info. is welcome!
> Thanks, Henry (Ke4wbw)
Henry, if you are seriously into frequency calibration of counters etc, there is yet another trick, not so far mentioned, which I claim to be significantly better than most conventional cheap methods.

Here in VK we also have a time/frequency standard VNG on 5.000 MHz. An ordinary direct conversion receiver using the conventional NE602-741-386 line-up will do fine. Do not use the internal LO of the '602 chip, but rather, build a separate 5.000 MHz CRYSTAL controlled VXO LO in an RF tight box. Install a buffer into the LO box, and bring your 5.000 MHz LO signal out on a coax connector in addition to supplying the '602 (ac coupled) at pin 6. Use larger coupling capacitors through the audio chain (say 0.47 uF instead of the usual 0.1 uF's). At the output pin 5 of the '386 (in addition to the usual speaker ckt) install an LED (to conduct) in series with a 1 kohm resistor. When your VXO LO is near zero beat (sub-audible) the LED will flash, or wink. As the crystal is brought right onto frequency, the LED will emit nearly constant intensity, showing that your LO is at true "zero-beat". The 5.000 MHz LO now supplies your shop with a local secondary frequency standard- even if the sation fades out.

Kind Regards,

Drew Diamond, VK3XU

3778. Re: *** 826 Tube Info/Sources desired ***

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <41d0q7$n22@unisql.unisql.com>
Source record: 111087
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Is the 826 a mercury rectifier?

If so, there's a solid state plug-in replacement available. Alternatively, you can use a hi-volt recitfier module (try Silicon Alley) but be advised that the mercury rectifier tubes caused a significant voltage drop, so B+ may be too high with either "fix."

You may be able to resurrect the nonfunctional 826 by letting it sit right-side up in the chassis for a day, and then slowly bringing up the filament voltage with a variac. Be sure not to apply HV. Give it a couple hours to warm up, then bring the HV up on a second variac. YMMV, but sometimes it works.

Since the 1940s we've forgotten how to care for mercury rectifier tubes.

We've also mostly forgotten (or never experienced) the joy of sitting in a darkened ham shack with the lid off the power supply, using a big plate-modulated AM rig and watching the rectifiers and the PA plates flash and flicker. It's nearly as ggod as the Northern Lights.

Jim N6OTQ

3779. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <41cogb$6mt@mrnews.mro.dec.com>
Source record: 111088

In article <89631433wnr@ifwtech.demon.co.uk>, Ian G3SEK <G3SEK@ifwtech.demon.co.uk> writes...
>Some people may interpret the Super Keyer as a "dumbing down" of
>QST and amateur radio in general. Personally I think the editors
>are right to try and keep the focus of the magazine on *radio*
>techiques, and to devote all the page-space they can to that.

Nope, the "dumbing down" is in the fact that all the real technical articles from the ARRL are now published in an amazingly thin magazine called "QEX". The fact that it's so thin seems to indicate that it wouldn't be that much trouble to just put them in QST like they used to. Example: In the mid 80s, W7ZOI et al had a bunch of articles published in QST on building your own crystal IF filters using simple techniques and equipment. The only place to find such now is QEX, in fact a couple of articles on that very subject have appeared in there over the last year or so.

BTW, re: the keyer article... even if the editors kept the source code out of the magazine, it would still be nice to see a net address or a mail-order source of a floppy, for those that are interested in fooling around with it. Assuming the authors released it, that is. As far as page space, well over half of QST is ads and junk lists of who got their DXCC certificates, etc... I'd gladly pay an extra dollar a month (QEX is $12/yr for ARRL members) to see less junk and more content.

-Tom R. N1OOQ randolph@est.enet.dec.com

3780. looking for TRW address.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: smchenry@freenet.columbus.oh.us
Message-ID: <41cr35$f7e@acme.freenet.columbus.oh.us>
Source record: 111089

There used to be a company that produced Microwave modules of various
types called TRW. Does anyone out there have a phone number or address?
Please e-mail the address below if you can help locate this company.

--
smchenry@FREENET.COLUMBUS.OH.US In Cyberspace, no one can hear you scream.

3781. Re: How to Space-Wind Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <41ccla$ojb@cismsun.univ-lyon1.fr>
Source record: 111090

Ian G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:

: Much closer than you're likely to need, or could maintain after removing
: the bolt. If the application is really critical, try using using a
: threaded former made on a screw-cutting lathe. Wind the wire on tightly
: and secure it with coil dope.

While, after having wound that coil on a screw, not to leave the screw ?
I've been told that a piece of brass used as a core would lower coil
impedance, but you can adjust it by unscrewing partially. That would
keep the coil undamaged by placement.

Just an idea not even worth 1 lire.

Vincent
--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

3782. WTB band switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: kk5dr@bga.com
Message-ID: <41dkv2$cj4@giga.bga.com>
Source record: 111091

I need a heavy duty band switch for my homebrew amp, it needs to have at least 6 contacts on it, to
cover 160-10mtrs at 2KW output. A unit like the ones in a ALPHA 76-78-86 etc. etc. A good heavy
switch in good condition. I don't want to pay the $200 they want for new one's.
Please help a fellow homebrewer complete a project!
E-mail or Call Matt @ (512)303-9503 after 7pm CDT Thanks, KK5DR

3783. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <41d0ai$pv4@newsbf02.news.aol.com>
Source record: 111092

> When the man says "I know it's illegal but... I want to do it anyway", what does it say
to you?

Apparently *not* what it says to you. Are you suggesting that because some technology is *illegal* to use that everyone should be ignorant of its operation? Several people in this thread, despite the original poster's polite inquiry, have gone ballistic. In 20 or so messages, I have seen only ONE intelligent response, and that was from an individual who pointed out that while the spark might be broadband in nature, the transmitter neednt be.

In the big scheme of things, a guy next door dinking with his spark gap xmitter (and messing up my tv reception) is less offensive to me than the idiot who can legally drive his car down the street, bouncing up and down from the 500 watt subwoofer and the rap CD.

I think underlining the fact that sparkies are dirty (and therefore, illegal) is warranted. Bitching at the guy for being curious is not. I agree with another poster: Lighten up.
PFZouave@aol.com
Pete Friedrichs
*** Common Sense Is Not That Common ***

3784. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDDqLEo.2z3@netcom.com>
Source record: 111093

in <DDItI9.BAA@hpcvsnz.cv.hp.com>, Tom Bruhns wrote:
: There has been a series on spark transmitters in the British magazine
: "Electronics and Wireless World" recently. I haven't followed all the
: articles, but those that I saw were enlightening. Consider that spark
: transmitters that generated a significant fraction of a MEGAwatt were used
: to communicate on VLF between the South Pacific and Europe, and the
: bandwidth was in the kilohertz range.

The really big VLF transmitters weren't sparks. They were AC generators
that worked at RF frequencies (or with mag amp frequency multipliers).
Or were hydrogen arc transmitters that were negative resistance oscillators
much like a multikilowatt neon lamp. Both of which output CW, as opposed
to the damped wave from a spark transmitter.

I sure wouldn't want to hang around the keying relays when one of those
things was sending.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

3785. 20M/40M mobile antenna problem/question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: Jeff Krul <jkrul@equist.com>
Message-ID: <41d6pj$t15@noc.tor.hookup.net>
Source record: 111094

I have a 20M/40Meter mobile vertical which was GIVEN to me by the owner of the HF rig I purchased. (450sat). I constructed a 'mobile' stand for the antenna out of plywood for DX expeditions away from home. The base of the mobile antenna sits about 10feet off the ground when on the stand.

I am having a problem both rx and tx. When receiving, all signals seem 'low' and the noise floor is pratically GONE. When transmitting, I have no problem tuning the antenna with the 450sat, but good luck trying to make contact!!! I was lucky enough to make contact ONCE from Toronto to Vancouver Island. His signal was <3 s-units and my report was not mentionable.

I have no ground to speak of since it is mobile. Do I require a ground plane immediately under the antenna, such as 4 horizontal radials, or on the ground with lots of wires?

I never had a problem at home with the R7 since it is relatively ground independant.

I would appreciate any information e-mailed to: jkrul@equist.com.

3786. Laser printer --> Panel, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <41d6o1$or4@ixnews7.ix.netcom.com>
Source record: 111095

Maybe this is old news and I just didn't get the word, but I'm wondering how I can transfer laser-printed artwork onto a panel. Is there something equivalent to dry-transfer lettering for printers? Thanks for any info.

Mike, KK6GM

3787. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug22.163110.26784@ke4zv.atl.ga.us>
Source record: 111096

In article <808990317.16999@pinetree.microserve.com> jackl@pinetree.microserve.com (WB3U) writes:
>Sheesh. One question about a science project and everyone thinks
>they're his mother.
>
>Good thing he wasn't asking how to build an electric chair.

Oh, we'd tell him how to do that, wouldn't be nearly as likely to
interfere with radio communications. At least not more than once. :-)

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3788. Re: Laser printer --> Panel, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-22 00:00:00 UTC
From: gbrush@indy.net
Message-ID: <41dcct$cof@news.indy.net>
Source record: 111097

michael silva (mjsilva@ix.netcom.com) wrote:
: Maybe this is old news and I just didn't get the word, but I'm
: wondering how I can transfer laser-printed artwork onto a panel. Is
: there something equivalent to dry-transfer lettering for printers?
: Thanks for any info.

: Mike, KK6GM

I wish I had the name of the company off hand, but one of the toner transfer PCB products I've used, touted their product for producing panel graphics as well. In brief, you print on their release paper, spray the printed side of the paper with clear lacquer and let dry. Then, cut the area out you want to use as a transfer, soak in water for a few minutes and it slips off the release paper just like a decal (for those that have built styrene models). They say it should work on other types of printers too (probably won't work on inkjets that use water soluble inks, IMO).

Hope this helps.

Regards,

Greg
gbrush@indy.net

3789. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <41e6at$egc@news.azstarnet.com>
Source record: 111098

randolph@est.enet.dec.com (Tom Randolph) wrote:
>
>In article <89631433wnr@ifwtech.demon.co.uk>, Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
writes...
>>Some people may interpret the Super Keyer as a "dumbing down" of
>>QST and amateur radio in general. Personally I think the editors
>>are right to try and keep the focus of the magazine on *radio*
>>techiques, and to devote all the page-space they can to that.
>
>Nope, the "dumbing down" is in the fact that all the real technical articles
>from the ARRL are now published in an amazingly thin magazine called "QEX". The
>fact that it's so thin seems to indicate that it wouldn't be that much trouble
>to just put them in QST like they used to. Example: In the mid 80s, W7ZOI et al
>had a bunch of articles published in QST on building your own crystal IF
>filters using simple techniques and equipment. The only place to find such now
>is QEX, in fact a couple of articles on that very subject have appeared in
>there over the last year or so.
>
[stuff deleted in the interest of brevity]

Hear Hear!

ARRL touts QST as benefit of ARRL membership and not a magazine subscription. This used to
be
true; except for a few ham radio stores, the only way to get QST was to join ARRL. Now it's
available at any good bookstore. ARRL has changed its focus from a service to its
membership
to a publishing house that markets its products to the widest possible audience. To appeal
to
this greater audience, it has "dumbed down" QST and increased its revenue base by
publishing
an expanding array of specialty publications such as QEX and the Antenna Compendia. If you
want the good stuff (and I do) you purchase these too (and I do that too). Now I spend at
least twice as much per year to get the same stuff.

If you think this is harsh, check out the August issue of QST. Nineteen pages have ads for
ARRL stuff. If I counted correctly, 14 of them are full page. That's 7% of the rag taken up
with self promo material. No wonder there's no room for techie stuff.

Regards Wes -- N7WS

3790. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-2208952123370001@amber1.ultranet.com>
Source record: 111099

In article <415gsd$4l9@bud.shadow.net>, Eliot Fenton
<72633.3247@compuserve.com> wrote:

> Motorola has a MECL divide by 10 with TTL outputs that's good to 550 MHz;
> MC12013. In addition, Newark, Hammond, etc. have enhanced 7216 series
> counter chips that provide period measurement, etc. It should not be too
> difficult to build a 3 GHz unit using a divide by four, xtal reference,
> "mar" front end and a handful of support chips.

How do you make the divide by four that operates to 3 GHz? I was under
the impression that some sort of frequency conversion scheme was used to
bring high frequencies down prior to the dividers and counters, but direct
division would certainly be a lot easier.

Cheers,

Jon

--
Jon Goguen

"Nothing worth knowing can be understood by the human mind."

3791. Re: Pcb & iron-on transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: martvin@ionet.net
Message-ID: <41eefk$st1@ionews.ionet.net>
Source record: 111100

In article <808614707.AA03258@hamlink.mn.org>,
Bob.Liesenfeld@f100.n282.z1.fidonet.org says...
>
>AA>From: ai657@freenet.toronto.on.ca (Paul Egan)
>AA>Newsgroups: rec.radio.amateur.homebrew
>AA>Subject: PCB & Iron-on transfer?
>AA>Organization: Toronto Free-Net Inc., Toronto, Ontario, Canada
>AA>Reply-To: ai657@freenet.toronto.on.ca (Paul Egan)
>AA>Message-ID: <DD3ou6.D6.0.queen@torfree.net>
>AA>Date: Thu, 10 Aug 1995 15:10:53 GMT
>AA>
>AA>
>AA>I have heard about this method but can't find the product.
>AA>I believe that the material is run through a photocopier
>AA>and then ironed to a copper clad board. Sounds like a quick
>AA>way of getting to the etching stage, without having to use
>AA>photo-sensitized boards and developer.
>AA>Any help would be appreciated.
>AA>Thanks.
>AA>Paul VE3GFY
>AA>
>AA>
>AA>---
>AA> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
>AA>(1:282/100.0)Hi Paul,
> For what its worth I have tryed this product and was very disapointed.
>Lots of trouble with traces comming up. Maybe I did something wrong, but
>don't think so. It is available from Digi-Key in Thief River Falls MN.
>I can get you the address if you need it.
> Good luck.
>72 Bob WB0POQ
>
> Technology is OUT of control.....
>
>
Been there, done that.....it sucks....I now use photo-etch....it's really
easy once you get the hang of it.....The G.C. stuff is the best (and I
have tried a l l of it....) M.T.V.

3792. Re: 20M/40M mobile antenna problem/question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <41eori$k9q@info4.rus.uni-stuttgart.de>
Source record: 111101

In article <41d6pj$t15@noc.tor.hookup.net>,
Jeff Krul <jkrul@equist.com> wrote:
>I have a 20M/40Meter mobile vertical which was GIVEN to me by
>the owner of the HF rig I purchased. (450sat). I constructed
>a 'mobile' stand for the antenna out of plywood for DX
>expeditions away from home.

>When transmitting, I have no problem tuning the antenna with
>the 450sat, but good luck trying to make contact!!! I was
>lucky enough to make contact ONCE from Toronto to Vancouver
>Island.

Jeff,

you simply observe what is bound to happen. If you want to go
portable, not even to mention a DXpedition, you want the best
antenna you can manage. So sell the dummy load and use one of the
following:

Horizontal dipole or loop, at least 1/4 wl up for inland, if
ground conductivity is low.

quarter wave vertical near the sea if ground conduction is good.
Make sure to provide a good ground plane for it, e.g. 60+ radials
on the ground of 3-4 radials 1/4 wl up.

73, Moritz DL5UH

3793. Hull 5150 SSB transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: spearce@ccu1.auckland.ac.nz
Message-ID: <41f216$mns@thebes.waikato.ac.nz>
Source record: 111102

Does anyone have information on the Hull 5150 SSB transceiver?
(Please)

3794. Re: Drake R7 VCO hosed: stuck at 51.950 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: as195@cleveland.Freenet.Edu
Message-ID: <41eb6b$kun@usenet.INS.CWRU.Edu>
Source record: 111103

I have a DMM that gets stuck once in a while when I use its
ammeter. The problem is that a relay gets stuck. I don't
know if you have relays in your meter but mine has four.

I thought the meter was destroyed until I traced it down to
the stuck relay. A swift tap from my forefinger released the stuck relay.
I've had to unstick the relay several times.

3795. Re: Laser printer --> Panel, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <41fl1c$9dp@unisql.unisql.com>
Source record: 111104

Laser-print onto adhesive sheet.

If you use a paper adhesive media, cover the finished panel with clear adhesive plastic sheet or with a thin top panel of lexan or similar.

Jim N6OTQ

3796. Re: Antennas on side of towers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <41fm21$e61@newshost.lanl.gov>
Source record: 111105

DB Products produces a very nice catalog that has a section
depicting typical patterns with side mounting techniques.
Check out the home page and see if they'll send you one:
http://tango.w8hd.org/allen/decibelProducts.html
--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

3797. Icom IC-230 VFO

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: Dj Merrill <deej@vsl.ist.ucf.edu>
Message-ID: <Pine.SUN.3.91.950823183301.2289A-100000@isis.vsl.ist.ucf.edu>
Source record: 111106

I am interested in building a (possibly digital) VFO for an old
Icom IC-230 mobile radio. Anyone know where I might obtain some plans
to build one?

-Dj

Dj Merrill Institute for Simulation and Training
Assistant in Simulation 3280 Progress Drive, Orlando, FL 32826
deej@vsl.ist.ucf.edu - N1JOV (407) 658-5513 / Fax: (407) 658-5059

"BSD: The way Unix should be"

3798. Re: WTB band switch

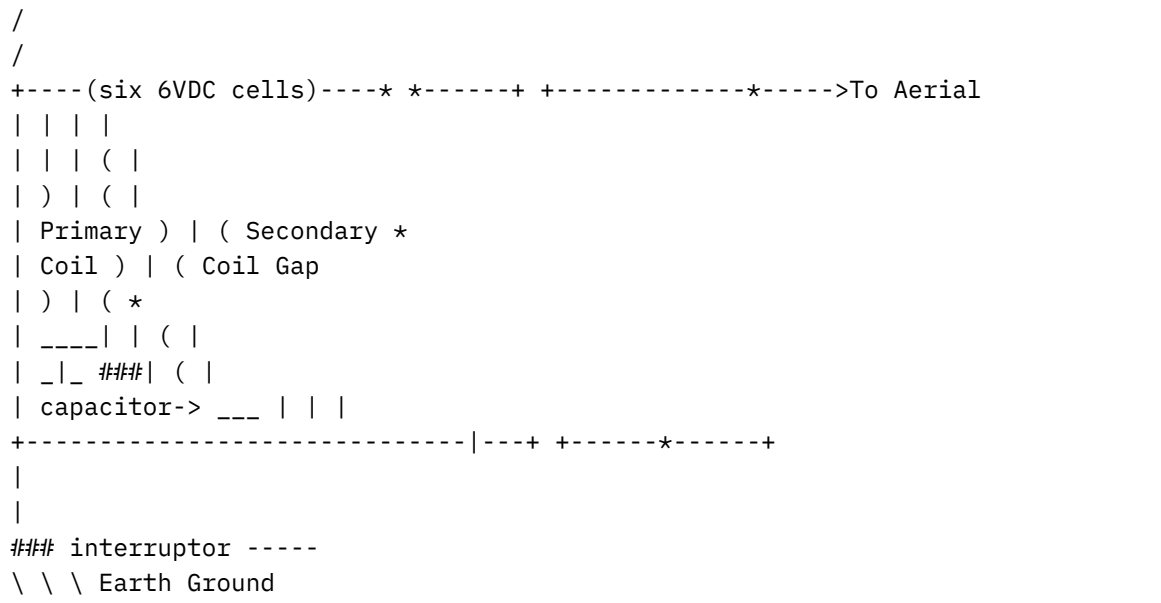
Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: kk5dr@bga.com
Message-ID: <41gcqk$ekt@giga.bga.com>
Source record: 111107

I have a good switch now , thanks to KF5MC.
73 de KK5DR

3799. 1915 spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: dcadd@luc.ac.BE
Message-ID: <9508231245.AA27022@alpha.luc.ac.be>
Source record: 111108

Nice posting on this tx, thought I'd add my 2 Belgian cents worth.



Try putting a capacitor - needs a high voltage rating, say 1-2000V, across the interruptor contacts. The object of this is to reduce arcing at the contacts and thus reduce wear, I recall that the big (6 inch diameter and 12 inch long, making 5-6 inch sparks!) induction coils we had in the school physics labs had their interruptor contacts protected in just this way. The capacitance is not critical - 1uF will do, but it needs to be a non-polarised i.e. paper or oil type, as the voltage produced by the collapsing field in the primary when the circuit is broken will be HIGH ! Depending on the primary inductance and the number of cells you use, you may even need a higher voltage rating, as this cap will be under some stress ! Motor start capacitors could be ideal for this as they are designed to operate under harsh conditions with an inductive load. Incidentally, not only will the capacitor reduce contact wear, but as the arcing at the primary is reduced, so will any interference be which it might otherwise have caused. It's the spark gap at the secondary which is meant to generate the RF !!

Without this protection, I suspect relay contact life will be short, but then again, for a science project this may not matter.

Good luck !
73,

Duncan ON9CHU / G0UTY G-QRP 8117

3800. Re: An image rejection filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Aug23.131602.56184@ucl.ac.uk>
Source record: 111109

In article d5n@cismsun.univ-lyon1.fr, elendir@enst.fr (Elendir) writes:
> Hi again and again.
>
> Having recently stumbled upon a 26,730 MHz XTAL, I have planned to build a
> simpleCB canal 19 RX (26,730 + 455 kHz = 27,185) - that's very handy over
> here for traffic infos.
> Anyhow, I must build an input filter that allows 27,185 to pass freely while
> attenuating the image at 26,275 by at least 40 dB. I don't want a 9th order
> elliptic filter, obviously it's a fancy to build. What can I do (except buying
> a 27,185 XTAL ?)
>
> Thx es 73 de ...
> Vincent
>
> --
> F5RCS - Worldwide Friendship through Amateur Radio
> ENST, Ecole Nationale Superieure des Telecommunications, Paris

Filtering might be very difficult in a reasonable space. There is such thing as an 'image-reject-mixer', that dont respond to the image. However, fitting one would not be trivual. Look in an RF book for circuit. I cant recall it.

davek

3801. How do I make thru-plated holes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: Kendel McCarley <kendelm@stat.nursing.arizona.edu>
Message-ID: <Pine.SUN.3.90.950823173426.28640A-100000@stat.nursing.arizona.edu>
Source record: 111110

I need to make a double layer board. I've done it before with rather cheesy connections between the layers, but need to do a better job this time or I won't be able to get to my solder connections.

Anyhow, I've looked at tining kits, but still don't have a clue as to how I make a thru plated hole.

Anybody know?

Thanks,

Kendel McCarley kendelm@ece.arizona.edu
KC7FRS http://www.nursing.arizona.edu/~kendelm

3802. Transceiver "tether"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: ka0gkc@hamlink.mn.org
Message-ID: <809200931.AA03380@hamlink.mn.org>
Source record: 111111

Gene K2LYU wrote:

GE> Sometimes... I use my cordless telephone to operate
>my 2 meter transceiver. Very handy for when I need to
>be in front of my computer (50' away in another room)
>or when nature calls in the middle of a QSO!
> I designed the circuit about a year ago....and never
>went any further with it. The guys on my favorite repeater
>tell me it sounds great. (In fact they can't even tell when I'm
>using it.)
> They call it the "Tether"., and they think I'm nuts for not
>marketing it. Maybe they're right.
> Is anybody interested? Gene K2LYU (generad@epix.net)

Yes. please post a circuit/description or uuencoded file!

73 de Claton Cadmus, KA0GKC

```
_____________________________________________________________
| FIDOnet= Claton Cadmus 1:282/100 |
| INTERnet= Claton.Cadmus@hamlink.mn.org |
| PACKETnet= KA0GKC@WB0GDB.#STP.MN.USA.NA |
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
```

If anything I have written makes any cents, I claim copyright!
* SLMR 2.1a * I think I've lost my mind. Please watch where you step!

3803. Re: Oven magnetrons--looking for help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <41fbs5$kga@mgate.arrl.org>
Source record: 111112

lundm@physc2.byu.edu (_ _ _ _ _ MARK W. LUND _ _ _ _ _) wrote:
>A couple of us are trying to work out a design for a homemade
>CO2 laser using rf excitation using a magnetron from a radar
>range (remember when they were called that?) In poking around
>for info about oven magnetrons someone mentioned that there has
>been a lot of work in the AR community using oven magnetrons for
>communications. Can anyone point us to this kind of information?
>Best regards
>mark
>
Amateur TV Quarterly, RF design and 73 magazine both published
articles on this as I remember. The designer was Dave Pacholok. John
WA8EOY also built one. Probably before 1991. Nothing in QST.

Zack
zlau@arrl.org.

I've now worked 9 states from Western Mass on 10 GHz.
Anyone in DE or MD for skeds?

3804. Drake R7 VCO hosed: stuck at 51.950 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: russ
Message-ID: <41e6pq$8ir@ddi2.digital.net>
Source record: 111113

I have an R7 with the digital readout installed that worked and then froze on the above frequency on the display. I think I've narrowed it down to the VCO board, probably the MC14046 PLL or one the the following UA739 opamps stuck on the positive rail, which might account for the failure mode.

I'm going for the CMOS PLL first. If anyone has experienced this, please post! Can't afford the nearly $300 drake wants to fix it. Any other R7 lore would be likewise appreciated. I've got parts of it modeled on the computer with SPICE; I've seen mods for the TR7 in Communications Quarterly (the only receive function being a BCB sensitivity improvement mod) and am looking into R7 mods.

russ

3805. wanted : fast, cheap 200 Mhz PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: WONG_WAI@rhea.bentley.edu
Message-ID: <1995Aug23.020248@rhea.bentley.edu>
Source record: 111114

Hi:

I need a fast, cheap, phase locked loop. One that can do 200 Mhz or so.
One that is easy to get also. Can anyone recommend one? :-)

-WaiWong

3806. Re: looking for TRW address.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <41fklb$nn2@mgate.arrl.org>
Source record: 111115

smchenry@freenet.columbus.oh.us (Sean McHenry) wrote:
>
> There used to be a company that produced Microwave modules of various
>types called TRW. Does anyone out there have a phone number or address?
> Please e-mail the address below if you can help locate this company.

You might try Motorola. I talked to an ex-TRW engineer shortly
after the Motorola acquired parts of TRW. Thats why Motorola has
some parts with numbers that I used to think of as TRW numbers.

--Zack.

3807. Re: WTB band switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-2308951237030001@brockway-d224.sierra.net>
Source record: 111116

Request a catalog from Fair Radio Sales and scrutinize every page for these things. You can get good ceramic switches, multigang even for 3 bucks. If you choose to part out a subassembly from them, you can really score. Marvelous stuff for the home based cannibal!

Fair Radio Sales
1016 East Eureka Street
PO BOX 1105
Lima, Ohio 45802

vox 419 227 6573

3808. HELP with URM-25

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: geotek@cent.com
Message-ID: <NEWTNews.809201482.27538.geotek@geotek.cent.com>
Source record: 111117

I volunteered to fix a friends URM-25D but I need a schematic. If someone would FAX me one I'd appreciate it. FAX (713) 251-3860 (Spring, TX).

3809. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <809205666snz@lfheller.demon.co.uk>
Source record: 111118

In article <acj-2208952123370001@amber1.ultranet.com>
acj@ultranet.com "Jon Goguen" writes:

> In article <415gsd$4l9@bud.shadow.net>, Eliot Fenton
> <72633.3247@compuserve.com> wrote:
>
> > Motorola has a MECL divide by 10 with TTL outputs that's good to 550 MHz;
> > MC12013. In addition, Newark, Hammond, etc. have enhanced 7216 series
> > counter chips that provide period measurement, etc. It should not be too
> > difficult to build a 3 GHz unit using a divide by four, xtal reference,
> > "mar" front end and a handful of support chips.
>
> How do you make the divide by four that operates to 3 GHz? I was under
> the impression that some sort of frequency conversion scheme was used to
> bring high frequencies down prior to the dividers and counters, but direct
> division would certainly be a lot easier.

GEC-Plessey make 3 GHz dividers. I've got their catalogue somewhere if
you want more details.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3810. Re: How do I make thru-plated holes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-23 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <41gk0d$8ml@news.duke.edu>
Source record: 111119

Kendel McCarley <kendelm@stat.nursing.arizona.edu> wrote:

>I need to make a double layer board. I've done it before with rather
>cheesy connections between the layers, but need to do a better job this
>time or I won't be able to get to my solder connections.

>Anyhow, I've looked at tining kits, but still don't have a clue as to how
>I make a thru plated hole.

It can be done. But you would be way ahead of the game if you simply
paid the 2 or 3 hundred dollars necessary to get a commercial outfit
to make a board for you.

Jim "no sig" Meyer

3811. Drake TR7 SSB receprtion bad

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: archive@flash.ATC.Olivetti.Com
Message-ID: <41i7ad$iki@olivea.ATC.Olivetti.Com>
Source record: 110972
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

[No readable article body recovered]

3812. Re: How do I make thru-plated holes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: geotek@cent.com
Message-ID: <NEWTNews.809276395.25392.geotek@geotek.cent.com>
Source record: 110973

> Kendel McCarley <kendelm@stat.nursing.arizona.edu> wrote:
>
> >I need to make a double layer board. I've done it before with rather
> >cheesy connections between the layers, but need to do a better job this
> >time or I won't be able to get to my solder connections.
>
> >Anyhow, I've looked at tining kits, but still don't have a clue as to how
> >I make a thru plated hole.
>
> It can be done. But you would be way ahead of the game if you simply
> paid the 2 or 3 hundred dollars necessary to get a commercial outfit
> to make a board for you.
>
> Jim "no sig" Meyer
>

No need to pay big bucks for good quality prototype PC boards. Check out AP Circuits in Calgary. There bulliton board is (403) 291-9342. Download NEWUSER.EXE for details on their service. I believe they even have a shareware PCB layout program that you can download and use. They will deliver two 5x6" board in just a few days for only about US$ 79. I belive thay have a website, www.apcircuits.com/htmls/apc/apdel2.html

3813. RF design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: workshop@pcm.co.za
Message-ID: <41htin$6l9@aztec.co.za>
Source record: 110974

Is there anyone out there who can tell me if there are any sites on the internet where I can find out about RF design.
For example designing impedance matching circuits etc.
Pls email me at the above address
thanx
Robin

3814. Re: How do I make thru-plated holes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: geotek@cent.com
Message-ID: <NEWTNews.809278831.579.geotek@geotek.cent.com>
Source record: 110975

In Article<NEWTNews.809276395.25392.geotek@geotek.cent.com>, <geotek@cent.com> write:
> Path: esol.intermedia.com!news
> From: geotek@cent.com
> Newsgroups: rec.radio.amateur.homebrew
> Subject: Re: How do I make thru-plated holes?
> Date: Thu, 24 Aug 95 07:53:09 PDT
> Organization: (None)
> Lines: 25
> Message-ID: <NEWTNews.809276395.25392.geotek@geotek.cent.com>
> References: <Pine.SUN.3.90.950823173426.28640A-100000@stat.nursing.arizona.edu>
<41gk0d$8ml@news.duke.edu>
> NNTP-Posting-Host: 204.149.224.37
> Mime-Version: 1.0
> Content-Type: TEXT/PLAIN; charset=US-ASCII
> X-Newsreader: NEWTNews & Chameleon -- TCP/IP for MS Windows from NetManage
>
>
> > Kendel McCarley <kendelm@stat.nursing.arizona.edu> wrote:
> >
> > >I need to make a double layer board. I've done it before with rather
> > >cheesy connections between the layers, but need to do a better job this
> > >time or I won't be able to get to my solder connections.
> >
> > >Anyhow, I've looked at tining kits, but still don't have a clue as to how
> > >I make a thru plated hole.
> >
> > It can be done. But you would be way ahead of the game if you simply
> > paid the 2 or 3 hundred dollars necessary to get a commercial outfit
> > to make a board for you.
> >
> > Jim "no sig" Meyer
> >

I make a typo on the website for AP Circuits it should be
www.apcircuits.com/htmls/apc/apdef2.html

3815. spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: dcadd@luc.ac.BE
Message-ID: <9508241339.AA05557@alpha.luc.ac.be>
Source record: 110976

Greetings, all, from a warm and sunny Diepenbeek in N.E. Belgium !

" The really big VLF transmitters weren't sparks. They were AC generators
that worked at RF frequencies (or with mag amp frequency multipliers).
Or were hydrogen arc transmitters that were negative resistance oscillators
much like a multikilowatt neon lamp. Both of which output CW, as opposed
to the damped wave from a spark transmitter.

I sure wouldn't want to hang around the keying relays when one of those
things was sending.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com "

If I recall correctly, the AC generators went by a name like Amundsen
Alternator, or something similar. They had several hundred pole pieces,
rotated at high rpm and had an output of the order of 20-30kc/s. Two remain
in existence in the world, one in Scandinavia, I think Sweden, which is
occasionally wound up to show visiting statesmen (not hams who might understand
it !) and the other is on the Eastern seabord of the USA somewhere, I think -
and is fully operational, only closed down in the 1960s. There was an issue
of "Morsum Magnificat" a couple of years ago which carried an article on
these old wonders.

Hydrogen arcs I confess ignorance of ! If someone would enlighten me, I'd
like to be less ignorant !

73,

Duncan ON9CHU / G0UTY G-QRP 8117
dcadd@luc.ac.be

3816. Re: How do I make thru-plated holes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: Kendel McCarley <kendelm@stat.nursing.arizona.edu>
Message-ID: <Pine.SUN.3.90.950824100639.29293A-100000@stat.nursing.arizona.edu>
Source record: 110977

>
> > >I need to make a double layer board. I've done it before with rather
> > >cheesy connections between the layers, but need to do a better job this
> > >time or I won't be able to get to my solder connections.
> >
> > >Anyhow, I've looked at tining kits, but still don't have a clue as to how
> > >I make a thru plated hole.
> >
> > It can be done. But you would be way ahead of the game if you simply
> > paid the 2 or 3 hundred dollars necessary to get a commercial outfit
> > to make a board for you.
> >
>
I've never been able to get this cheap for boards I've had made for work
related projects. I'm paying a little over two-hundred dollars in setup
charges alone on a current project (photoplots, etc.) and I have shopped
around.

Anyhow, I'd still like to know how to make thru-plated holes. I can't
justify several hundred dollars for a single, hobby-related board;
especially when I could go out and buy a commercial product for about
that much to do what I'm homebrewing.

Kendel McCarley kendelm@ece.arizona.edu
KC7FRS http://www.nursing.arizona.edu/~kendelm

3817. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <809286402snz@lfheller.demon.co.uk>
Source record: 110978

In article <acj-2308952003060001@amber1.ultranet.com>
acj@ultranet.com "Jon Goguen" writes:

> In article <809205666snz@lfheller.demon.co.uk>, Leon@lfheller.demon.co.uk wrote:>
>
> > GEC-Plessey make 3 GHz dividers. I've got their catalogue somewhere if
> > you want more details.
> >
> Leon:
>
> Do you know of any source for these dividers in small quantities?

They are rather specialised, so you might have problems in the US. The GEC Plessey N. American national sales office phone number is (408) 438-2900. They should be able to give you details of your nearest distributor. Pioneer Standard and Insight stock GPS products, and seem to have offices in most states.

A typical component is the SP8904B that goes up to 7000 MHz! They make slower devices like the 3500 MHz SP8835B. 8-) These are both divide by 4s.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3818. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DDtw94.nn@hpcvsnz.cv.hp.com>
Source record: 110979

Duncan Cadd (dcadd@luc.ac.BE) wrote:
: Greetings, all, from a warm and sunny Diepenbeek in N.E. Belgium !

: " The really big VLF transmitters weren't sparks. They were AC generators
: that worked at RF frequencies (or with mag amp frequency multipliers).
: Or were hydrogen arc transmitters that were negative resistance oscillators
: much like a multikilowatt neon lamp. Both of which output CW, as opposed
: to the damped wave from a spark transmitter.

: I sure wouldn't want to hang around the keying relays when one of those
: things was sending.

: Mark Zenier mzenier@eskimo.com mzenier@netcom.com "

: If I recall correctly, the AC generators went by a name like Amundsen
: Alternator, or something similar. They had several hundred pole pieces,
: rotated at high rpm and had an output of the order of 20-30kc/s. Two remain
: in existence in the world, one in Scandinavia, I think Sweden, which is
: occasionally wound up to show visiting statesmen (not hams who might understand
: it !) and the other is on the Eastern seabord of the USA somewhere, I think -
: and is fully operational, only closed down in the 1960s. There was an issue
: of "Morsum Magnificat" a couple of years ago which carried an article on
: these old wonders.

: Hydrogen arcs I confess ignorance of ! If someone would enlighten me, I'd
: like to be less ignorant !

For folk who might have a casual interest in early transmitter (and
receiver) technology, look for issues of "Electronics World + Wireless
World" magazine from the UK. Three articles I found that were interesting:

"Marconi's 200kW Transatlantic Transmitter," Jan. 1994, Pg. 29.
This was a CW SPARK (not alternator) transmitter. There were amplitude
ripples, but apparently not a huge percentage.

"The Spark That Gave Radio to the World," Nov. 1993, Pg. 937. This article
mentions spark transmitters up to 300kW, and possible efficiencies up to
60%.

"Germany's Imperial Wireless System," May 1993. From this article, "Before
the evolution of high power transmitter valves, there were three ways to
generate high power CW: Poulsen's quenched arc, Marconi's timed spark, and
radio frequency alternators."

73, K7ITM

3819. Noise Figure Circles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: Super-User <root>
Message-ID: <41ikb0$qgq@news.duke.edu>
Source record: 110980

I am trying to plot noise figure circles for a preamplifier at 400 MHz. Anybody know a good way to do that?

or:

If I have a 50 ohm source and I want to continuously transform it from some low impedance (around 2-5 ohms) to something like 100 or 1000 ohms how can I do that? This is for plotting circles of constant noise figure on the resistance axis of the Smith Chart.

I am thinking about coupling the 50 ohm noise source into a big resonator and then using a variable output coupling to get my impedance transform. Will that work?

sas@orion.mc.duke.edu

steve

3820. Re: How do I make thru-plated holes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: bcollett@hamilton.edu
Message-ID: <bcollett-2408951644020001@150.209.16.9>
Source record: 110981

In article <NEWTNews.809294389.18617.geotek@geotek.cent.com>,
geotek@cent.com wrote:

> In Article<41i50r$iq1@news.azstarnet.com>, <N7WS@azstarnet.com> write:
> > Path:
esol.intermedia.com!newsjunkie.ans.net!howland.reston.ans.net!plug.news.pipex.net!pipex!ta
nk.news.pipex.net!pipex!news.sprintlink.net!news.azstarnet.com!usenet
<deleted>
> > >I belive thay have a
> > >website, www.apcircuits.com/htmls/apc/apdel2.html
> > >
> > >
> > I couldn't connect to this site:-(
> >
> > Wes -- N7WS
> >
> A little typo on the website
> it should be www.apcircuits.com/htmls/apc/apdef2.html

I tried that and couldn't get the doc so I searched and found it at
http://www.cadvision.com/htmls/apc/apdef2.html
.

3821. Re: How do I make thru-plated holes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <41i50r$iq1@news.azstarnet.com>
Source record: 110982

geotek@cent.com wrote:

>No need to pay big bucks for good quality prototype PC boards. Check out AP
>Circuits in Calgary.
[snip]
>I belive thay have a
>website, www.apcircuits.com/htmls/apc/apdel2.html
>
>
I couldn't connect to this site:-(

Wes -- N7WS

3822. Computer Interferance using RTTY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: knutsonj@skypoint.com
Message-ID: <41iuut$224@stratus.skypoint.net>
Source record: 110983

This message isn't truly related to homebrewing but I thought you guys might have the best idea as to what I should try here.

I have been trying to get into RTTY lately but am having a heck of a time with my computer locking up when using 20 or 40 meters. It's ok on 10 and 15. I have the cpu unit grounded have coils on the cables going into the CPU but it really hasn't even made a differance. Any help on what to try next would be greatly appreciated.

Thanks, KA0JZX
Jon Knutson

3823. An answer to "thru-plated holes"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: Kendel McCarley <kendelm@stat.nursing.arizona.edu>
Message-ID: <Pine.SUN.3.90.950824154643.29467B-100000@stat.nursing.arizona.edu>
Source record: 110984

The web URL suggested earlier led me to a seperate site for circuit board fabrication information. The site is run by a company dedicated to getting board fabricators to using non-toxic chemicals.

This site has info on using a special ink to coat the inside of drilled holes so that they can be plated using a normal Cu plating process. To do this, the ink is smeared into the holes using a squeagee, and the excess is then either sucked or blown out. After the board is cured in an oven at 100 degrees C for thirty minutes, it is then "electroplating receptive". This process can also be used for blind vias in multi-layer boards.

Anyhow, the URL is http://www.databahn.net/greenckt/ There is information on all different aspects of producing PCB boards, including "kitchen" multi-layer boards. Also included in their instructions are the neccessary safety requirements (good!). The site is partially finished and should have lots more info on Monday.

I called the company that sponsor's the site (Think & Tinker 719/481-9011) to find out more about the availability of the ink. They were going to post the formula, but decided not to as there is an intermediate step in its' creation that involves toxics (even though the final result isn't toxic). They do sell the ink. Their current smallest size is 140 grams for $172 (part #CH29-0000-000A). It takes 2 grams per board with 1500 holes and lasts about ten years in the refrigerator. They may decide to sell a smaller 50 gram bottle and that will probably be announced Monday on their web site.

It's going to be the first part of next year before I go any further with this. Hopefully, one of you can try out this process and report how it goes. Just to make things clear, I have no connection with Thing & Tinker, Ltd. other than being an interested, possible customer.

Kendel McCarley kendelm@ece.arizona.edu
KC7FRS http://www.nursing.arizona.edu/~kendelm

3824. Plans/schemes for radio -- where to be found ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: ROMAR <romar@cam.org>
Message-ID: <41j1r4$psd@Tandem.CAM.ORG>
Source record: 110985

How can I found schemes/plans for a radio ? I wanted to build
one -- a very good one, if possible -- and, in order to do that,
I would need a good/very good radio scheme !

Thanks.

3825. (+) Plans/schemes for radio -- where to be found ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: ROMAR <romar@cam.org>
Message-ID: <41j285$psd@Tandem.CAM.ORG>
Source record: 110986

BTW, I forgot: reply me throug E-mail, please, at
odin@nyongwa.montreal.qc.ca (I'll leave cam.org)

Thanks.

3826. Building amplifier - need load capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: jchol@aol.com
Message-ID: <41j620$rs6@newsbf02.news.aol.com>
Source record: 110987

Please let me know if you have a 1.5kv air variable capacitor in the range of about 1000 picofarads. Possibly I could use a smaller one. It is for the plate tank circuit for an amplifier with two 3-500z tubes.

Thanks for reading. 73 de John, WA5TWL....

3827. Re: How do I make thru-plated holes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: geotek@cent.com
Message-ID: <NEWTNews.809294389.18617.geotek@geotek.cent.com>
Source record: 110988

In Article<41i50r$iq1@news.azstarnet.com>, <N7WS@azstarnet.com> write:
> Path: esol.intermedia.com!newsjunkie.ans.net!howland.reston.ans.net!plug.news.pipex.net!
pipex!tank.news.pipex.net!pipex!news.sprintlink.net!news.azstarnet.com!usenet
> From: Wes Stewart <N7WS@azstarnet.com>
> Newsgroups: rec.radio.amateur.homebrew
> Subject: Re: How do I make thru-plated holes?
> Date: 24 Aug 1995 15:14:35 GMT
> Organization: Arizona Daily Star - AZSTARNET
> Lines: 13
> Message-ID: <41i50r$iq1@news.azstarnet.com>
> References: <Pine.SUN.3.90.950823173426.28640A-100000@stat.nursing.arizona.edu>
<41gk0d$8ml@news.duke.edu> <NEWTNews.809276395.25392.geotek@geotek.cent.com>
> NNTP-Posting-Host: dialup100.azstarnet.com
> Mime-Version: 1.0
> Content-Type: text/plain; charset=us-ascii
> Content-Transfer-Encoding: 7bit
> X-Mailer: Mozilla 1.2b2 (Windows; I; 16bit)
>
> geotek@cent.com wrote:
>
> >No need to pay big bucks for good quality prototype PC boards. Check out AP
> >Circuits in Calgary.
> [snip]
> >I belive thay have a
> >website, www.apcircuits.com/htmls/apc/apdel2.html
> >
> >
> I couldn't connect to this site:-(
>
> Wes -- N7WS
>
A little typo on the website
it should be www.apcircuits.com/htmls/apc/apdef2.html

3828. Re: Noise Figure Circles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <41irg5$bbv@cismsun.univ-lyon1.fr>
Source record: 110989

Super-User (root) wrote:
: I am trying to plot noise figure circles for a preamplifier at 400 MHz. Anybody
: know a good way to do that?
: steve

STeve :
in order to do that, you would want to have three parameters at 400 MHz :
NF, the minimal noise factor.
Rn : the equivalent noise resistance.
Ys : the optimal source admittance

Your noise factor for a given admittance Y is then :

nf = NF + Rn |Y - Ys|^22 / Re (Y)

Or the circles for a given nf are centered on

Ci = GammaS / (1 + Ni)

Radius : Ri = sqrt (Ni^2 + Ni * (1 - |GammaS|^2))/(1 + Ni)

with

Ni = (nf - NF) * | 1 + GammaS|^2 / (4 * Rn)

GammaS would be the reflection coefficient corresponding to Ys,

Hope this might help

Vince

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

3829. Re: Plans/schemes for radio -- where to be found ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-2408952145380001@brockway-d229.sierra.net>
Source record: 110990

Suggest you get a current copy of the Handbook from the Radio Society of
Great britain. They seem to have a lively activity of receiver builders,
of a very high order. Prepare for a technically demanding project.
>
> Thanks.

3830. Re: How to Space-Wind Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: steamer@west.net
Message-ID: <41jmkg$p1o@acme.sb.west.net>
Source record: 110991
Cross-posted to: rec.radio.amateur.homebrew,rec.crafts.metalworking

I believe one technique of doing this is referred to as "bifilar
winding" and had to do with increasing the cross-sectional area of the
coil by winding, simultaneously, two wires, which needn't be of the same
diameter, one would suppose. I did just this, when I needed to wrap some
wire around a tubular structure that was too tight a bend for a larger
cross-section wire. You might try something like this, just making sure
that the spacer-wire doesn't contact the wire that's carrying the current...
--
"Steamboat Ed" Haas : Four a good time,
phone: (805) 968-7534 : finger steamer|more
FAX: (805) 562-8928 :
---Decks a-wash in a sea of words---

3831. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-2308952003060001@amber1.ultranet.com>
Source record: 111120

In article <809205666snz@lfheller.demon.co.uk>, Leon@lfheller.demon.co.uk wrote:

> GEC-Plessey make 3 GHz dividers. I've got their catalogue somewhere if
> you want more details.
>
Leon:

Do you know of any source for these dividers in small quantities?

Jon

--
Jon Goguen

"Nothing worth knowing can be understood by the human mind."

3832. NEW HAM RADIO REMOTE CONTROL PRODUCT OFFERED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-24 00:00:00 UTC
From: Marshall Craw <mcraw@halcyon.com>
Message-ID: <Pine.ULT.3.91.950824183339.3500A-100000@chinook.halcyon.com>
Source record: 111121
Cross-posted to: rec.radio.swap,rec.radio.scanner,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I am pleased to announce a new product offered by Positive Time Systems called the RCS-I. This is a radio controller that connects to any VHF/UHF transceiver and can issue x-10 commands. (X-10 is a power line standard for controlling devices throughout a building. Sears, Radio Shack, and others offer these compatible units)
The unit also has an alarm input, a listen feature, a short voicmail box, and responds to all commands in a pleasant female voice. The system IDs with your recorded voice and call sign. This description doesn't do the product justice, so please check out the new homepage at :

http://www.halcyon.com/pos.time.sys/top

or you may email us with you address so that we can promptly send you our brochure and newsletter.

NOTE: This product is intended for US voltages of 120 / 220 VAC. Another version is offered to support other international power standards.

FLASH! NEW FEATURE! The RCS-I has a new feature called Secure Access Mode(SAM). When enabled, the access code changes dozens of times per hour, making it virtually impossible to hack into.

This Product will work on other radio services like GMRS. Marine and Business bands!

Thank You,

Marshall Craw <mcraw@halcyon.com>
Positive Time Systems (206) 888-5999
470 E North Bend Way, Suite 115
North Bend, WA 98045

3833. Re: Noise Figure Circles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <41j7r6$ef@news.azstarnet.com>
Source record: 110992

Super-User <root> wrote:
>I am trying to plot noise figure circles for a preamplifier at 400 MHz. Anybody
>know a good way to do that?
>
>or:
>
>If I have a 50 ohm source and I want to continuously transform it from some low
>impedance (around 2-5 ohms) to something like 100 or 1000 ohms how can I do
>that? This is for plotting circles of constant noise figure on the resistance
>axis of the Smith Chart.
>
>I am thinking about coupling the 50 ohm noise source into a big resonator and
>then using a variable output coupling to get my impedance transform. Will that
>work?
>
Steve:

I believe what you are wanting to do is make the noise source look like a
source impedance which varies over some area of the Smith chart.
You can't plot circles ON the resistance axis tho ;-)

You might try using a double or triple-stub tuner,
but understand that you almost need a network analyzer to
measure looking back into the tuner/noise source to determine
the actual source impedance. Also, the tuner losses directly
subtract from the ENR of the noise source,
so you must determine them as well if you want accurate noise figure numbers.

HTH, Regards, Wes -- N7WS

3834. Re: Computer Interferance using RTTY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: doughall@nando.net
Message-ID: <41jbja$boe@parsifal.nando.net>
Source record: 110993

knutsonj@skypoint.com (Jon Knutson) wrote:

>This message isn't truly related to homebrewing but I thought you guys
>might have the best idea as to what I should try here.

>I have been trying to get into RTTY lately but am having a heck of a time
>with my computer locking up when using 20 or 40 meters. It's ok on 10
>and 15. I have the cpu unit grounded have coils on the cables going into
>the CPU but it really hasn't even made a differance. Any help on what to
>try next would be greatly appreciated.

>Thanks, KA0JZX
>Jon Knutson

Jon,

You say you have coils on the cables - I assume you're talking about
the serial cable from the RTTY unit and the audio lines. But what
about the keyboard cable on your computer? My experience has been that
keyboards vary in their susceptability to RF - some are immune to it
and others roll over and die when you crank up the power. If you can
borrow another keyboard to try, do it. You might find the problem
there.
73,
Doug, KF4KL

3835. Info DX mailgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: sm7dlz@reimers.se
Message-ID: <950825071414339@reimers.se>
Source record: 110994

Hi all!

Please help me with the right adress to the DX mailgroup. Have tried
several but I always get the msg "failed" in return.

73 de Hans SM7DLZ

---
* QMPro 1.51 * Chernobyl used Microsoft Windows.

3836. Re: NEW HAM RADIO REMOTE CONTROL PRODUCT OFFERED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: Jeffrey Pawlan <jpawlan@arasmith.com>
Message-ID: <41l7ah$ll@punchdown.zocalo.com>
Source record: 110995
Cross-posted to: rec.radio.swap,rec.radio.scanner,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

So you, too, can flush your toilet by remote control while sitting in rush-hour traffic!

3837. Re: Building amplifier - need load capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: jms@col.hp.com
Message-ID: <41kgbr$6ab@nonews.col.hp.com>
Source record: 110996

JCHol (jchol@aol.com) wrote:
: Please let me know if you have a 1.5kv air variable capacitor in the range
: of about 1000 picofarads. Possibly I could use a smaller one. It is for
: the plate tank circuit for an amplifier with two 3-500z tubes.

Yes, you could use a smaller one. Try around 200-250 pF.

Mike, K0TER

3838. Re: Building amplifier - need load capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <41kmdd$a68@newsbf02.news.aol.com>
Source record: 110997

: Please let me know if you have a 1.5kv air variable capacitor in the
range
: of about 1000 picofarads. Possibly I could use a smaller one. It is
for
: the plate tank circuit for an amplifier with two 3-500z tubes.

>Yes, you could use a smaller one. Try around 200-250 pF.

What? Only if he wants to stay on six meters or have a mess off switched padders. The 1000 won't even hit 160. I can't run the numbers but if uses the 3-500Z's at anywhere near rating the 1000 won't even hit 80 without a padder.

Try to contact the manufacturers of amps to buy a cap. Ameritron, Ten-tec, etc.
They buy them in bulk, and replacement parts are usually cheaper than surplus sales. I also have a ton of caps like that if you get stuck.

73 Tom

3839. Search spare part for Mini Circuits wideband amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: bohl@sp065.cern.ch
Message-ID: <bohl.809360786@rscernix>
Source record: 110998

Dear colleagues,

does anybody know what type of transistor is used in the final
stage of the Mini Circuits wideband amplifier ZHL-1042-J ?

73 de Thomas, F5SWE
Th.Bohl@cern.ch

3840. Jamming LW Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: David Lees <100607.1743@CompuServe.COM>
Message-ID: <41kn0pphu1@mhadg.production.compuserve.com>
Source record: 110999
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Anyone any idea how I could Jam a radio Long Wave radio station (Atlantic 252 to be accurate).....

Please help if you can!

3841. Re: How do I make thru-plated holes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <41ko2m$j4c@cnn.exu.ericsson.se>
Source record: 111000

Kendel McCarley <kendelm@stat.nursing.arizona.edu> wrote:

>> > It can be done. But you would be way ahead of the game if you simply
>> > paid the 2 or 3 hundred dollars necessary to get a commercial outfit
>> > to make a board for you.
>> >
>>
>I've never been able to get this cheap for boards I've had made for work
>related projects. I'm paying a little over two-hundred dollars in setup
>charges alone on a current project (photoplots, etc.) and I have shopped
>around.

>Anyhow, I'd still like to know how to make thru-plated holes. I can't
>justify several hundred dollars for a single, hobby-related board;
>especially when I could go out and buy a commercial product for about
>that much to do what I'm homebrewing.

And right you are. Some of the postings have been a little silly for
a "HOMEBREW" newsgroup.

Kendal, I design RF transistors and so as a rule I HAVE to make
breadboard PCB's *fast* to test new designs. No time for outside
services. I use one of those engraving machines to "etch" the PC
board, but I'm still left with no through holes which makes for very
poor RF grounding. Here are a few things I do:

1. Copper or brass shim. You can get it in real thin sheets (around
003"-.008" thick is best), and sometimes in rolls for bigger jobs.
Cut a thin strip (1/16" works fine) to about a .25" length and feed it
through either a pre-drilled hole, or a slit made through the board
with an exacto knife. I use a small hole for FR-4 (your most common
PCB material), and a slit for the more expensive (and softer)
Teflon-Fiberglass material used in microwave applications. Now bend
the "tabs" sticking out down flat on the board and solder both sides.
They can be bent down in either a "Z" shape, or fold the top tab back
over in the direction of the bottom tab to make a "U" shape. If
you're clever, you can even make a 90 degree bend by folding it as it
comes up through the hole. You can connect traces top and bottom by
using combinations of the above.

2. Brass eyeletts. A little harder to find, but work great. You buy
them according to the thickness of your PCB. They come a little
longer than the board is thick. You put several at a time into
pre-drilled holes, and place the PCB on a hard, flat surface. (At
this point you are supposed to use a special tool, but the following
technique work fine.) Hit the top of the eyelett lightly with a

center punch to flair it out, then flatten it down to the PCB with a small hammer. A little solder top and bottom and you're all set.

3. A REAL inexpensive way is to use solid copper wire as a "plug" for a hole. Drill a hole exactly the same diameter as the wire you are using. Now you can feed a short length through the hole. Place your PCB on a hard surface and trim the wire using good "flush cutting" wire cutters a little bit above the PCB surface. You'll have to experiment with the length. Then hit the top of the wire with a small hammer. It will mushroom out slightly pinning it in the hole. Solder it in place and you're done.

There are easier methods, but one of the criteria I have to use is the bottom surface of my PCB end up as flat as possible to mount it flat on a heat sink. Otherwise you could simply run a wire from top to bottom through a hole and be done with it. Whatever works for your application.

I use the above methods to build prototype RF boards that perform well past 2 GHz. These ideas are NOT mine, I just use them. Good luck with your project! Other helpful comments by hams are encouraged here.

Mike Groves (KD6PKJ)

3842. Re: Noise Figure Circles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: jeffa@pax.ssd.loral.com
Message-ID: <1995Aug25.154849.4655@ssd.loral.com>
Source record: 111001

It is not essential to plot noise figure circles for most circuits. As long as the circuit is "nicely behaved" (most amps and low Q circuits, forthat matter, are), you can take measurements at a set of match conditions and use these match points to generate iso-noise match curves (which are usually similar to circles). The same technique applies to load-pull measurements. Of course, you need to know the match that you are providing to the amplifier. This usually means measuring the matching circuit/tuner w/ a vector network analyzer or phase meter. At 400MHZ, you could use a very fast scope to compare amp/phase of the direct and coupled ports of a coupler in-line with your tuner, but then you have to calibrate out the coupler effects (there is loss and phase between direct and coupled ports on a well isolated coupler of, say, broadwall or stripline/microstrip variety).

Another option is to use a tuner or known VSWR match and put a variable delay line between it and a coupler and the amp. As normal, put detectors on the direct and coupled ports of the coupler. Twiddle the delay line through a full cycle of coupler readings. If you can determine a single point on the tuner curve (via phase meter or VNA), you essentially referenced that point to the associated noise figure and all other points since the other points describe a circle locus w/ the Smith chart center as center of the locus. Of course, you still need to measure the noise figure at points along the phase rotation locus of matches. It's just that now, you don't have to determine the match for n arbitrary loads. Even better if you hook a VNA to the coupler and calibrate the measurement system. With this, the match shows up on the VNA and all you have to do is take noise figure measurements at points along the locus.

It all boils down to what equipment you have available.

****
What appears to be a sloppy or meaningless use of words may well be a
completely correct use of words to express sloppy or meaningless ideas.
****
jeffa@sesinc.com

3843. Re: Search spare part for Mini Circuits wideband amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <41kruo$e8r@unisql.unisql.com>
Source record: 111002

Thomas Bohl writes:
>
> does anybody know what type of transistor is used in the final
> stage of the Mini Circuits wideband amplifier ZHL-1042-J ?
>

Mini-Circuits
P.O. Box 350166
Brooklyn NY 11235-0003 USA
718-934-4500
718-332-4661 fax

Those people should know.

3844. Re: Search spare part for Mini Circuits wideband amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <41l4ag$2e4@solaris.cc.vt.edu>
Source record: 111003

In article <41kruo$e8r@unisql.unisql.com>,
Jim Strohm <jstrohm@blazer> wrote:
>Thomas Bohl writes:
>>
>> does anybody know what type of transistor is used in the final
>> stage of the Mini Circuits wideband amplifier ZHL-1042-J ?
>>
>
>Mini-Circuits
>P.O. Box 350166
>Brooklyn NY 11235-0003 USA
>718-934-4500
>718-332-4661 fax

I think it is an Avantek GaAS FET of some type. We had one of those amplifiers blow out (several stages bad, burned resistors, etc) a few years ago, and sent it back to Mini-Circuits. As they judged it "beyond repair", they they traded it for a new one for about half the price of a new one (still expensive!). I don't know if they still do that or not.

-Mike KD4QDM

3845. Re: 20M/40M mobile antenna problem/question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-2508951426410001@k4dii.ksc.nasa.gov>
Source record: 111004

In article <41d6pj$t15@noc.tor.hookup.net>, Jeff Krul <jkrul@equist.com> wrote:
> I have a 20M/40Meter mobile vertical which was GIVEN to me by
> the owner of the HF rig I purchased. (450sat). I constructed
> a 'mobile' stand for the antenna out of plywood for DX
> expeditions away from home. The base of the mobile antenna
> sits about 10feet off the ground when on the stand.

Jeff-

The obvious trouble is that you only put up half of the antenna!
Normally, the vehicle is part of a mobile antenna system, even though it
may be small compared to the wavelength involved. You can't get along
without it, or some equivalent ground plane.

It is also possible to mount a pair of HF mobile antennas on a bracket, to
form a shortened dipole. This won't work as well as a full size antenna,
but is relatively portable. I purchased such a bracket from the company
that sells the "Hamstick" mobile antennas. They had a table set up at one
of the local hamfests. I haven't had a chance to try it yet.

73, Fred, K4DII

3846. Re: Laser printer --> Panel, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: cj@algonet.se
Message-ID: <41l773$l0j@alecto.algonet.se>
Source record: 111005

gbrush@indy.net (Greg Brush) wrote:

>: Maybe this is old news and I just didn't get the word, but I'm
>: wondering how I can transfer laser-printed artwork onto a panel. Is
>: there something equivalent to dry-transfer lettering for printers?
>: Thanks for any info.

>I wish I had the name of the company off hand, but one of the toner
>transfer PCB products I've used, touted their product for producing panel
>graphics as well. In brief, you print on their release paper, spray the
>printed side of the paper with clear lacquer and let dry. Then, cut the
>area out you want to use as a transfer, soak in water for a few minutes
>and it slips off the release paper just like a decal (for those that have
>built styrene models). They say it should work on other types of printers
>too (probably won't work on inkjets that use water soluble inks, IMO).

If my memory serves me the name of the company is "Dyna Art Designs"
in US, or am I wrong ?

/Christer

```
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* High Tech Horizon - Christer Johansson - * email: cj@algonet.se *
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web - http://www.algonet.se/~cj/catalog.html <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

3847. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-2508951441430001@k4dii.ksc.nasa.gov>
Source record: 111006

In article <acj-2208952123370001@amber1.ultranet.com>, acj@ultranet.com
(Jon Goguen) wrote:
> How do you make the divide by four that operates to 3 GHz? I was under
> the impression that some sort of frequency conversion scheme was used to
> bring high frequencies down prior to the dividers and counters, but direct
> division would certainly be a lot easier.

Jon-

Division is easier, but requires longer to measure to the same accuracy.
If you measure to one Hz with a one second time base and divide by 10,
your new measurement will only be to ten Hz.

Some counters, such as the Optoelectronics, use divide by 2 and divide by
4 prescalers for higher frequency measurements. Their circuitry
automatically lengthens the timebase to match, so you end up with the same
resolution at 2 or 4 times the original timebase, without having to do any
math yourself.

73, Fred, K4DII

3848. Re: Jamming LW Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: dstuart@rocket.cc.umr.edu
Message-ID: <41laqf$4l7@hptemp1.cc.umr.edu>
Source record: 111007
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

David Lees (100607.1743@CompuServe.COM) wrote:
: Anyone any idea how I could Jam a radio Long Wave radio station
: (Atlantic 252 to be accurate).....

: Please help if you can!

Isn't that kind of un amatureish?

--
-- Dave Stuart
dstuart@umr.edu
University of Missouri -- Rolla

KB0SLY

3849. Re: How do I make thru-plated holes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: fas@exu.ericsson.se
Message-ID: <41kt8o$ka2@cnn.exu.ericsson.se>
Source record: 111008

you can make "plated thru holes" by using eyelets! there is a kit called a TRACK REPAIR Kit made by PACE I think TECHNITOOL sells it. It comes with eyelets and "tracks"
Have fun

_____
Frank Scaraglino scaraglino@egertp.ericsson.se KA2FWC

3850. Re: Jamming LW Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <809371516snz@lfheller.demon.co.uk>
Source record: 111009
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <41kn0pphu1@mhadg.production.compuserve.com>
100607.1743@CompuServe.COM "David Lees" writes:

> Anyone any idea how I could Jam a radio Long Wave radio station
> (Atlantic 252 to be accurate).....
>
> Please help if you can!

To start with, you'll need a big garden for the antenna! Plus lots of money
for the electricity bill. 8-)

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3851. Re: Jamming LW Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: ppicot@irus.rri.uwo.ca
Message-ID: <41lcrs$s4m@falcon.ccs.uwo.ca>
Source record: 111010
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <41kn0pphu1@mhadg.production.compuserve.com> David Lees
<100607.1743@CompuServe.COM> writes:
>Anyone any idea how I could Jam a radio Long Wave radio station
>(Atlantic 252 to be accurate).....

How about an air drop? I was always quite fond of black currant myself.
It should stain the building nicely, but you'll need a 45-gallon drum
of it... :-)

But seriously: why would you want to interfere with a LW station? It
is a navigation aid, isn't it? The penalties for doing such a thing
should dissuade you.

But to give an answer: the most effective way to interfere with its
transmissions would be to drive a large truck into the transmitter

3852. Re: Laser printer --> Panel, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: ao974@FreeNet.Carleton.CA
Message-ID: <DDuqMr.6H8@freenet.carleton.ca>
Source record: 111011

Snip ..... Toner is usually a composite of styrene and carbon perhaps with some tint. Normally sepia,cyan, magenta, yellow and black. There are other combinations ..... The styrene is melts or dissolved, applied to the copy(transfer) and fixed by heat, pressure or evaporation.The liquid toners often lack viscosity. In order to create the amount of solid fill necessary to create a decent transfer, you need powder.

The lacquer merely melts a layer of toner off the transfer and causes it to stick to the destination material, When the solvent evaporates, it is set. Try not to smear it.
Good luck
73 de VA3AE

--
Across time and culture, few have had the exquisite pleasure of a fresh piece of paper and a new box of crayolas.

3853. gizmachi antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: Phil Diaz <hc@primenet.com>
Message-ID: <41k04m$ns@nnrp1.primenet.com>
Source record: 111012

can anyone tell me how to build one? has anyone ever heard of a gizmachi antenna? i saw one very unique antenna and works very well...i'm told.

3854. gizmachi antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: Phil Diaz <hc@primenet.com>
Message-ID: <41k065$ns@nnrp1.primenet.com>
Source record: 111013

can anyone tell me how to build one? has anyone ever heard of a gizmachi antenna? i saw one very unique antenna and works very well...i'm told.

3855. Re: Drake R7 VCO hosed: stuck at 51.950 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: russ@mailhost.gslink.net
Message-ID: <41k7jd$itd@ddi2.digital.net>
Source record: 111014

In article <41e6pq$8ir@ddi2.digital.net>, russ (russ@mailhost.gslink.net) says:
>
>I have an R7 with the digital readout installed that worked and then
>froze on the above frequency on the display. I think I've narrowed
>it down to the VCO board, probably the MC14046 PLL or one the the
>following UA739 opamps stuck on the positive rail, which might account
>for the failure mode.
>

Never mind, found the problem.

Still, I welcome other comments from R7 users on fixes, mods, etc.

Especially on how to change the #53 bulb on the tuning window without
destroying the front panel <g>.

Russ

3856. Need source of custom CERAMIC Filters for 240kHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-25 00:00:00 UTC
From: lynngol@aol.com
Message-ID: <41m39s$hbh@newsbf02.news.aol.com>
Source record: 111015

I am looking for a company that can build custom Ceramic Filters for 240 kHz.
All the places I found just sell off-the-shelf units. Quantity needs are in
the low 1000's per year.

Mark KH6HPQ

3857. Schematics from Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <41na2e$dko@news.duke.edu>
Source record: 110922

Before I spend money on something that may not be what I need, I'll ask for some advise.

I've got a used R-S DX-440 that seems to be a bit low in sensitivity on almost all the AM bands including all the SW bands. I could test and probably fix whatever's wrong if I could get decent schematics. Is whatever service manual I might be able to get from R-S going to be halfway decent as far as showing me a full schematic with parts values? If so, what's the R-S part number for the manual?

Jim "no sig" Meyer

3858. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <41napq$dko@news.duke.edu>
Source record: 110923

jphipps@aztec.asu.edu (JOHN PHIPPS) wrote:

>If memory serves me, the lo-frequency alternators were Fendessen,
>not Amundsen. Amundsen was first at the South Pole - he did it on
>dog sleds and did not take an alternator with him.

There *was* one guy that went with him to the south pole that *may*
have been an "alternator". History just records his first name
though, Bruce.

Then again, perhaps he was just a flashy dresser.

Jim "no sig" Meyer

3859. Re: Building amplifier - need load capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <41nddg$ev8@newsbf02.news.aol.com>
Source record: 110924

Ohhh, wait a minute. I see why he said 250 pF (although that still won't hit 160).
I think you post wasn't clear as to where you wereusing the cap. I assumed it was the load control, because of the low voltage and high capacitance you specified. I bet the other guy assumed it was the plate tuning cap! 73 Tom

3860. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: larsa@algonet.se
Message-ID: <41nj2f$vo@alecto.algonet.se>
Source record: 110925

jphipps@aztec.asu.edu says...
>
>
>If memory serves me, the lo-frequency alternators were Fendessen,
>not Amundsen. Amundsen was first at the South Pole - he did it on
>dog sleds and did not take an alternator with him.
>
>John, K7BTA

Or maybe Alexanderson ?

Lars, SM0FOE

3861. Canadian Malt extract

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: beer2525@aol.com
Message-ID: <41nplf$ink@newsbf02.news.aol.com>
Source record: 110926

Beer kit's with Canadian Malt extract. Will send price list for 7 types
Beer2525@aol.com

3862. Re: Building amplifier - need load capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: jchol@aol.com
Message-ID: <41o4a0$lt7@newsbf02.news.aol.com>
Source record: 110927

I agree with you, Tom. He must have figured it was the tune capacitor. I am planning on switching in some doorknobs to make up the difference.

3863. HF Propagation Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: John Fallows <fallowsj@cadvision.com>
Message-ID: <41o632$lie@cadvision.com>
Source record: 110928

I am interested in communicating with anyone who experiments
with or uses HF propagation evaluation software and theory.
In particular, I am looking for some theory or algorithms
on using A/K indices to adjust MUF calculations during
ionospheric storms, etc.

3864. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <41o7qc$nc9@vixen.cso.uiuc.edu>
Source record: 110929

In a previous article, jphipps@aztec.asu.edu (JOHN PHIPPS) says:

>
>If memory serves me, the lo-frequency alternators were Fendessen,
>not Amundsen. Amundsen was first at the South Pole - he did it on
>dog sleds and did not take an alternator with him.
>
>John, K7BTA
>

Rogger! Reginald Aubrey Fessenden used the low-frequency alternators. From the book OPERATOR'S WIRELESS TELEGRAPH AND TELEPHONE HAND-BOOK by Victor H. Laughter, 1909 (discussing Fessenden's station - with photos and schematics!):

"The alternator which is used at the present day runs at a frequency of 80,000 to 100,000 per second, and the disagreeable noise at the receiving end has been entirely eliminated. Such an alternator when run at a frequency of 81,700 per second, gives a voltage of 150 volts open circuit and a field current of 5 amperes."

73, Zack W9SZ

3865. Re: Computer Interferance using RTTY

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: davew@cruzio.com
Message-ID: <DDxyEo.JAI@cruzio.com>
Source record: 110930

In article <41jbja$boe@parsifal.nando.net>, doughall@nando.net (Doug Hall) writes:
> knutsonj@skypoint.com (Jon Knutson) wrote:
>
> >I have been trying to get into RTTY lately but am having a heck of a time
> >with my computer locking up when using 20 or 40 meters. It's ok on 10
> >and 15. I have the cpu unit grounded have coils on the cables going into
> >the CPU but it really hasn't even made a differance. Any help on what to
> >try next would be greatly appreciated.
>
> >Thanks, KA0JZX
> >Jon Knutson
>
Jon,
You may also want to ground the keyboard with a seperate ground braid. I
opened mine and attached a braid made from the shield off a piece of RG58 to
the ground plane in the keyboard, then ran it back to the PC case and then to
the station ground. I run 1kw on all bands with no problem.
Dave KD6TO
.

--
Dave Wells KD6TO; INTERNET: davew@cruzio.com
Packet:KD6TO@K6LY.#CENCAL.CA.USA.NOAM; COMPUSERVE:74067,1755
(WA4UQQ Worldwide Amateur Radio Directory III KD6TO)
.

3866. Amp. parts for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: bob.albert@ledge.com
Message-ID: <8AFE3D5.01B5001465.uuout@ledge.com>
Source record: 110931

I have parts to build some HF kilowatt amplifiers. Tubes, transformers, etc. And a couple of working amplifiers. Not asking a lot, but would prefer pickup in the Los Angeles area.

I also have an oscilloscope, Tektronix 535 for sale or parts. And an old Dumont 401-R oscilloscope for parts.

All this stuff works but I think I'll just part them out and probably get the same amount of money either way.

Call me at 818-894-2887 after 10AM Pacific time. 73 DE K6DDX

3867. I want to subscribe to your mailing list

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: davisj@harborside.COM
Message-ID: <m0smF6P-000T5QC@harborside.com>
Source record: 110932

I would like to subscribe to your mailing list. It is my goal to start buiildingg my own stuff.
Thank You

Joe W. Davis N4EJF/7
mail to davisj@harborside.com

3868. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: jphipps@aztec.asu.edu
Message-ID: <41lvee$t0j@news.asu.edu>
Source record: 111016

If memory serves me, the lo-frequency alternators were Fendessen, not Amundsen. Amundsen was first at the South Pole - he did it on dog sleds and did not take an alternator with him.

John, K7BTA

3869. Help: Looking for info on Cascade Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: "Davd L. Frey" <dlfrey@ddi.digital.net>
Message-ID: <41m5lt$3o7@ddi2.digital.net>
Source record: 111017

I need the telephone number and address of a company called Cascade Electronics.
They supply hardware for the electronic industry.

Thank you,

Dave Frey
email: k3aax@ddi.digital.net

3870. NEED HELP MAKING TV OSCILLATOR/JAMMER, SHORT RANGE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: shack9529@aol.com
Message-ID: <41m7tm$ldh@newsbf02.news.aol.com>
Source record: 111018

DOES ANYONE KNOW HOW TO MAKE AN OSCILLATION CIRCUIT THAT WILL INTERFERE WITH TV. MY PURPOSE IS TO USE IT AS A JOKE DURING FOOTBALL GAMES AT A FRIENDS HOUSE.

PLEASE HELP! THANKS

3871. Re: phased array receiving antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: russ@gslink.net
Message-ID: <41m182$r1m@ddi2.digital.net>
Source record: 111019
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <steve-2806951249300001@brainiac.hi.com>, steve@hi.com (Steve Byan) says:

>My next problem is designing a high-input-impedance, high-dynamic-range
>differential RF amp for the output of the phase shift network.

And don't forget low noise, Steve ;-) I work on such ...

>I've noticed the new JPS antenna noise canceling unit (which is a
>phased-array receiving antenna, intended to null locally-generated RFI

I wouldn't quite call it a phased array. You simply either pickup
(radio) or synthesize the offending signal, flip the phase 180
degrees, sum the signals, and voila! Noise reduction. An old dog
learning new tricks...<g>

>noise) must use some kind of wideband phase-shift network, since it covers
>at least 3 to 30 MHz with only a two-position bandswitch: low band and
>high band. Has anyone opened one of these up? What does the phasing
>network look like? Is it a polyphase network? What does JPS use for an
>amplifier?

According to info leaked out, its a hybrid combiner, and accounts for
some loss of the desired receive signal. My guess is that it's
transformer based, the noise signal being fed 180 out from the main
antenna. The phase shift network compensates for phase error due
to parasitics in the network which might cause the noise channel to
deviate from desired 180 degrees as a function of frequency.

I'm guessing here, but WILL find the eventual answer.

I've played with one at a local ham store, and on first trial it did
eradicate some local power line noise. My original desire was for
a wideband antenna phaser for far-field null-steering apps as well
as diversity reception.

Russ

3872. QSL cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: kb8rjy@arbornet.org
Message-ID: <41ntdp$6qv@nntp.atlanta.com>
Source record: 111020
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Check this out - QSL cards!

With your own custom graphics, and text...

only $5.95 for 50!...

Custom design your cards with up to 80 Characters of text, and Your
own scanned
graphic / or antenna graphic.

Just fill out the following form, and send with total (check or money
order) to:
Shaun Qualheim, KB8RJY

QSL cards

Dept. BBS

224 Cherry Creek Road

Marquette, MI 49855

(Print, and cut here:)

Order Form: QSL Cards

Front Text:

(up to 80 characters on front) - back will have standard QSL reply
fields.
Is a graphic/photo to be scanned included? (yes/no) ____

Do you wish to have the antenna included on your qsl card instead?
(yes/no) ____
Number of sets: (50 in a set, $5.95 a set) ____ times $5.95 = ____

Plus Shipping and handling: ($1.50 per set) ____ times $5.95 = ____

Plus Scanning fee ($1.00) ____

TOTAL (sets + s & h + scan fee)
=____

(cut here)

Thank You

Shaun Qualheim, kb8rjy

Internet: kb8rjy@m-net.arbornet.org

3873. Re: NEED HELP MAKING TV OSCILLATOR/JAMMER, SHORT RANGE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-26 00:00:00 UTC
From: geotek@cent.com
Message-ID: <NEWTNews.809446184.3348.geotek@geotek.cent.com>
Source record: 111021

In Article<41m7tm$ldh@newsbf02.news.aol.com>, <shack9529@aol.com> writes:
>
> DOES ANYONE KNOW HOW TO MAKE AN OSCILLATION CIRCUIT THAT WILL INTERFERE
> WITH TV. MY PURPOSE IS TO USE IT AS A JOKE DURING FOOTBALL GAMES AT A
> FRIENDS HOUSE.
>
> PLEASE HELP! THANKS

Beg, borrow, or steal a grid dip meter or its modern equivalent. Don't forget
to wear a kevlar vest.

3874. K Beep!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: andrew_taylor@mindlink.bc.ca
Message-ID: <41odia$m8e@fountain.mindlink.net>
Source record: 110933

Hello, Id like to build an "roger beep"....can't seem to find
any schematics anyplace.

Id appreciate it if you can help me out!
thanks
Andrew T
andrew_taylor@mindlink.bc.ca

3875. Re: How do I make thru-plated holes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: Eliot Fenton <72633.3247@compuserve.com>
Message-ID: <41ofs6$r4u@bud.shadow.net>
Source record: 110934

You can get eyelets from the following company:

International Eyelets Inc.
1240 Keystone Way
Vista CA 92083
Tel 1 1-800-333-9353
Fax 1-619-598-4007

I've been using eyelets with a center punch successfully in ckts. up to 4 GHz. Eyelets will usually perform better than wires due to their lower inductance.

--
Eliot Fenton
72633.3247@compuserve.com

3876. Re: RF design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: Eliot Fenton <72633.3247@compuserve.com>
Message-ID: <41og47$r4u@bud.shadow.net>
Source record: 110935

workshop@pcm.co.za (Workshop) wrote:
>Is there anyone out there who can tell me if there are any sites on the internet where I can find out about RF design.
>For example designing impedance matching circuits etc.
>Pls email me at the above address
>thanx
>Robin

You might check Motorola's site (I don't have the address off hand, but it's fairly easy to find with Yahoo, Lycos, etc.); they have app notes galore and you can request data books with all pertinet information.

--
Eliot Fenton
72633.3247@compuserve.com

3877. Re: Need source of custom CERAMIC Filters for 240kHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: bill@alfalfa.pas.rochester.edu
Message-ID: <1995Aug27.022846.22484@galileo.cc.rochester.edu>
Source record: 110936

LynnGol (lynngol@aol.com) wrote:
: I am looking for a company that can build custom Ceramic Filters for 240
: kHz.

Don't know if they do custom filters, but have you tried muRata/Erie?
404-436-1300

-Bill, KA2WFJ

3878. Computer Control of Icom IC-R7100

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: pbutlalj@ia.net
Message-ID: <41qoge$i0m@hera.ia.net>
Source record: 110937
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hello,

I have a friend with one of these radios and he would like to
build the interface and program his own computer to control the radio.
The only problem that he has is that he cannot find the protocols that
the radio uses to be controlled. He would like to get the information
that is needed to make the radio listen to the computer commands. He is
most interested in the data bits and the baud rate and what the actual
commands are that need to be sent out the computer serial port.

Please respond via E-mail and here if you have an answer to this.
He realizes that he could do the solution by throwing money at the
problem but he wishes to do it the old fashioned way and do it himself.
--
Allan Butler KA0IES
ajbutler@ia.net

3879. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: jphipps@aztec.asu.edu
Message-ID: <41p214$aal@news.asu.edu>
Source record: 110938

Alexanderson?? Maybe..... Why does that name ring a very
faint bell??

3880. Re: NEED HELP MAKING TV OSCILLATOR/JAMMER, SHORT RANGE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <41pqhj$k4t@tierra.santafe.edu>
Source record: 110939

A possible approach is to get a TV tuner, the kind that has has a voltage controlled oscillator and covers tha cable channels. I built a sweep generator using one and it covered from 50 MHz to 950 MHz in about 4 ranges each covering approxiamtely a 2 to 1 frequency range. You'll need the wiring information to know where to apply power and how to switch the frequency range. And, then you have to figure out where to couple out some of the rf. That's not too hard since ther is a frequency divider in there for the phase lock circuitry and you can probably steal from its input without messing things up too much. Radio Shack used to have one in a blister pack. And, there have been articles in Ham Magazines about using TV tuners as the local oscillator in a spectrum analyzer. Someone was even selling a kit at one time.

Of course, the grid dip oscillator approach is quick since you don't have to build anything.

--
==========

James M. Potter, President Internet: jpotter@jpaw.com
JP Accelerator Works, Inc. AOL: jpawi@aol.com
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

3881. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: joe@westonia.com
Message-ID: <DDy9MM.7IC@westonia.com>
Source record: 110940

In article <DDtw94.nn@hpcvsnz.cv.hp.com>, tomb@lsid.hp.com (Tom Bruhns) wrote:
>Duncan Cadd (dcadd@luc.ac.BE) wrote:

(Interesting info on VLF Xmiters sniped for space)

>: it !) and the other is on the Eastern seabord of the USA somewhere, I think
-
>: and is fully operational, only closed down in the 1960s. There was an
issue
>: of "Morsum Magnificat" a couple of years ago which carried an article on
>: these old wonders.

I have been doing some research on these old VLF transmitters in the U.S., and would be interested to know if someone may have more detailed information on this, and others of its type.

In particular I would like to know if anyone knows of archival or book material with pictures of the antenna systems for these stations. I have come across some interesting references to huge systems with antena lengths of nearly one mile and multiple tower with hights of over 600'.

At this time the only station that may fit the discription outlined in the original email would be the Navy station NAA at Annapolis. I've seen it and it is impressive.

There were stations at Newbrunswick, NJ. Rock Point, N.Y. Sayville N.Y., Marion, Mass. Tuckerton, N.J. that operated into the 1960's.

The Newnbrunswick operation was originally a Marconi spark station that was taken over by RCA after WWI.

There was also stations at Arlington V.A., Pear Harbor and Challas Heights (a suburb of San Diego) that had a 100kw, 200kw, and 200kw spark transmitters respectivly.

Any ideas on these ?

There is also a very good book out (who's name I have forgotten) that has a pictorial history of Marconi's huge spark xmitter in England. To give an idea of the scale. First, check out your old ham manuals from the early 1920's and see the diagrams for a spark xmiter. Then upscale it to 100kw. The(as in one)capacitor used was housed in an open two story building. It was composed of metal sheets hung from the ceiling and streached from one wall to the other. There was about 6 feet between each sheet, so a person could walk between them.

The rotary spark was kept in a special containment room, and from the pictures shown, 100kw makes a very impressive show.

I'll look it up if there is interest.

Thanks in advance.

* Joseph Cooper:-VE3FMQ-QTH-East York-near Toronto Ontario Canada *
* Interests are:- BCB and VLF Radio-Woodworking-Steam Railroads - *
* -Nikola Tesla-Antique Radios-Crystal Radios-Travel-Burmese Cats *
* FAX (416) 423-7782 9:00pm to 5:00pm EDST Monday To Friday Only *

3882. Need help with Super super Dentron tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: skulyov@freenet.columbus.oh.us
Message-ID: <41qatf$de3@acme.freenet.columbus.oh.us>
Source record: 110941

Hi gang. I have a Super super Dentron antenna tuner with one
missed part inside. There are one air vary capacitor, balun,
and couple air core coils.
Does anybody could help with schematic or suggestion about the
missed part?
Thanks,
73! Sergei AA8OT, UA3AP

3883. Re: Schematics from Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: russ@gslink.net
Message-ID: <41qeei$1l7@ddi2.digital.net>
Source record: 110942

In article <41na2e$dko@news.duke.edu>, jimbob@acpub.duke.edu (james P. Meyer) says:
>
>
> Before I spend money on something that may not be what I need, I'll
>ask for some advise.
>
> I've got a used R-S DX-440 that seems to be a bit low in sensitivity
>on almost all the AM bands including all the SW bands. I could test
>and probably fix whatever's wrong if I could get decent schematics.
>Is whatever service manual I might be able to get from R-S going to be
>halfway decent as far as showing me a full schematic with parts
>values? If so, what's the R-S part number for the manual?

They can get it for you from their service department. Make sure you ask for
THE SERVICE MANUAL, NOT THE OWNER'S MANUAL or else the bonehead will screw up
and send you the wrong one (like they did to me for a DX390).

Your 440 is probably suffering from a weakened or blown 1st RF amp due to
static pickup or nearby lightning strikes, and is typical on shortwave
portables that lack a protective diode network in the antenna input circuit
ahead of the RF amp. You could try tracing the circuit from the whip/ant
jack to find the transistor, and replace it. You might also try asking
on the rec.radio.shortwave newsgroup or the Fidonet shortwave conference,
where this has been discussed in the past.

Russ

3884. Need help with VOX/MIC/PTT interface circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: stickler@$TIN_DOMAIN
Message-ID: <41qjd2$c8t@news.iag.net>
Source record: 110943

I just bought one of the new Radio Shack VOX headsets, and it works great with my HT, but I also plan to use it with my HF rig. I had no problem hooking up the headphone and mic connections to the HF rig, but the PTT has me stumped.

The HF rig has a stereo jack designed for use with an eletret PTT hand microphone. The base sleeve is common ground for the MIC and PTT circuit, the tip is the PTT connection and the center sleeve is the MIC connection which also provides +8VDC for the eletret microphone element.

The headset has a mono plug. The base sleeve is ground for the MIC and the tip is the MIC input. The headset provides its own power for the VOX circuit and MIC, so the +8VDC from the rig is not needed and I've inserted a capacitor in line to isolate the headset MIC from the rig power.

The problem is that when the VOX activates, the impedance between the headset plug tip and sleeve drops from 4Kohm to 1Kohm -- which my HT is happy with, but the HF rig is not and will not key the transmitter as it doesn't sense a complete short between the PTT connector and ground.

It seems clear that what is needed is a relay circuit that senses the change in impedance and activates a relay that keys the transmitter, but what is the best way to do this?

Any and all suggestions will be greatly appreciated.

Regards,

Patrick Stickler
stickler@iag.net

3885. Need: MFJ-8621 schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: skulyov@freenet.columbus.oh.us
Message-ID: <41qbfs$era@acme.freenet.columbus.oh.us>
Source record: 110944

Hi gang. I'm looking for the schematic of Data radio MFJ-621.
Will appreciate for any help.

73! Sergei AA8OT, UA3AP

3886. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Aug27.100701.18302@ke4zv.atl.ga.us>
Source record: 110945

In article <9508241339.AA05557@alpha.luc.ac.be> dcadd@luc.ac.BE (Duncan Cadd) writes:
>
>Hydrogen arcs I confess ignorance of ! If someone would enlighten me, I'd
>like to be less ignorant !

He's probably referring to Poulsen quenched arc transmitters. They used alcohol vapor, which when ionized by the arc broke down to hydrogen, carbon, and oxygen ions. The arc transmitter was a relaxation oscillator, somewhat like the classic NE-2 designs. The plasma has a negative resistance at a certain voltage, pressure, and temperature. Used with a high Q LC tank, a pretty clean CW carrier can be generated. The arc can be "cathode" modulated for AM voice operation (a bank of paralleled carbon microphones was used for higher power transmitters, though magnetic modulators were used too). Some FM is inherent in such a system. It can also be used directly for FM modulation, with a trigger modulator, with better success. (A trigger modulator uses a high voltage, low current, trigger electrode to cause the arc to establish early. Hence the frequency could be shifted up from the natural relaxation frequency by varying the trigger voltage, with a carbon microphone used in a resistive divider, or via a magnetic amplifier.)

Vacuum tubes came late to the scene for high power transmitters because of the problem of making a long life high emission cathode. Hence using ions as the majority carrier retained popularity until the thoriated cathode arrived on the scene and allowed electrons to take over as the majority carrier in high power active devices.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

3887. Transmitting Loop Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: "Darius Mostowfi, KE6IL" <darius@megamed.com>
Message-ID: <41qtt9$b9f@noc.usfca.edu>
Source record: 110946

Hi,

I am building a 3'x3' loop for use on 40m - 15m. Does anyone know a good source for a split-stator variable cap, about 5-100pf or so?

Is there anyone out there that can relate any experiences with these types of antennas?

My calculations (from ARRL Antenna Book tables) indicates that a 3'x3' loop at 40m should have -9db efficiency (I think this is compared to a dipole). A 3'x4' loop is about 1 db better. My space constraints may dictate the use of a smaller loop. From what I've read, a small loop should be much more efficient than loading up a piece of wire in an apartment QTH....

Any feedback on these antennas would be greatly appreciated!

73's,

Darius

3888. Re: Oven magnetrons--looking for help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1995Aug27.190800.19712@grian.cps.altadena.ca.us>
Source record: 110947

Zack Lau <zlau@arrl.org> writes:
>lundm@physc2.byu.edu (_ _ _ _ _ MARK W. LUND _ _ _ _ _) wrote:
>>A couple of us are trying to work out a design for a homemade
>>CO2 laser using rf excitation using a magnetron from a radar
>>range (remember when they were called that?) In poking around
>>for info about oven magnetrons someone mentioned that there has
>>been a lot of work in the AR community using oven magnetrons for
>>communications. Can anyone point us to this kind of information?
>>Best regards
>>mark

>Amateur TV Quarterly, RF design and 73 magazine both published
>articles on this as I remember. The designer was Dave Pacholok. John
>WA8EOY also built one. Probably before 1991. Nothing in QST.

There was an article in RF Design magazine (rf engineer oriented) and
a follow up (actually a rewrite oriented at ham radio) in 73 several
years ago about turning a microwave radio into a 2gig transmitter.
I remember that they put the modulator in the oven compartment, and
a N connector on the back of the cabinet. IIRC it was 300-600 watts.

--

Mike Morris morris@grian.cps.altadena.com
I have others, but this works the best.
This message assembled from 100% recycled electrons (and pixels).

3889. Re: Help: Looking for info on Cascade Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-27 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1995Aug27.191438.20091@grian.cps.altadena.ca.us>
Source record: 110948

"Davd L. Frey" <dlfrey@ddi.digital.net> writes:

>I need the telephone number and address of a company called Cascade Electronics.
>They supply hardware for the electronic industry.

>Thank you,

>Dave Frey
>email: k3aax@ddi.digital.net

I was in Portland Oregon for a few months earlier this year and there
was Cascade <everything> up there, due to the Cascade mountian range
being a regional landmark. I remember a Cascade Electronics Surplus-
might be what you are looking for. I remember a Cascade Dry Cleaners,
Cascade Used Cars, Cascade Lumber, Cascade VCR repair, etc.
Kinda like "Palomar" in the northern San Diego County.

try area code 503 information.

--

Mike Morris morris@grian.cps.altadena.com
I have others, but this works the best.
This message assembled from 100% recycled electrons (and pixels).

3890. Re: Jamming LW Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: joe@westonia.com
Message-ID: <DDz3M1.65p@westonia.com>
Source record: 110949
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <41kn0pphu1@mhadg.production.compuserve.com>,
David Lees <100607.1743@CompuServe.COM> wrote:
>Anyone any idea how I could Jam a radio Long Wave radio station
>(Atlantic 252 to be accurate).....
>
>Please help if you can!

Whats the story with Atantic 252 and you. I understand that this is a very
powerful LF xmiter in Irland and when it is not operating those who do LF DX
can get more stations due to lack of interference?

Or is there something else going on here ?

* Joseph Cooper:-VE3FMQ-QTH-East York-near Toronto Ontario Canada *
* Interests are:- BCB and VLF Radio-Woodworking-Steam Railroads - *
* -Nikola Tesla-Antique Radios-Crystal Radios-Travel-Burmese Cats *
* FAX (416) 423-7782 9:00pm to 5:00pm EDST Monday To Friday Only *

3891. "220 Notes" publication

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: Georges Berthiaume <gb>
Message-ID: <41r395$lnu@noc.tor.hookup.net>
Source record: 110950

Hi

There was a publication called "220 notes" some time ago.

Does someone know the address for subscriptions, or have back issues to copy? I will pay for cost involved.

Thanks!

Georges
VE3PFZ

gb@interweb.com

3892. Re: Where can I find plans for a spark gap transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: mulveyr@vivanet.vivanet.com
Message-ID: <41r5r2$jo6@vivanews.vivanet.com>
Source record: 110951

Ted Viens (drted@ix.netcom.com) wrote:
: In <41atcn$k91@abyss.West.Sun.COM> myers@West.Sun.COM (Dana Myers)
: writes:
: >
: >In article <410u0p$qk6@usenet1.interramp.com>,
: >Grant H Youngman <us007699@interramp.com> wrote:
: >>
: >>GOOD GRIEF GUYS!!! Is everyone on USenet a JERK??
: >
: >Yes.
: >
: >Any further questions?

: GOOD GRIEF!!!

: Dana has dared to speak the TRUTH...

: Will it really set us FREE???

TNSSAAFL!

3893. Philips FM 321 mods????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: t930416@minyos.xx.rmit.EDU.AU
Message-ID: <41raf2$hv1@aggedor.rmit.EDU.AU>
Source record: 110952

I have just bourght a Philips fm 321 for 70cm. Apparently it is the same as the FM 320. Anyway....my radio has only 40 channels so it dosn't quite cover all the repeaters. I have been told that it can be modified to 80 channels easly.

Does anyone know how this is done or where I could look to find out how it is done?

Please email me on t930416@minyos.xx.rmit.edu.au

Thanks
--
See you later +---+
Benjamin VK3TVD | t930416@minyos.xx.rmit.edu.au <-for 95 only |
| Australia Victoria Melbourne |
+---+

3894. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: ranecurl@engin.umich.edu
Message-ID: <41rj74$51c@srvr1.engin.umich.edu>
Source record: 110953

In article <41p214$aal@news.asu.edu>,
JOHN PHIPPS <jphipps@aztec.asu.edu> wrote:
>
>Alexanderson?? Maybe.......... Why does that name ring a very
>faint bell??

From "Sarnoff, an American Success" by Carl Dreher (1977):
"Another factor in the situation was the Alexanderson alternator, a property of General Electric. E. F. W. Alexanderson was a Swedish engineer who, following Fessenden's pioneering, had designed and built a generator on the same general principle as the machines one sees in electric power plants all over the world, mostly dirven by steam tgurbines.....The difference was that instead of producing hundreds of thousands of kilowatts at a frequency of 60 cyles per second, the Alexanderson alternator generated only 200 kilowatts in the largest size, but at a frequency of about 20,000 cycles. This alternator, with its associated equyiopment and a large antenna, would span the oceans reliably."

3895. Re: $1,800 WEEKLY! MAILING OUR CIRCULARS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: Bell-Northern Research <bizsol@magi.com>
Message-ID: <41t2vt$9j6@crchh327.rich.bnr.ca>
Source record: 110954
Cross-posted to: soc.culture.russian,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.ham-radio,ott.jobs,ott.forsale.other,ott.forsale.computing,ont.jobs,newbridge.rec,newbridge.notice,newbridge.forsale,misc.invest.technical,misc.invest.stocks,misc.invest.canada,bc.jobs,alt.current-events.russia,ab.jobs

Come and visit our WWW site we may be able to help you advertise your mail order business. We offer many different types of jobs and income opportunities for everyone!!

http://www.magi.com/~bizsol/

Cheers,

Justin

3896. Re: $1,800 WEEKLY! MAILING OUR CIRCULARS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: "John L. Rouse" <jrouse@dc.infi.net>
Message-ID: <41t842$eo7@allnews.infi.net>
Source record: 110955
Cross-posted to: soc.culture.russian,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.ham-radio,ott.jobs,ott.forsale.other,ott.forsale.computing,ont.jobs,newbridge.rec,newbridge.notice,newbridge.forsale,misc.invest.technical,misc.invest.stocks,misc.invest.canada,bc.jobs,alt.current-events.russia,ab.jobs

Bell-Northern Research <bizsol@magi.com> wrote:
>
> Come and visit our WWW site we may be able to help you advertise your mail
> order business. We offer many different types of jobs and income opportunities
> for everyone!!
>
> http://www.magi.com/~bizsol/
>
> Cheers,
>
> Justin
>
Boy, this really has a lot to do with ham radio, doesn't it?
Just another example of the greedy in hot pursuit of the
greenback without actually spending money for advertising..
I see this is also copied to alt.current-events.russia. Lots
of potential there -- get your kiosk on the Internet, hi...

73,
John KA3DBN

John L. Rouse
Capital-Gazette Communications
jrouse@dc.infi.net

3897. Re: $1,800 WEEKLY! MAILING OUR CIRCULARS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: MRITUNJAY BANSAL <BANSA000@mail.genmills.com>
Message-ID: <41tc51$s51@news.mr.net>
Source record: 110956
Cross-posted to: soc.culture.russian,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.ham-radio,ott.jobs,ott.forsale.other,ott.forsale.computing,ont.jobs,newbridge.rec,newbridge.notice,newbridge.forsale,misc.invest.technical,misc.invest.stocks,misc.invest.canada,bc.jobs,alt.current-events.russia,ab.jobs

This is just the kind of disgusting commercial crap that we can do without. In a high-tech world it seems, the anarchists could get away with it!!!!!

Oh well, anxiety and pleasure I guess do go together.

Mritunjay

3898. Power Supply Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: a313@Lehigh.EDU
Message-ID: <41sa36$1299@ns4-1.CC.Lehigh.EDU>
Source record: 110957

Hi guys:
I was looking for some electrolytic filter capacitors for
rebuilding a power supply. Are there any manufacturers still
around that build the multisection cans with operating voltages
around the 350VDC to 450VDC ??

Info would be appreciated.

Dick K8WHA

email a313@lehigh.edu

3899. Dentron GLA-1000 need advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: rogers@eng15.rochny.USpra.abb.COM
Message-ID: <rogers-9507281352.AA00018932@eng15>
Source record: 110958

Hello all:

I have an old GLA-1000 with a new set of NOS 6LQ6's. I really would like to get it to work on 160. I assume it is just a matter of modifying the output network. Has anyone had experience with this? Is there a general procedure for performing 160 mods? I'm willing to "transplant" the amp if there is not enough space in the commercial case.

Also has anyone out there used this amplifier on 20/15/10? If so what kind of output power should I expect for 100w in? I'm asking this because I'm not getting alot and abt 100-150 on 10. I assume this is a limitation of the 6LQ6s.

73 and Thanks,
Bill Rogers
KA2CKI

3900. Re: Dentron GLA-1000 need advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <809622475.16187@pinetree.microserve.com>
Source record: 110959

rogers@eng15.rochny.USpra.abb.COM (Bill_Rogers) wrote:

>I have an old GLA-1000 with a new set of NOS 6LQ6's. I really would
>like to get it to work on 160. I assume it is just a matter of
>modifying the output network. Has anyone had experience with this? Is
>there a general procedure for performing 160 mods? I'm willing to
>"transplant" the amp if there is not enough space in the commercial
>case.

There are four main areas of concern in a 160M conversion:

1. Input tuned circuit
2. Output tuned circuit
3. Plate choke
4. Filament choke

These issues were pointed out in an article by Rich Measures (AG6K) in "Adding 160-Meter Coverage to HF Amplifiers" in the January 1989 issue of QST. In addition to the above, I think it is a good idea to also verify that the reactance of the plate blocking cap will be sufficiently low on 160M.

Incidentally, in that article, 160M operation was added to a Heath SB-220.

73,

Jack WB3U

3901. Re: Dentron GLA-1000 need advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <41spno$1kk@newsbf02.news.aol.com>
Source record: 110960

In article <rogers-9507281352.AA00018932@eng15>,
rogers@eng15.rochny.USpra.abb.COM (Bill_Rogers) writes:

>Subject: Dentron GLA-1000 need advice
>From: rogers@eng15.rochny.USpra.abb.COM (Bill_Rogers)
>Date:28 Aug 95 13:52:59 GMT
>
>
>Hello all:
>
>I have an old GLA-1000 with a new set of NOS 6LQ6's. I really would like
>to get it to work on 160. I assume it is just a matter of modifying the
>output network. Has anyone had experience with this? Is there a general
>procedure for performing 160 mods? I'm willing to "transplant" the amp if

>there is not enough space in the commercial case.
>
>Also has anyone out there used this amplifier on 20/15/10? If so what
kind of
>
>output power should I expect for 100w in? I'm asking this because I'm
not
>getting alot and abt 100-150 on 10. I assume this is a limitation of the

>6LQ6s.
>
>73 and Thanks,
>Bill Rogers
>KA2CKI

Hi Bill,

I did a little consulting work years ago for Dentron, so I'm trying to
recall the problems you may encounter.

The plate impedance is fairly low, so the choke requirements are not
particulary stringent. A good rule of thumb is the choke Z must at least
equal the plate operating Z, and preferably be greater. Some of the parts
for those amps were bought surplus, so a variety of chokes were used. If
your amp has a solenoid (single uniform layer) winding it may be too
small, if it is a bunch of turns in small scramble wound areas it is
probably ok as is. The old ARRL Handbooks give formulas for calculating
the plate impedance. The newest one is a little strange in some of these
areas.

Some of those amps had tuned inputs. If yours does you will need to modify it. The driving impedance of those tubes as wired in the Dentron was around 125 to 200 ohms. You can start with that and select components from the ARRL Handbooks fopr matching that impedance range to 50 ohms. Dentron raised the driving impedance of the tubes by connecting the cathode to the control grid. This lowered the gain of the amplifier but also decreased the stability at the higher HF region. I thought that was a bad idea.

The tank circuit is incorrect, you can calculate the correct values from the older ARRL Handbooks.

As an additional note, if the gain is as low as you say the tubes are probably shot. A few seconds of mistuned operation at full drive will ruin a sweep tube. The most common failure mode with the tubes is increased VSWR on the input, reduced quiescent current, and reduced output power. With 100 watts of drive you should see a minimum of 400 watts out.

73 Tom

3902. Re: NEED HELP MAKING TV OSCILLATOR/JAMMER, SHORT RANGE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: ai557@ccn.cs.dal.ca
Message-ID: <DE1Jz2.EqM@cs.dal.ca>
Source record: 110961

SHACK 9529 (shack9529@aol.com) wrote:
: DOES ANYONE KNOW HOW TO MAKE AN OSCILLATION CIRCUIT THAT WILL INTERFERE
: WITH TV. MY PURPOSE IS TO USE IT AS A JOKE DURING FOOTBALL GAMES AT A
: FRIENDS HOUSE.
: PLEASE HELP! THANKS

--

OK, LET ME TELL YOU A STORY... OOPS!
<CapsLock> off... sorry people!...
ahhhhh....that's so much better...
lower case is calming isn't it?

Anyway, the story:

My buddy Bob told me that he once had a neighbour in the apartment
next door with a loud stereo (always "cranked" at all hours, etc).
One day, after many tapes, disks, LPs, etc... he finally caught his
neighbour with the FM tuner "cranked"... (Bob says, "he he he..."
with his best Mad_Scientist accent.)

Signal Generator ON, Modulation ZERO, Frequency 10x.x MHz,
Output Power MAX, ENABLE!... dead silence!... the joys of
the FM capture effect...

My buddy Bob could hear the neighbour muttering "What the 'ell?..."
and walking over to the Killer Sound System From Hell. My friend
Bob heard the hiss increase as the crazy-neighbour turned the volume
all the way to maximum! Bob tapped the trusty signal generator
and could hear the slight oscillator microphonics right through the
cement wall....his finger poised over the DISABLE OUTPUT switch...

"3... 2... 1... <click>."

KA-f*****g BOOOOOOOOOOOOOOMMMMMMMMMMMMMMMMMMMM!

The stereo never worked again...

-Jeffy

3903. Re: Transmitting Loop Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: czuber@nkn.net
Message-ID: <czuber-2808952252210001@virtual.nkn.net>
Source record: 110962

In article <41qtt9$b9f@noc.usfca.edu>, "Darius Mostowfi, KE6IL"
<darius@megamed.com> wrote:

> Hi,
>
> I am building a 3'x3' loop for use on 40m - 15m. Does anyone know a good
> source for a split-stator variable cap, about 5-100pf or so?
>
> Is there anyone out there that can relate any experiences with these
> types of antennas?

> 73
Darius

Darius et al,

I built the loop antenna described in 73 Magazine May 1995 issue. It is an octagon shape made of 1/2 inch copper pipe and is about 4 feet in diameter. It calls for a split stator variable (found at a hamfest) for 10-20 meters and homebrew capacitors (made of stacked pieces of pc board and place in parallel) for 30 and 40. I haven't used it on 30 and 40 yet. I have a MFJ 20m SSB rig that puts out 12 watts, maybe. I put the antenna vertically on the ground. My first contact (from Texas) was a 59 into Michigan. On field day I set up for about 45 minutes in the backyard and got two Canadians, and a handful of QSO's including North Carolina, Ohio, Nebraska and California. So it works very well. I don't think it would take high power. But with a heavier capacitor or a vacuum variable and beefier construction it would be great.

I'm thinking about making one with a 20-30 foot circumference, 1.5 inch pipe and a vacuum variable for 40, 80 and maybe 160. Any advice on that would be appreciated.

73
Rodger AB5VP

3904. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDE2zIz.n8@netcom.com>
Source record: 110963

in <DDy9MM.7IC@westonia.com>, Joseph Cooper wrote:
: I have been doing some research on these old VLF transmitters in the U.S., and
: would be interested to know if someone may have more detailed information on
: this, and others of its type.

: At this time the only station that may fit the discription outlined in the
: original email would be the Navy station NAA at Annapolis. I've seen it and it
: is impressive.

I dug out an old book I've got (circa 1928) and it says that NAA was a
500 kW arc transmitter, and the US Navy had a 1,000 kW arc transmitter at
Bourdeaux, France. No more details than that, though.

As far as sending morse with an arc, it seems like there were more ways to
do it than there were parts in the transmitter. Back Shunt keying used a
seperate non raditating tuned circuit and keying switched the arc voltage
between the antenna circuit and the back shunt circuit. Ignition keying
used additional electrodes in the arc chamber to turn the arc on and off.
Compensation keying varied the inductance of the antenna circuit which
caused a frequency shift. And Chopper keying used a motor driven
chopper-commutator in addition to the key to either cause a frequency or
amplitude modulation at an audio rate.

Keeping one of these things operating must have been a chore. Making
sure the gap in the arc chamber was ok, the alcohol drip, the water cooling,
the antenna loading, ... At least the radio room would have been warm.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

3905. Re: $1,800 WEEKLY! MAILING OUR CIRCULARS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-28 00:00:00 UTC
From: vadim bendebury <vbendeb@vbnd.newbridge.com>
Message-ID: <NEWTNews.809644111.7656.vbendeb@vbnd.ca.newbridge.com>
Source record: 110964
Cross-posted to: soc.culture.russian,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.ham-radio,ott.jobs,ott.forsale.other,ott.forsale.computing,ont.jobs,newbridge.rec,newbridge.notice,newbridge.forsale,misc.invest.technical,misc.invest.stocks,misc.invest.canada,bc.jobs,alt.current-events.russia,ab.jobs

hey Michael,

see what I ran into on the ott.jobs newsgroup
>
>
>
> Our company is seeking homeworkers who are willing to
> work only a few hours per week at home mailing our circulars.
> Our program pays you $6 for every envelope you secure and
> mail with our circulars, plus 40% of every sale! You are
> never required to purchase any envelopes or postage stamps
> for as long you stay in the program. The demand for our
> products has increased rapidly, thus, creating an opportunity
> to people of all backgrounds, regardless of education or
> experience to distribute our manuals. There are no quotas to
> fill and you can quit this program at anytime you wish.
> Complete distributor support is provided. To receive complete
> details immediately, reply to: dbase@internetmci.com
>
>

3906. Re: Power Supply Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DE1pCA.8A0@nsc.nsc.com>
Source record: 110965

Yes,
They are pretty available at surplus stores.
Try Fair Radio, Tucker, etc. I think they advertise in the Ham
magazines as well as Popular Electronics type magazines. Radio shack
also has some or can order through Allied Radio.
73, Al

3907. Help with no-code survey..

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: russ@primenet.com
Message-ID: <41ttbt$cdq@nnrp3.primenet.com>
Source record: 110966

Thanks for reading this, my name is Russell Gore and I am a student at
DeVry Institute of Technology in Phoenix. Part of my technical
writing class is a survey, please complete the following survey and mail
it back to me at RUSS@PRIMENET.COM thanks..

What class of license do you hold?
Do you support the idea of no-code on HF? Why?

****
Please send answer for the two questions to RUSS@PRIMENET.COM

--
****
Russell Gore WL7AG || Internet: russ@primenet.com
8902 N 19th Ave apt2031 || Packet: WL7AG@K7BUC.AZ.USA.NA
Phoenix, AZ 85021 || Compuserve: 72377,2075
****
Student at DeVry Institute of Technology in Phoenix, Arizona

3908. Re: $1,800 WEEKLY! MAILING OUR CIRCULARS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: ichudov@star89.galstar.com
Message-ID: <41v3t2$oms@mercury.galstar.com>
Source record: 110967
Cross-posted to: soc.culture.russian,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.ham-radio,ott.jobs,ott.forsale.other,ott.forsale.computing,ont.jobs,newbridge.rec,newbridge.notice,newbridge.forsale,misc.invest.technical,misc.invest.stocks,misc.invest.canada,bc.jobs,alt.current-events.russia,ab.jobs

John L. Rouse (jrouse@dc.infi.net) wrote:
* Bell-Northern Research <bizsol@magi.com> wrote:
* >
* > Come and visit our WWW site we may be able to help you advertise your mail
* > order business. We offer many different types of jobs and income opportunities
* > for everyone!!
* >
* > http:******
* >
* Boy, this really has a lot to do with ham radio, doesn't it?
* Just another example of the greedy in hot pursuit of the
* greenback without actually spending money for advertising..
* I see this is also copied to alt.current-events.russia. Lots
* of potential there -- get your kiosk on the Internet, hi...

Just mail to his postmaster.
--
- Igor. SCS&R Yellow Pages: http://www.galstar.com/~ichudov/index.html
For public PGP key, finger me or send email with Subject "send pgp key"
"There is something sexy about a computer nerd." - actress Sandra Bullock

3909. Neon lamp question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <41v2ko$e8u@ixnews3.ix.netcom.com>
Source record: 110968

I recently picked up an old HP voltmeter that uses Nixie tubes for the display (heck, it was cheap). Internally, they use an interesting scheme of coupling the digital data to the nixies (high voltage) by using neon lamps and photoconductors - sort of an early optocoupler design.

The neon lamps used in this optocoupler are supposed to have an "ON" voltage of 55 volts dc. I've found that a couple of digits in the readout "jump" about (from one value to another), and I've traced this instability back to the neon lamps. Several of their "ON" voltages have drifted up to the 70 volt range, which, because of the circuit design, causes instability with a different neon lamp.

My questions are:

1. Do all neon lamps have this same "ON" voltage? If not, are there standard "ON" voltages?

2. Where can I find information on the "ON" voltage? (I've looked in my Allied Electronics catalog, but it was no help).

Thanks,

- Jeff, WA6AHL

3910. Four-bay dipole array

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: tkomljan@mobility.COM
Message-ID: <30434BBE@msgate.mobility.com>
Source record: 110969

I have two x Sinclair SRL 210-C2 VHF folded dipole arrays that I would like to phase together to make a C4. Because the mast is not continuous, as in a C4 version, I can't exactly mount the entire antenna above the tower. Rather, the upper two dipoles will extend above the tower for an unrestricted view, while the lower two dipoles will exist on the side of the tower. I'm using TV tower with an 11 inch face.

Question: When a mobile signal radiates from the back (tower) side of the lower two dipoles, the upper two dipoles will get a "better" view. Can the lower two dipoles act as a load (through the homebrew 2-way coaxial power divider) and attenuate the desired mobile signal?

Rephrased: Will this antenna arrangement work without too many undesired nulls?

Regards,

Tony, VE3PEP

3911. Maxim source needed and filter cascade question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: psoper@encore.com
Message-ID: <DE2t47.5MK@encore.com>
Source record: 110970

Hello Folks,

Digikey is out of the MAX295 filter chip (for the state
variable filter design featured in "QST" recently). They couldn't predict
when they will get more stock. Arrow is out of stock too (and has a
minimum quantity of 50 anyway).
Could somebody point me to an alternative source for this part
that doesn't require a corporate account or large minimum order?
Also, any pointers to a a source for the Maxim databook would be
great. I'm going with the MAX660 charge pump alternative for the -5
supply but don't have the details for this chip. Maxim's phone number
would be greatly appreciated.
I'm also building a Wein bridge type notch filter. I can't decide
whether to arrange for this to be ahead of or behind the state variable
filter when it operates. I can take the empirical approach but wonder if
you wise heads out there know if one ordering would be clearly better than
another?

Regards,
Pete

Pete Soper KS4XG (psoper@encore.com) 919 481 3730/voice 919 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA

3912. How to make fox hunt target?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: jmhill@duck.WPI.EDU
Message-ID: <41vcos$19q@bigboote.WPI.EDU>
Source record: 110971

Hi all;

I am at the very start of the planning of a fox-hunt transmitter system. I would like to be able to put together in an inexspensive way, a transmitter for a fox hunt. The transmitter may or may not be attended. I take it that since the transmitter is acting as a kind of beacon, most likely in say the 2 meter band, unattended operation should be legal. Does anyone know for sure?

I have been considering using an old Icom handy-talkie for the transmitter, does anyone know of any control circuits that could be used to make an ordinary handy-talkie perform as a fox transmitter? I have been considering using a Motorolla 68HC11 microcontroller evaluation board as a fox controller. If anyone has used this or any other microcontroller, I'd like to hear about it.

If anyone knows of a simple two meter transmitter circuit that I could use as an actual transmitter, that would be appreciated. With such a circuit, it would not be necessary to use an actual handy-talkie. Remember that this is just a fox transmitter and will be limited to CW mode on a single frequency. Receiver too?

Thanks in advance;
Jonathan Hill/N1QOL

==========
W1YK -- Worcester Polytechnic Institute Radio Club

We have been on the air since 1909
==========

3913. Re: Maxim source needed and filter cascade question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <41ve4n$o4f@unisql.unisql.com>
Source record: 111022

Maxim 1-800-998-8800
1-800-722-8266

Distributors: Arrow, Bell, CAM RPC, Digi-Key, Elmo, Hamilton Hallmark,
Nu Horizons, and Zeus.

In NC and SC, EnVision is your authorized rep. In VA, MicroComp.

Good luck

Jim N6OTQ

3914. designs for tube recordingstudio-grade mic preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: you@somehost.somedomain
Message-ID: <41vfuu$o9m@giga.bga.com>
Source record: 111023

Any one know a souce for designs of audio pre amps . I want to try my hand a building some mic preamps
for recording applications. Old manuals or sourches of schematics would be
perfect.
Thanks
Ed Guinn
kb5ruf
majec@bga.com

3915. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: jmhill@duck.WPI.EDU
Message-ID: <41vf2m$19q@bigboote.WPI.EDU>
Source record: 111024

A few yeas back I visited Acadia National Park on Mount Desert Island in Maine, USA. In the park visitor's center I purchased a small booklet that described a radio station that was operated by the Navy in 1911, on top of Otter Cliffs, which is not too far from Bar Harbor. The station call sign was NBD. I recall from my reading that the station used a quenched spark gap, essentially alcohol was dripped right into the spark gap.....

Oh by the way, Worcester Polytechnic Institute (WPI) became active with a ham radio club in 1909. The club was licensed in 1913 as ``1YK,'' today we are W1YK, so if you come accross either call sign in your literature, thats us. I think that MIT and a small number of other schools also were active at that time, maybe Rensellaer? One story goes that back in those days the electrical engineering department at WPI had a working trolley car. The ham radio club, which was in the same building, connected their transmitter directly to the feedline used by the trolley car. I am not the club historian, so sorry I am not up on all the history. Things at WPI are quite different today than they were back then!

Lastly, I recall hearing about a wireless and steam engine museum in Rhode Island. If I manage to find the brochure, I'll make a posting.

73s,
Jonathan Hill/N1QOL

3916. 220 MHz BANDPASS FILTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: nreed@airsrv.abrdr.dreo.dnd.ca
Message-ID: <41vh2l$6g2@nouvelles.e33.dreo.dnd.ca>
Source record: 111025

Does anyone know of a good design of a 220 MHz bandpass filter with a 3dB bandwith of around 5 Mhz or better. I want to use it for a 220 low power transmitter that I am building for high speed packet. I am using a wire over ground design for a 433 MHz bpf and it works great but 220 seems to be more of a problem.

Thanks,

Norm
VE3AJI/VE7ALW

3917. Re: Neon lamp question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <41vju3$1p2@newsbf02.news.aol.com>
Source record: 111026

In article <41v2ko$e8u@ixnews3.ix.netcom.com>, jeffa@ix.netcom.com (Jeff Anderson) writes:

> My questions are:
>
> 1. Do all neon lamps have this same "ON" voltage? If
> not, are there standard "ON" voltages?
>
> 2. Where can I find information on the "ON" voltage?
> (I've looked in my Allied Electronics catalog, but
> it was no help).
>
>Thanks,
>
>- Jeff, WA6AHL
>
>

Jeff,

No, they do not all have the same on voltage and yes there are some common voltage lamps. You will have to look at the data from the lamp manufacturer to get the on voltage, measure it, or find someone with the data. My neon lamp catalogs are probably long gone now, but I will look over the next day. Do you know the bulb number (like NE-2 or NE-1-- Etc?)

73 Tom

3918. Re: 220 MHz BANDPASS FILTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: geotek@cent.com
Message-ID: <NEWTNews.809726489.29886.geotek@geotek.cent.com>
Source record: 111027

In Article<41vh2l$6g2@nouvelles.e33.dreo.dnd.ca>,
<nreed@airsrv.abrdr.dreo.dnd.ca> writes:
> Does anyone know of a good design of a 220 MHz bandpass filter with a 3dB
> bandwith of around 5 Mhz or better. I want to use it for a 220 low power
> transmitter that I am building for high speed packet. I am using a
> wire over ground design for a 433 MHz bpf and it works great but 220 seems
> to be more of a problem.

Use a helical filter from Toko. I have used Toko #271MT-1166A and have great
results with the part. Digi-Key has them (part # TK3601-ND). They can be
retuned a small amount, but be sure you have a sweep generator or network
analyzer, they are very sensitive.
George Carlson, Geotek Design Services

3919. Re: Divide by ten front end for frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: gerhard@netmbx.netmbx.de
Message-ID: <41vr00$6cg@newsun.netmbx.de>
Source record: 111028

In article <acj-2208952123370001@amber1.ultranet.com>,
Jon Goguen <acj@ultranet.com> wrote:
>
>How do you make the divide by four that operates to 3 GHz? I was under
>the impression that some sort of frequency conversion scheme was used to
>bring high frequencies down prior to the dividers and counters, but direct
>division would certainly be a lot easier.
>
Sony has the CXB1109Q quad ecl flipflop that works until 3.1 GHz typ.
and CXB1104 dual FF until 3.2 GHz.

The Motorola 10EL33 / 100EL33 is a %4 divider that works until 3800 MHz.
It is second sourced by Synergy Semiconductor.

Plessey has, among others the SP4908 2.5 GHz %8 prescaler.

Most satellite receivers have PLL chips with built-in prescalers
that go to 2.6 GHz.

Gerhard

--
Gerhard Hoffmann # phone: +49 30 782 02 33
Gleditschstr. 79 # fax: +49 30 782 02 63
D10823 Berlin # on the air: dk4xp
Germany # in the air: d-1441, d-kick

3920. Re: How to make fox hunt target?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <41vqq0$kf2@solaris.cc.vt.edu>
Source record: 111029

In article <41vcos$19q@bigboote.WPI.EDU>,
jmhill@duck.WPI.EDU (Jonathan M Hill) wrote:
>Hi all;
>
> I am at the very start of the planning of a fox-hunt transmitter
>system. I would like to be able to put together in an inexspensive way,
>a transmitter for a fox hunt. The transmitter may or may not be attended.
>I take it that since the transmitter is acting as a kind of beacon, most
>likely in say the 2 meter band, unattended operation should be legal.
>Does anyone know for sure?

If you classify the transmitter as a "propagation beacon", which seems
to me to be the most correct definition of its purpose, 97.203 says it is
legal to use under automatic control from 144.275 to 144.300 MHz, as long
as the power is less than 100 W, and you aren't in the 'snoop zone' near
Green Bank WV.

> I have been considering using an old Icom handy-talkie for the
>transmitter, does anyone know of any control circuits that could be used
>to make an ordinary handy-talkie perform as a fox transmitter?
>I have been considering using a Motorolla 68HC11 microcontroller
>evaluation board as a fox controller. If anyone has used this or any
>other microcontroller, I'd like to hear about it.

I believe there is a commercial unit to do just that. On the other hand,
it is an excellent introductory microcontroller project. The 68HC11 board
will easily handle the tasks of timing the duration of the transmission,
generating an ID sequence (in CW internally, or use one of those
voice-store chips), and keying the transmitter. The simplest arrangement I
can think of, allowing on-off control and FM-MCW modulation would be:

```
2.2K
PORT --------R1-----*--------------------ICOM Micorphone (Tip)
|
---
--- 0.1 uF
2.2K |
PORT------R2--------*
|
R3 10 ohm
|
GND-----------------*--------------------ICOM Microphone (Ring)
```

Here, the first PORT, when driven low, will pull current thru R1, turning
the transmitter on. (If the microphone jack puts out more than 5V,
additional circuitry will be required). The second PORT, driven with an

audio frequency square wave, allows tones to be transmitted. The ratio of R2 and R3 sets the level and may need to be adjusted.

Another way to do it would be to use a the beacon function of a TNC, this serves the ID and timer functions well, but probably won't transmit long enough to allow anyone to find it. A simple circuit to stretch out the PTT so it transmits a period of dead air after the packet burst may be feasible though.

>
> If anyone knows of a simple two meter transmitter circuit that I could
>use as an actual transmitter, that would be appreciated. With such a circuit,
>it would not be necessary to use an actual handy-talkie. Remember that this
>is just a fox transmitter and will be limited to CW mode on a single
>frequency. Receiver too?

Building your own transmitter probably isn't justified unless (1) you would like to, or (2) you consider the possibility of an expensive HT being lost or stolen while left unattended high enough to justify it, or of course (3) you don't have an extra HT.

Foxhunting receivers and antennas are another subject altogether.

-Mike KD4QDM

3921. Re: Transmitting Loop Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <41vrdj$rgk@news.vcd.hp.com>
Source record: 111030

The larger the circumfrence of your loop, the better it will perform.
The efficiency of small loops (6 ft circumfrence on 20m for example, like
AEA "Isoloop"), is very poor. Expect 8-10 db below a dipole, if the loop
is totally in the clear, and many more db down if in awful locations like
next to buildings or (heaven forbid!) in an attic. A circular loop will become
self-resonant at about 1/3 wavelength in circumfrence.
See latest edition of Kraus's classic book "Antennas" for all the equations
you need to understand small loops.
An octagon loop for 80 CW with 80 ft circumfrence, using 1 inch copper
sweated-joints pipe (about 25 ft diameter, not that large for an 80m antenna),
can have over 90 percent radiating efficiency. Not bad for a small sized
antenna for that band! Not to mention its low-noise receiving and QRM-nulling
capability (easy to mount as rotatable).
The Q of an efficient loop is very high. High enough to attenuate the
sidebands of a SSB signal. This is the reason that efficient loops require
vacuum variable capacitors for tuning. The peak voltage on the capacitor
can (and should)exceed 20KV at kilowatt levels of input power.

GL, 73,
Don W6JL

3922. Re: Neon lamp question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <41vsqj$s65@maureen.teleport.com>
Source record: 111031

> jeffa@ix.netcom.com (Jeff Anderson) writes:

>. . .

> 1. Do all neon lamps have this same "ON" voltage? If
> not, are there standard "ON" voltages?

No, they don't. My old Tektronix internal parts catalog shows lamps with firing voltages from 55
to 135 volts. Note that the sustaining voltage is lower by 15-20 volts or so. (This allows them
to operate as a relaxation oscillator, frequently unintentionally.)

> 2. Where can I find information on the "ON" voltage?
> (I've looked in my Allied Electronics catalog, but
> it was no help).

Dunno. I'd imagine that neon bulbs are getting pretty scarce these days.

Roy Lewallen, W7EL
w7el@teleport.com

3923. Beldon Wire Specs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: doug@eskimo.com
Message-ID: <DE222D.3qq@eskimo.com>
Source record: 111032

Does Beldon Have an internet site where they post the specs for the various cables they offer? I want to use some Beldon Ethernet Thinnet for antenna cable and want to compare its specs with other more common beldon cables.
Thanks for your help

3924. Re: Maxim source needed and filter cascade question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.809725156.25533.jwicklun@mycroftxxx.halcyon.com>
Source record: 111033

In article <DE2t47.5MK@encore.com>, <psoper@encore.com> writes:

> Hello Folks,
>
> Digikey is out of the MAX295 filter chip (for the state
> variable filter design featured in "QST" recently). They couldn't
> predict
> when they will get more stock. Arrow is out of stock too (and has
> a minimum quantity of 50 anyway).
> Could somebody point me to an alternative source for this part
> that doesn't require a corporate account or large minimum order?
> Also, any pointers to a a source for the Maxim databook
would be
> great. I'm going with the MAX660 charge pump alternative for the
-5
> supply but don't have the details for this chip. Maxim's phone
number
> would be greatly appreciated.

Try maxim direct. They will sell small quantities via credit card
order. 1(800) 998-8800. You can also get catalog at this number.

>
> Regards,
> Pete
>

Have a nice day....Jay Wicklund (KI7RH)

3925. Re: Maxim source needed and filter cascade question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <809725126snz@lfheller.demon.co.uk>
Source record: 111034

In article <DE2t47.5MK@encore.com> psoper@encore.com "Pete Soper" writes:

> Hello Folks,
>
> Digikey is out of the MAX295 filter chip (for the state
> variable filter design featured in "QST" recently). They couldn't predict
> when they will get more stock. Arrow is out of stock too (and has a
> minimum quantity of 50 anyway).
> Could somebody point me to an alternative source for this part
> that doesn't require a corporate account or large minimum order?
> Also, any pointers to a a source for the Maxim databook would be
> great. I'm going with the MAX660 charge pump alternative for the -5
> supply but don't have the details for this chip. Maxim's phone number
> would be greatly appreciated.
> I'm also building a Wein bridge type notch filter. I can't decide
> whether to arrange for this to be ahead of or behind the state variable
> filter when it operates. I can take the empirical approach but wonder if
> you wise heads out there know if one ordering would be clearly better than
> another?

Maxim are *very* helpful with sample devices. You shouldn't have any
problems getting one of the MAX295s out of them, provided they aren't
out of stock, either.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

3926. Plans for solid state HF Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: mikeh@sdd.hp.com
Message-ID: <42071g$oeq@news.sdd.hp.com>
Source record: 111035

Anybody know a source or have plans for solid state HF Linear amp
(10M thru 80M) in the 600 watt range?

tnx
Mike, KN6IP

3927. Re: wanted : fast, cheap 200 Mhz PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: gerhard@netmbx.netmbx.de
Message-ID: <41vpb6$5mg@newsun.netmbx.de>
Source record: 111036

In article <1995Aug23.020248@rhea.bentley.edu>,
<WONG_WAI@rhea.bentley.edu> wrote:

> I need a fast, cheap, phase locked loop. One that can do 200 Mhz or so.
>One that is easy to get also. Can anyone recommend one? :-)

Try Analog Devices AD9901.

Gerhard

--
Gerhard Hoffmann # phone: +49 30 782 02 33
Gleditschstr. 79 # fax: +49 30 782 02 63
D10823 Berlin # on the air: dk4xp
Germany # in the air: d-1441, d-kick

3928. Re: NEED HELP MAKING TV OSCILLATOR/JAMMER, SHORT RANGE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <41vqpe$rgk@news.vcd.hp.com>
Source record: 111037

A PROVEN SOLUTION IS A GRID-DIP METER. I TOO HAVE PUT IT TO GOOD USE IN MY APARTMENT-DWELLING DAYS. MUTES THAT FM SOUND INSTANTLY. BUT, WITH CABLE, IT MAY NOT BE ENUFF SIGNAL TO DO THE JOB. HOWEVER, IF THE CABLE SYSTEM (AND /OR THE TV ITSELF) IS AS LEAKY AS MANY I HAVE SEEN, IT WILL WORK FINE!

3929. EASY CB-to-10M SSB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: gene@eagle.csl.uiuc.edu
Message-ID: <gene.809739371@eagle.csl.uiuc.edu>
Source record: 111038

CB-band to 10M band....I was pleasantly surprised at how simple it can be.
I was especially interested in SSB for 10M since my son just got his
Tech-Plus license and can operate on 28.300 MHz to 28.500 MHz SSB (apparently
AM is illegal). His "wife's budget" only permitted something "cheap".
I bought a couple of "working" SSB CB's for $20 each at a recent Hamfest...
Midland model 79-892, and a Cobra 138. The Midland uses a PLL-02A phase-
locked loop synthesizer to control the 40 channels, and the older Cobra uses
10 quartz crystal oscillators to control its 23 channels.
I suspect there are dozens of other brands that have almost identical design.
I remember converting a 23-chan Kraco (AM) many years ago which used a PLL.
I was fortunate enough to get service-info (SAMS PHOTOFACTS) thru our local
library....CB-180 (April 78) for the Midland, and CB-57 (Sept 74) for the
Cobra.It's a good feeling in our throw-away society, to be able to re-cycle some
of this great equipment of yester-year.
Converting the Midland is quite simple..its PLL has nine control lines
capable of divide-by-n (1 to 512). The Midland only needs to divide by 255 thru
211 for Chan-1 thru Chan-40 respectively, so that the 256 line (pin 7) is
disabled permanently (grounded). Since a division of at least 211 is needed,
the 128 and 64 lines are always enabled (tied to +5), and the remaining six
lines (pins 10 thru 15) are switched by the Channel Selector dial to progress-
ively lower the count from 255 thru 211.
These values may only apply to this model, or perhaps other Midland models....
they depend on choice of VFO and I.F. frequencies, and the down-shifted fre-
quencie offered to the PLL, which always divides-by-n to reach 10 KHz which
provides phase-locked-loop control, to force the VFO to move in 10 KHz steps.
In this particular model for example, on Chan-30 the VFO runs at 38.000 MHz
mixed with an I.F. frequency of 10.695 MHz to provide the Chan 30 frequency of
27.305 MHz. (This is a good example because for converting to the Novice band,
we will want to start at exactly 1 MHz higher...at 28.305 MHz). In addition,
to down-shift the VFO for manageable frequencies for the PLL, it mixes it with
a fixed 40.210 MHz for a difference of 2.210 MHz (on chan 30). Dividing this
down to 10 KHz requires a divide-by-n of 221....of which div-by-192 is perm-
anently wired as described above (pin 7 LO, pins 8 & 9 HI), so that only an
additional div-by-29 is needed and the Channel selector knob supplys this (on
chan 30) by grounding pins 10 and 14, and enabling (to +5) pins 11, 12,13 and
15. Pins 7 thru 15 represent div-by: 256, 128, 64, 32, 16, 8, 4, 2 and 1, res-
pectively.
As a side note, many people do not realize that below Chan 20, there are
five places that adjacent Channels actually jump 20 KHz, instead of 10KHz:
...i.e. between 3 & 4, 7 & 8, 11 & 12, 15 & 16, 19 & 20 ....all are separ-
ated by 20 kHz. The remaining channels thru Chan 40 all have 10KHz separation.
I hope all this expanded theory will be helpful in analyzing some of the
various models on the market.
GETTING BACK TO HOW SIMPLE IT WAS TO MODIFY MY Midland 79-892, all I had to

do was cut the PC-board foil to pin 8, then connect pin 8 to pin 7 (which was already grounded). Then tweak the slug on the VFO counter-clockwise to raise its frequency to 39.000MHz which raises the operating frequency to 28.305 MHz as mentioned above....but if you are expecting to receive or transmit on 28.305 MHz, the Chan selector needs to be on Chan-6. The VFO can is the largest shielded-can about 5/8" x 1 1/8"...much larger than any others...with the ferrite slug on top. Operation will not "pop in" until you tweak the VFO near enough for the dc control voltage to capture contol of the VFO. Until then, an out-of-lock signal will disable the system. You can measure the dc control voltage coming out of the PLL (IC-1, pin 5), and tweak the VFO until this control-voltage centers at about 3.5v on Chan-12 (about the middle of the Novice band) although it's not critical. If you plan to operate higher than 28.500 MHz, you might want to center it on a higher channel.

To summarize the theory of this example on the low end of the Novice band: VFO is at 39.000 MHz (1 MHz above CB-chan 30) and mixes with I.F. freq. of 10.695 MHz for a difference of 28.305. For phase control, the 39.000 is also mixed with a 40.210 MHz reference for a difference of 1.210 MHz which requires a div-by-121 to reach 10 KHz. We had to ground pin 8 to avoid a minimum count of 128 (we need 121 or less). We still have fixed divisor of 64 (pin 9 tied HI), so the selector channel needs to supply an additional 57 which it does in Chan-6 position by switching pins 10, 11, 12, 15 HI, and grounding 13 & 14.

After these two simple changes, the radio came to life immediately. However since I had the SAMS book with all the pictures to identify components, I went thru and tweaked up the circuits that now operate at higher frequencies. It did as you would expect improve considerably. Those without documentation will need to proceed carefully. The inductors near the RF Power out and its driver should be easy to identify without docs.

Finally, I also mentioned an older 23-Chan Cobra model 135. I have not changed it over yet, but in analyzing the documentation, I feel certain it would be easy to convert by simply replacing quartz crystal X10 (8.409 MHz) with one 9.5 to 9.67 MHz ...a single crystal would provide four operating frequencies. Each new crystal in that range would offer four more operating frequencies. In this model, the sum of two crytals (one from each group) combined with the 7.8 MHz I.F. yields the operating frequency.

Both models have the "clarifier" function in Receive, which shifts operating frequency plus or minus....perhaps filling in most of the gaps in the channels separated by only 10 KHz. If desired, it should be an easy task to modify this same circuit to include shifting the Xmit frequency also.

I FORGOT TO MENTION that on the Midland modification, Chan-21 on the selector yields the High end of the Novice band at 28.495 MHz. The dial limits should be marked clearly, or perhaps a physical-stop on the older dials if only the Novice band is intended.

--

Internet, BITNET: gene@csl.uiuc.edu

3930. Re: Plans for solid state HF Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-2908952147480001@brockway-d222.sierra.net>
Source record: 111039

In article <42071g$oeq@news.sdd.hp.com>, mikeh@sdd.hp.com (Mike Hoggatt) wrote:

> Anybody know a source or have plans for solid state HF Linear amp
> (10M thru 80M) in the 600 watt range?
>
> tnx
> Mike, KN6IP

Write to Communications Concepts for catalog of the Motorola solid state amp projects. One of which is in that power range. Comm Concepts will sell kits and the original Motorola application note.

513 426 8600 vox
513 429 3811 fax

Good luck
RST

3931. QRP KIT pse help me out!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: parickj4560@cobra.uni.edu
Message-ID: <1995Aug29.224915.48262@cobra.uni.edu>
Source record: 111040

I am new to homebuilts, and I would love to make a 40meter cw kit..
The problem is the limited cash flow! I also wouldn't mind being rock
bound if the x-tals are easy to find.. I have an HF rig, and I mainly
plan to use the QRP kit to chat with friends 5 or so miles away..

Anyone know of a good cheep kit that I could make?! Thanks
for all help!! 73's N0ZYA

PARICKJ4560@COBRA.UNI.EDU -OR- JP10842@WWW.CEDARNET.ORG

3932. HF QRP wideband amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <7965-227002401@humnet.humberc.on.ca>
Source record: 111041

I am looking for a proven, known working wideband amplifer
design to take a DDS (direct digital synthesis) signal of a few
milliwatts up to 3 to 5 watts.
Operating range from 1.8 Mhz to 20 Mhz. The amplifier must be
stable, solid state with as low a parts count as possible.
(How's that for stingent specs !?)

I want to use my DDS as a (nearly) all-band QRP HF transmitter.
I will look after the required bandpass filtering. I've seen some
designs that will deliver the required power but not a broadband
design that will cover most of the HF amateur bands.
If you have something that doesn't quite go 1.8 to 20 Mhz, I'd still
like to hear about it !

Thanks..Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/

3933. Re: Neon lamp question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-29 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <42035o$38k@news1.inlink.com>
Source record: 111042

In article <41v2ko$e8u@ixnews3.ix.netcom.com>, jeffa@ix.netcom.com says...
>
>
> I recently picked up an old HP voltmeter that uses Nixie tubes for
>the display (heck, it was cheap). Internally, they use an interesting
>scheme of coupling the digital data to the nixies (high voltage) by
>using neon lamps and photoconductors - sort of an early optocoupler
>design.
>
> The neon lamps used in this optocoupler are supposed to have an
>"ON" voltage of 55 volts dc. I've found that a couple of digits in the
>readout "jump" about (from one value to another), and I've traced this
>instability back to the neon lamps. Several of their "ON" voltages
>have drifted up to the 70 volt range, which, because of the circuit
>design, causes instability with a different neon lamp.
>
> My questions are:
>
> 1. Do all neon lamps have this same "ON" voltage? If
> not, are there standard "ON" voltages?
>
> 2. Where can I find information on the "ON" voltage?
> (I've looked in my Allied Electronics catalog, but
> it was no help).
>
>Thanks,
>
>- Jeff, WA6AHL

Hi Jeff

Sorry, I no longer work at a place that has those data tables, but I do
remember that most NE lamps operate between 105 to 125 volts, but as you
found out their are exceptions.

The particular neon lamps you are referring to, and this is a wild guess,
are probably numbered NE83, NE86 or 5AH.
The NE83 and the 5AH are identical and their operating voltages are between
60 and 100 volts, whereas the NE86 is between 55 and 90 volts and probably
the bulb you are looking for. It's life rating is only 2000 hours and
therefore needs replacing quite frequently.

Have fun finding one! ;-)

TTUL
Gary - N0ZOI

3934. 900 MHz repeaters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: markm@compumedia.com
Message-ID: <420j0j$ufk@gandalf.compumedia.com>
Source record: 110872

Has anyone built a 900 MHz repeater out there, if so what did you use
for the RXTX sections?

Mark N7TJP
--
Mark S. McDermott, P.E. N7TJP
email: markm@compumedia.com

3935. Home-made low Ohm resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: Gary Davis <gdavis@gladstone.uoregon.edu>
Message-ID: <420boq$j5f@pith.uoregon.edu>
Source record: 111043

I am building a high-amp, variable voltage power supply. The heart of the circuit is a LM317T voltage regulator, followed by several series pass transistors (2N3055). The output of each transistor should be followed by a .05 Ohm, 2 watt resistor. Such resistors are not readily available at Radio Shack.

Can anyone give me advice on how to custom build such resistors? I have many high ohm, high watt resistors, but need to know how many wraps of wire around the resistors are needed for .05 ohms?

Your help will be appreciated.

Thanks,

Gary Davis

3936. Digital Voice-Changer Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: WHQA19A@prodigy.com
Message-ID: <420i41$1v32@usenetp1.news.prodigy.com>
Source record: 111044

I would appreciate directions on where to find plans for a really good digital voice changer.

Some time ago I saw one in a magazine, but can't find it any more.

Thanks - Mudcat

3937. Anyone ever use that Mr. Beer thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: fuzz@cnj.digex.net
Message-ID: <420ofn$63g@news4.digex.net>
Source record: 111045

I was browsing my television channels, as I tend to do from time to time, and noticed a thing called Mr. Beer on QVC 2. Does anyone have any experience with this and is this worth it? It appears to be cheaply put together.

Thanks in advance.

3938. Ignore my post on that Mr. Beer thing sorry, Accidentally posted to wrong group. :::blushing:::

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: fuzz@cnj.digex.net
Message-ID: <420ofo$63g@news4.digex.net>
Source record: 111046

[No readable article body recovered]

3939. T/R switching 440Mhz brick

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: aswNS@hamp.hampshire.edu
Message-ID: <420cjo$9nm@gort.oit.umass.edu>
Source record: 111047

I have a little 440 Mhz amplifier that uses an integrated "brick"
amplifier that was removed from some kind of equipment (so said the
OAOAseller). I need a T/R switch to make it really usable.

I had a Heathkit 2 meter amp that did T/R switching using 1/4 wave
lines connected across input and output and connected together and to
some diodes at the other end:

```
in o-O====================-------====================O-o out
| | | |
v --- V v
amplifier input ^ --- amplifier output
| |

___ ___
/// ///
```

The idea is that the diodes effectively short the middle to ground
when r.f. is present and the 1/4 wave sections are isolated, but it is
just a 1/2 wave when receiving.

I would like to do something like this at 440 Mhz, but I don't know
exactly what design considerations I need to consider or how to test
it's really working right. I don't want to blow up my amplifier.

Suggestions would be appreciated.

73, Al N1AW

--
Albert S. Woodhull, Hampshire College, Amherst, MA
awoodhull@hamp.hampshire.edu
woodhull@shaysnet.com
413-549-2962

3940. TRW MX12-3 UHF amp info?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: aswNS@hamp.hampshire.edu
Message-ID: <420bns$9nm@gort.oit.umass.edu>
Source record: 111048

AT a hamfest recntly I got what I hope will turn out to be a good deal
on a little amplifier for 440Mhz, which contains a "brick" marked TRW
MX12-3 440-470 Mhz. Can anyone send me specs on this circuit?

I also need advice on T/R switching for it. (next post)

73, Al N1AW

--
Albert S. Woodhull, Hampshire College, Amherst, MA
awoodhull@hamp.hampshire.edu
woodhull@shaysnet.com
413-549-2962

3941. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: gene@ilsi.COM
Message-ID: <199508300355.UAA28407@UCSD.EDU>
Source record: 111049

We would like to ask you to place a link from your site to our homepage. Please check out our homepage and let us know what you think.

We have created a database to assist people that want to advertise on the internet. Using this database, people with homepages will now be able to easily find appropriate sites for links to their homepage.

We are Internet List Services Inc. and we would appreciate your help. Please visit us at: http://www.ilsi.com/ilsi5.html

Thank you,

Gene

3942. Re: Neon lamp question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: claude@bauv111.bauv.unibw-muenchen.de
Message-ID: <claude.809766608@bauv111>
Source record: 111050

jeffa@ix.netcom.com (Jeff Anderson) writes:

> My questions are:

> 1. Do all neon lamps have this same "ON" voltage?

No. There are precision devices with precise tolerances but I think,
you do not have such devices.

> If not, are there standard "ON" voltages?

No. But the voltage usually increases with time.

> 2. Where can I find information on the "ON" voltage?

Ask the manufacturer if you known it. It will probably be more simple
to replace the lamps having a too high voltage.

--
Claude F. (claude@bauv106.bauv.unibw-muenchen.de)

This message may contain opinions which are not shared by my employer.
The facts can speak for themselves.

3943. Drake R7- NB -filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: Essam Badreddin <essam@aut.ee.ethz.ch>
Message-ID: <421bbd$i62@elna.ethz.ch>
Source record: 111051

I would like to place the NB-filter of my R7 after the 2.IF ampli. chain
(just ahead of the 3.Mixer) to limit the broad-band noise.
Who knows the termination impedance of this filter?
I could estimate it to about 4500 Ohm using the capacitor-transformation
ratio of the tuned circuit ahead and behind the filter. What is the
exact value?

3944. Need info on Moto Hybrid RF Power amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: willmore@MCS.COM
Message-ID: <421tdq$rlc@Mercury.mcs.com>
Source record: 111052
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

I've got a few Motorola Hybrid RF Power amplifiers of unknown specification. They have the pinout of a MHW607, but their part number is XHW5066MOD. Yes, that's XHW and not MHW. I think that it is the final for a Moto handheld in the mid VHF band. I would like to use it in the 2m amateur band (144-148). If it bears any resemblance to the 607, it will put out 7 to 10 Watts. That would make a great module for homebrew designs. 1mW in, 10 W out! Too bad it takes > 2A at 7.5V, but I can live with it. :)

If anyone knows the low down on this, please let me know. Post or Email are both fine. If there is interest, I'll post the results of my search. If they prove useful, I'll tell where I got them.

Thanks for any help!

Cheers,
David N0YMV

3945. Re: Plans for solid state HF Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <421pko$nbh@vixen.cso.uiuc.edu>
Source record: 111053

>
>> Anybody know a source or have plans for solid state HF Linear amp
>> (10M thru 80M) in the 600 watt range?
>>
>> tnx
>> Mike, KN6IP
>
>Write to Communications Concepts for catalog of the Motorola solid state
>amp projects. One of which is in that power range. Comm Concepts will
>sell kits and the original Motorola application note.
>
>513 426 8600 vox
>513 429 3811 fax
>
>Good luck
>RST
>
Also, get a copy of MOTOROLA RF DEVICES MANUAL (2 volumes now.) Many of
the application notes deal with solid state amps and combiners to get
larger powers out.

I'm not sure if CCI has them, but I know RF Parts in San Marcos, CA does.
Their phone # is 1-800-737-2787.

Zack W9SZ

3946. 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Aug30.143816.63323@ucl.ac.uk>
Source record: 111054

I've seen a mention in the VHF/UHF DX book that one can run a pair of 4CX1500B's in a push-pull configuration, like the W1SL design (which is a well known 2m amp, using a pair of 4CX250B's in push-pull, grounded cathode, grids driven). There is however no reference to a design doing this. Has anyone seen one, or no of someone having done this?

Anyone ever got a pair of 4CX1000A's running on 2m ?? Ever tried and like me not done too well?

dave kirkby G8WRB.

3947. Regulations Short-Wave Transmitter/Receiver must fullfill (help)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: Bill <Bill@survival.demon.co.uk>
Message-ID: <164236433wnr@survival.demon.co.uk>
Source record: 111055

A UK based charity has developed a pedal powered generator to operate a short-wave transmitter/receiver working at (4.005 MHz). The use is to supply village to village communication in Tanzania Africa. A small pilot project has successfully run for the last 12
years with commercial bought in equipment. The aim is to manufacture pedal generators and short-wave transmitter/receivers locally in Tanzania both to save foreign currency and provide
local employment.

A transmitter/receiver has been designed and 95 per cent completed.

Does anyone know what international regulations such a short-wave transmitter/receivers would have to comply with? The project is based in the UK.

Thank you for any help anyone can give.

Bill

--

Bill Wright
London
England E-Mail bill@survival.demon.co.uk

3948. RF Bridges

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: geotek@cent.com
Message-ID: <NEWTNews.809802256.30529.geotek@geotek.cent.com>
Source record: 111056

Does anyone have any information on the GR 1606A/B or the GR916 RF Bridges.
George Carlson, Email geotek@cent.com

3949. more on EASY CB-10M SSB option

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: gene@eagle.csl.uiuc.edu
Message-ID: <gene.809813418@eagle.csl.uiuc.edu>
Source record: 111057

This will append the previous entry called EASY CB to 10M SSB: This offers another nice option if it is to be used on Novice band only (This applies to the Midland 79-892 model). The PLL-02A IC offers the option of moving in 5 KHz steps, by simply grounding pin #4. In this case, pin #8 does not get changed (stays high as it is originally). We need the higher divide-count to reach the 5 KHz phase reference (double the count required on 10KHz).
The same instructions changing the VFO still apply. In this case, the 28.305 frequency is not available because of the glitch in selector switch which was necessary to accomodate those "20 KHz step" exceptions. The lowest frequency will now be 28.310 which corresponds to Chan-12. (Technically, 28.300 USB on Chan-11 might be permitted, but I would not advise it). The operating frequency moves in 5 KHz steps as the Channel selector is advanced (except for the 2 or 3 glitches where it advances 10 KHz). But there are not enough switch positions to reach the high end of the Novice band so that Chan-40 corresponds to 28.460 MHz. With the smaller 5 KHZ steps, it is almost certain that the clarifier will fill in the gaps with possible exception of the 10 KHz "glitch" channels.
From looking at the schematic it appears to be a simple matter to add a "Delta-Xmit" pot to shift the Xmitting frequency during Xmit only. Replace R-26 (10K) with a 100K pot...using two of its terminals and locate the pot in a convenient location. Run a shielded line to replace R-26. Be sure to verify which end of R-26 is ground. Add a 0.01 ufd across this location. This should work well, because an almost identical circuit is used to place the "receive clarifier" pot remotely in the Hand-mike.
...One small correction in the original article....at one place in the text I mistakenly referred to a Cobra-135. It is model Cobra-138.
--

Internet, BITNET: gene@csl.uiuc.edu

3950. PHONE OFF LINE INDICATOR

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: carlin@aztec.co.za
Message-ID: <carlin.12.0012970E@aztec.co.za>
Source record: 111058

Could someone send me a circuit for an off-line phone indicator that does not require an external power supply but derives its power from the phone line.

Send info to my fax number: 27-21-5114457 (South Africa)

Thanks

Syd Carlin

3951. 40 meter TXmitter plans/schem wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: am024@detroit.freenet.org
Message-ID: <422bmk$pp@detroit.freenet.org>
Source record: 111059

Hi, I'm building the "Rock-Bending Reciever for 7 MHz" that was featured in QST. I want to build a 5 watt companion for the piece. Where can I find/buy plans/schematics for such a beast? I want at least 5 watts out. A kit would be nice! Where can I find such a kit? Who makes them? Anyways, TNX in advance es 73 de KB8UFP Bob.

3952. Re: Jamming LW Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: Daniel J Holmes <dholmes@uhunix3>
Message-ID: <Pine.SV4.3.91.950830074253.17368B-100000@uhunix3>
Source record: 111060
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Jamming is illegal under US regulations. Find another past-time!:(

On 25 Aug 1995, David Lees wrote:

> Anyone any idea how I could Jam a radio Long Wave radio station
> (Atlantic 252 to be accurate).....
>
> Please help if you can!
>
>

3953. Push-pull, grounded-screen amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Aug30.143111.93876@ucl.ac.uk>
Source record: 111061

Has anyone ever seen a published design for a grounded screen, push-pull (or even parallel) grounded-screen tetrode amplifer???? I'm not bothered about the valves used, or the frequency. I'm just interested to know if anyone has ever managed it.

3954. Looking for RF/Receivers guru

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: "Bob Nuckolls", K0DYH <72770.552@CompuServe.COM>
Message-ID: <422p1s$7nl$1@mhafn.production.compuserve.com>
Source record: 111062
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Looking for an RF guru . . . . I need to design/fabricate the world's worst wide band fm receiver at 1500 MHz. I want to measure the center frequency, deviation (up to +/-350KHz) and demodulate a 28KBits per second data stream from a 2 watt transmitter in the same room! I've got a fair notion of how to synthesize the needed LO signals and pipe them to a mixer/limiter. I still need to develop a concept for an FM discriminator with linear performance out to 350 KHz.

Anyone out there have some talents in this arena?

Thanks!

Bob Nuckolls, K0DYH, Wichita, KS

3955. Need info on Moto Hybrid RF Power amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: willmore@MCS.COM
Message-ID: <421u6t$1bq@Mars.mcs.com>
Source record: 111063
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

I've got a few Motorola Hybrid RF Power amplifiers of unknown specification. They have the pinout of a MHW607, but their part number is XHW5066MOD. Yes, that's XHW and not MHW. I think that it is the final for a Moto handheld in the mid VHF band. I would like to use it in the 2m amateur band (144-148). If it bears any resemblance to the 607, it will put out 7 to 10 Watts. That would make a great module for homebrew designs. 1mW in, 10 W out! Too bad it takes > 2A at 7.5V, but I can live with it. :)

If anyone knows the low down on this, please let me know. Post or Email are both fine. If there is interest, I'll post the results of my search. If they prove useful, I'll tell where I got them.

Thanks for any help!

Cheers,
David N0YMV

3956. Re: Home-made low Ohm resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <42104i$i0j@newsbf02.news.aol.com>
Source record: 111064

In article <420boq$j5f@pith.uoregon.edu>, Gary Davis
<gdavis@gladstone.uoregon.edu> writes:

>
>Can anyone give me advice on how to custom build such resistors?
>I have many high ohm, high watt resistors, but need to know how
>many wraps of wire around the resistors are needed for .05 ohms?
>
>Your help will be appreciated.
>
>Thanks,
>
>Gary Davis

Gary,

In a power supply I designed commercially, I used long foil traces to generate the resistance required. Perhaps you could use long emitter hookup wires. 50 milliohms is not that hard to get either way. Another nice thing is if a transistor hogs current, the resistance of the conductor in it's emitter goes up a bit. That helps keep the current more even. Sometimes temperature instability in a component can be a blessing.

73 Tom

3957. Re: Plans for solid state HF Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <422sfq$m1c@cnn.exu.ericsson.se>
Source record: 111065

w9sz@prairienet.org (Zack Widup) wrote:

>Also, get a copy of MOTOROLA RF DEVICES MANUAL (2 volumes now.) Many of
>the application notes deal with solid state amps and combiners to get
>larger powers out.

You'll have to get a Motorola data book older than 3-4 years. Q3/91
is the last of the "good" ones. They have taken out the application
notes from Vol 2 and combined the volumes together into a single data
book again. But you can request for any application note to be sent
to you still. Check out their WWW site for more info. --Mike

http://motserv.indirect.com/

3958. High power VHF/UHF amps - references

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Aug30.142630.88685@ucl.ac.uk>
Source record: 111066

Some time ago someone requested some references on highish power VHF amps. When I started a project, I found a number of references that were useful. Anyone is welcome to the following. By the way, if anyone is aware of any designs for push-pull tetrode amplifers with grounded screens, please please let me know. Any valve, any frequency (even audio)!

References.

1) 'Modern Circuit Design For VHF Transmitters', Barber et al, Part 1; CQ November 1965, pages 30 - 34; Part 2 December 1965, pages 40 - 92.

2) 'A 2-KW PEP Amplifier for 144MHz.' Parts 1 and 2, E.L. Meade Jr., QST December 1973, pp 34 - 38 and Janurary 1974 pages 26-33.

3) 'High-Power Grounded-Grid Amplifier for 144MHz.' VHF-UHF Manual, G.R. Jessop, 4th edition, Chapter 5, pages 87 to 94. Radio Society of Great Britain.

4) 'Design data for a Two-Kilowatt VHF linear', R.I.Sutherland, Ham Radio, March 1969, pp6.

5) 'Design an amplifier around the 3CX1200A7', W.J.Byron, Ham Radio December 1987, pages 33 - 42.

6) 'A high power 2m Amplifier Using the new 3CX800A7' D.D.Meacham, QST April 1984, pp 11 to 15. Also see ARRL handbook 1991, chapter 31, pages 46 to 50.

7) 'A 144-MHz Amplifier Using the 8874' R.F.Rinaudo, QST January 1972, pp24 to 29.

8) 'A Grounded-Grid Kilowatt Amplifier for 432 MHz', S.J. Powlishen, QST October 1979, pp 11 - 14.

9) 'Improving the K1F0 8874 432MHz Amplifier', S. Powlishen, QST, July 1987, pp20 - 23.

10) 'A 432-MHz, 1500-watt amplifier', F.J.Merry, Ham Radio, July 1985, pp40 - 46.

11) 'New Ideas for the 2-meter Kilowatt', T.F. McMullen et al, QST February 1971, pages 24 to 30.

12) 'A high-Efficiency 2-Meter Kilowatt', QST February 1960, pp 30 - 33.
13) 'Top-Efficiency at 144Mc. With 4X250Bs' L.D. Breyfogle, QST December 1961, pp 44 - 48.

14) 'High-power amplifier for 144MHz', VHF-UHF Manual, 4th Edition, edited by G.R.Jessop, Radio Society of Great Britain, chapter 5, pages 94

to 96.

15) 'Kilowatt Amplifiers for 50 amd 144Mc.' E.P. Tilton, QST February 1964 pp 11 - 142.

16) 'A practical Kiowatt Amplifier for 432MHz' A.T.Margot, QST August 1964, pp 47 - 50.

17) 'The W1QWJ 432-MC. Kilowatt Amplifer' QST February 1966, pp 11-144.

18) 'Some Hints on Push-Pull 432-MHz Power Amplifiers', Tilton, QST February 1970, pp 44-45.

19) 'A Strip-Line Kilowatt Amplifier for 432MHz' R.T Knadle, Part 1, QST April 1972, pages 49 to 55; Part 2, QST May 1972, pages 59 to 79. See also 'Feedback' QST, July 1972, page 47.

20) 'A Coaxial-Tank Amplifier for 220 and 420Mc.', R.D.Brayley, QST May 1951, pp39.

21)'Using the 4X250B on 144,220 and 432Mc', M.P.Southworth, QST February 1957, pp31 to 132.

22) 'The perseids Powerhouse', C.M. Maer, QST October 1959, pages 33 - 186.

23) 'Dual-Band Stripline Amplifier/Tripler for 144 and 432MHz.' R.T. Knadle, Ham Radio, February 1970, pages 6 to 16.

24) 'VHF/UHF World', by J.Reisent, Ham Radio, January 1985, pp 97, and February 1985 page 38.

25) 'Care and Feeding of Power Grid Tubes' Eimac devision of Varian.

26) 'A Legal-Limit 2-Meter Tetrode Amplifier', The ARRL Handbook, 1991, chapter 31, pages 57 to 72.

27) 'VHF-UHF Manual', 3rd or 4th edition, Radio Society of Great Britain.

28) 'The ARRL UHF/Microwave Experimenters manual',1990, ARRL.

29) 'The UHF Compendium', K.Weiner, Parts 1 and 2, Verlag Rudolf Schmidt, 1982. English edition.

30) 'Parallel 4CX150B Amplifier for 144MHz', S. Gross, QST March 1975, pp 11.

31) 'A three-tube 4CX250B linear amplifier', D. Dobricic, Ham Radio, April 1987, page 63 - 62.

32) 'High-power linear for 1296MHz', P.Laakman, QST August 1968, pp8 - 17

3959. building basic SWR meter with coax strip, diode, etc ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: VE4KLM <slmusr03@MBnet.MB.CA>
Message-ID: <Pine.SUN.3.91.950830131919.3889A-100000@access.mbnet.mb.ca>
Source record: 111067

Can some one give me a basic schematic or details on how to make
a basic SWR meter that I can use for 2 meters and 30 meters ?

The one I am looking for is made using a strip of coax, diodes, and
a few other miscellaneous parts. I heard about this on a local net,
but the details were not given, and no one seems to know who brought
it up in the first place.

Any help would be appreciated. Email me direct at slmusr03@slmsoft.ca
if you can.

Regards,

VE4KLM

| SLM Software Inc. |
| slmusr03@SLMSoft.CA |

3960. DOD006 valve - know of it???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Aug30.151136.59979@ucl.ac.uk>
Source record: 111068

Many people are aware that there has been a lot of the above tubes flaoting around cheaply. Deos anyone have a data sheet, or can tell me who made em? I've been told thay are like the RCA/Burle 7213/7214, but *not* exactly the same. The data sheet on the 7213 suggest these tubes would work fine on 70cm and perhaps (at a push) on 23cm, but I gather this is not true. Above 2m is tricky, but a 1500W tube at 2m is not to be sneesed at.

dave Kirkby G8WRB.

3961. Re: Home-made low Ohm resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: gc@universe.digex.net
Message-ID: <42314g$2l2@universe.digex.net>
Source record: 111069

In article <420boq$j5f@pith.uoregon.edu>,
Gary Davis <gdavis@gladstone.uoregon.edu> wrote:
>I am building a high-amp, variable voltage power supply. The heart
>of the circuit is a LM317T voltage regulator, followed by several
>series pass transistors (2N3055). The output of each transistor should
>be followed by a .05 Ohm, 2 watt resistor. Such resistors are not
>readily available at Radio Shack.
>
>Can anyone give me advice on how to custom build such resistors?
>I have many high ohm, high watt resistors, but need to know how
>many wraps of wire around the resistors are needed for .05 ohms?
>

The ARRL Handbook has a table of properties of copper wire.
For example, 20 guage copper wire has a resistance of 10 milliohms
per foot.

gc

3962. Re: Looking for RF/Receivers guru

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <4232db$8v6@crl14.crl.com>
Source record: 111070
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

BobNuckolls wrote:
: Looking for an RF guru . . . . I need to design/fabricate the world's
: worst wide band fm receiver at 1500 MHz. I want to measure the center
: frequency, deviation (up to +/-350KHz) and demodulate a 28KBits per
: second data stream from a 2 watt transmitter in the same room! I've
: got a fair notion of how to synthesize the needed LO signals and
: pipe them to a mixer/limiter. I still need to develop a concept for
: an FM discriminator with linear performance out to 350 KHz.

I don't know if this chip is still in general use today, but the NE568 PLL demod chip from Signetics (Now Phillips) used to be the standard workhorse part for satelite FM Video receivers.

The usual IF frequency was 70 MHz, although the databook says that operation at up to 150 MHz is possible.

Have fun!

--

Don Miller My opinions are my own!
dmiller@crl.com

3963. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-30 00:00:00 UTC
From: ballnt@aztec.asu.edu
Message-ID: <422ghc$iai@news.asu.edu>
Source record: 111071

In a previous article, mzenier@netcom.com (Mark Zenier) says:

>
>I dug out an old book I've got (circa 1928) and it says that NAA was a
>500 kW arc transmitter, and the US Navy had a 1,000 kW arc transmitter at
>Bourdeaux, France. No more details than that, though.
>...
>
>Keeping one of these things operating must have been a chore. Making
>sure the gap in the arc chamber was ok, the alcohol drip, the water cooling,
>the antenna loading, ... At least the radio room would have been warm.
>
>Mark Zenier mzenier@eskimo.com mzenier@netcom.com
>
>
There was an article in QST a year or so ago that mentioned some of the
arc transmitters. It said the 1 MWatt transmitter was built to maintain
communications between the US and the expeditionary force in France in WWI.
I got the impression it was never put into use. They mentioned some huge
electromagnets that were built for it, that were the largest ever built until
well after WWII. They were eventually used in some Physics research project.

They also mentioned a problem with the alcohol vapor. If the door to the arc
chamber was opened too soon after the arc was turned off, the air rushing in
would hit the alcohol vapor and the still hot surfaces and cause a flash of
fire. There were cases of radiomen being killed in these fires.

--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

3964. Re: spark tx and VLF etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: daveb@perth.DIALix.oz.au
Message-ID: <422sqf$63j$1@perth.DIALix.oz.au>
Source record: 110873

jphipps@aztec.asu.edu (JOHN PHIPPS) writes:

>If memory serves me, the lo-frequency alternators were Fendessen,
>not Amundsen. Amundsen was first at the South Pole - he did it on
>dog sleds and did not take an alternator with him.

>John, K7BTA

Also a type by Goldschmidt, see Fleming J A, "Wireless Telegraphist's
Pocket Book", P227... (Wireless Press Ltd., London 1915) for a description.

--
David R. Brooks <daveb@perth.DIALix.oz.au> Tel/fax. +61 9 434 4280
PGP public key via finger or keyservers
Public key fingerprint: 20 8F 95 22 96 D6 1C 0B 3D 4D C3 D4 50 A1 C4 34

3965. Re: Computer Control of Icom IC-R7100

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: gfiber@halcyon.com
Message-ID: <42497n$252@news.halcyon.com>
Source record: 110874
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <41qoge$i0m@hera.ia.net>, pbutlalj@ia.net (Allan Butler) says:
>
> Hello,
>
> I have a friend with one of these radios and he would like to
>build the interface and program his own computer to control the radio.
>The only problem that he has is that he cannot find the protocols that
>the radio uses to be controlled. He would like to get the information
>that is needed to make the radio listen to the computer commands. He is
>most interested in the data bits and the baud rate and what the actual
>commands are that need to be sent out the computer serial port.
>
> Please respond via E-mail and here if you have an answer to this.
> He realizes that he could do the solution by throwing money at the
>problem but he wishes to do it the old fashioned way and do it himself.
>--
> Allan Butler KA0IES

Allan,

Call ICOM America at 206-454-7619, press " 3 " when the automated system answers. You will then be connected with ICOM's parts dept. They have a manual titles the " CI-V Reference manual " for sale at a cost of about $15.00 plus shipping. This manual has the commands for the IC-R7100. Newer ICOM radios now have the command set for the radio right in the operators manual so it is doubtful the CI-V Reference Manual will ever be updated

73' Gary

3966. Re: Transmitting Loop Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: nuckolls@onyx.southwind.net
Message-ID: <4246ov$r0v@opal.southwind.net>
Source record: 110875

Darius,

If you don't have them, go to a library and check the indexes (December issues) of QST. Over the past three or four years, there have been several articles on this topic . . including how to build your own coaxial tuning capacitors.

73's

Bob . . .
K0DYH

3967. Re: HF QRP wideband amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <424cpp$php@mgate.arrl.org>
Source record: 110876

hduff@humnet.humberc.on.ca wrote:
>
>
>
>I am looking for a proven, known working wideband amplifer
>design to take a DDS (direct digital synthesis) signal of a few
>milliwatts up to 3 to 5 watts.
>Operating range from 1.8 Mhz to 20 Mhz. The amplifier must be
>stable, solid state with as low a parts count as possible.
>(How's that for stingent specs !?)
>

You might consider the 1.8 to 54 MHz 5 watt amplifier in the
May 1992 issue of QEX. It uses a MRF 137 running off 28 volts
for acceptable IMD performance.

Zack KH6CP/1
zlau@arrl.org

Sept VHF Contest
Mt Equinox FN33KE @3810 ft.
73 7.1W 43 10.0N
50 MHz to 10 GHz SSB/CW/FM
Need just a few QSLs for 1296 VUCC...

3968. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <424o0d$hih@newsbf02.news.aol.com>
Source record: 110877

In article <424ds7$3gl@news.iadfw.net>, jfriley@iadfw.net (J. Fred Riley) writes:

>
>Push pull operation sounds like a way to start a diathermy machine.
>But not an amplifier.
>
>Fred

WA8America Jikabo Nickabo swoooosh swoooosh swooooooosh. Hey Fred you even get QRMed on the net Tom

3969. Re: Neon lamp question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: sefranek@iii1.iii.net
Message-ID: <424qi7$je9@iii1.iii.net>
Source record: 110878

Neon lamps are normally ignited by about 83 volts.
However several external/internal sources can cause them to ionize with
lower voltages. Incident light, rf fields, radiation...
Some lamps have a micro radiation souce embeded in the lamp to
stabilize the ignition voltage. These are almost all lower than the 83 volt
level. The military lamps with an internal source often have/had warnings
about their disposal.

Perhaps this will help your problem in some way.

Tom

--
Thomas C. J. Sefranek WA1RHP Work: 508-425-2200

3970. Re: Home-made low Ohm resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: rsmith@runcible.macc.wisc.edu
Message-ID: <424rr5$132i@news.doit.wisc.edu>
Source record: 110879

Gary Davis (gdavis@gladstone.uoregon.edu) wrote:
: I am building a high-amp, variable voltage power supply. The heart
: of the circuit is a LM317T voltage regulator, followed by several
: series pass transistors (2N3055). The output of each transistor should
: be followed by a .05 Ohm, 2 watt resistor. Such resistors are not
: readily available at Radio Shack.

: Can anyone give me advice on how to custom build such resistors?
: I have many high ohm, high watt resistors, but need to know how
: many wraps of wire around the resistors are needed for .05 ohms?

There is an excellent article on just this subject in this
month's Monitoring Times.

-

Rusty Smith Division of Information Technology
rsmith@macc.wisc.edu Network Engineering Group
rsmith@wiscmacc 1210 W. Dayton St. Rm 3221
University of Wisconsin at Madison Madison WI 53706 (608) 263-6307

3971. Re: Need source of custom CERAMIC Filters for 240kHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <424vgr$jbm@hpscit.sc.hp.com>
Source record: 110880

In article <424ii8$7mq@hpscit.sc.hp.com>,
Richard Karlquist <rkarlqu@scd.hp.com> wrote:
>
>
>BTW, on your 240 kHz. filter: did you realize that 252 kHz. is a standard
>frequency (it's half of 455)? Both Toko and Murata make that one.
>If you can QSY from 240 to 252, you're in business.
>
>Rick Karlquist N6RK
>Hewlett Packard
>rkarlqu@scd.hp.com

Correction to my previous posting. The standard frequency is 262 kHz.
not 252 kHz., and it's no particular relationship to 455 kHz. Does
anyone know how 262 came to be a standard IF anyway? Only thing I can
figure is it is half of 525, which is the bottom of the AM radio band.
Any lower and you'd have a nasty 2nd order crossover spur in the mixer.

Rick

3972. Re: K Beep!<--Rooster Crowing sounds cooler.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: au@ix.netcom.com
Message-ID: <4251g1$279@ixnews3.ix.netcom.com>
Source record: 110881

In <41odia$m8e@fountain.mindlink.net> andrew_taylor@mindlink.bc.ca
(Andrew Taylor) writes:
>
>Hello, Id like to build an "roger beep"....can't seem to find
>any schematics anyplace.
>
>Id appreciate it if you can help me out!
>thanks
>Andrew T
>andrew_taylor@mindlink.bc.ca
>
Boy talk about flame bait! Roger beep in ham area?

3973. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <424ds7$3gl@news.iadfw.net>
Source record: 110882

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:
>Anyone ever got a pair of 4CX1000A's running on 2m ??

There are lots on 100 MHZ and several friends have used them. But
only in single-ended service. The 1500B is much better than the 1000A
IFF you ever have a parasitic.

Push pull operation sounds like a way to start a diathermy machine.
But not an amplifier.

Fred

3974. Home-made Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: 910256@admu.edu.ph
Message-ID: <423iet$jqu@news.admu.edu.ph>
Source record: 110883

[No readable article body recovered]

3975. Re: Home-made low Ohm resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <809848005.15919@pinetree.microserve.com>
Source record: 110884

Gary Davis <gdavis@gladstone.uoregon.edu> wrote:

>The output of each transistor should be followed by a .05 Ohm, 2 watt
>resistor. Such resistors are not readily available at Radio Shack.

Rather than building these, why not use emitter resistors, commonly
sold for use in high-power audio amplifiers?

These resistors are usually available in values down to 0.1 ohm, and
power levels of 1 watt and up. Two of these in parallel would provide
the value you're looking for.

One supplier to check is MCM Electronics in Centerville, OH. Their
number is (800) 543-4330, or for product questions, (800) 824-8324.
They also offer a free catalog.

73,

Jack WB3U

3976. Digital Voice Changer Info - need help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: WHQA19A@prodigy.com
Message-ID: <423i3t$r44@usenetw1.news.prodigy.com>
Source record: 110885

Would appreciate it if someone could direct me to plans & specs for a good, high-quality digital voice changer.

I had plans for same in a magazine, but have lost it. Would appreciate any help.

Mudcat

3977. Re: Need info on Moto Hybrid RF Power amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: lewish
Message-ID: <1995Aug31.225805.3559@atl.com>
Source record: 110886
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <421u6t$1bq@Mars.mcs.com>, willmore@MCS.COM says...
>
>I've got a few Motorola Hybrid RF Power amplifiers of unknown
specification.
>They have the pinout of a MHW607, but their part number is XHW5066MOD.
Yes,
>that's XHW and not MHW. I think that it is the final for a Moto
handheld
>in the mid VHF band. I would like to use it in the 2m amateur band
(144-148).
>If it bears any resemblance to the 607, it will put out 7 to 10 Watts.
That
>would make a great module for homebrew designs. 1mW in, 10 W out! Too
bad
>it takes > 2A at 7.5V, but I can live with it. :)
>
>If anyone knows the low down on this, please let me know. Post or Email
>are both fine. If there is interest, I'll post the results of my
search.
>If they prove useful, I'll tell where I got them.
>
>Thanks for any help!
>
>Cheers,
>David N0YMV

The "X" in the part number means it was designed and manufactured by Motorola Japan. Not Motorola USA. If you call Motorola in Arizona, they will deny that such a part exists. I know from past experience with a different kind of part with an "X" prefix on the part number.

However, If you persist in asking for other departments in the Arizona facility, you may eventually come across someone who will admit to knowing about the part and can send you a spec sheet. I can't recall the name of the individual I finally talked to, but he was most helpful; all the while claiming that he didn't know anything about it.

Hope this helps a little.

Regards,

Lewis

3978. RATEC UK

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: jedc@midcoast.com.au
Message-ID: <DE7705.vB@online.tmx.com.au>
Source record: 110887

Some years ago there was a geoup in the Uk known as RATEC (Radio
Amateurs Technical Enthusiast Club ?)
Does it still exist and can anyone give me a contact address/E-mail
address
VK2AEC

3979. Re: RF Bridges

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: Tony Seaton <tony.seaton@turner.com>
Message-ID: <424hjt$eos@tbsnames.turner.com>
Source record: 110888

have a 1606B.Can copy man. if you like.Email addr.

3980. Re: RF Bridges

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: Tony Seaton <tony.seaton@turner.com>
Message-ID: <424hki$eos@tbsnames.turner.com>
Source record: 110889

have a 1606B.Can copy man. if you like.Email addr.

3981. Re: Need source of custom CERAMIC Filters for 240kHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <424ii8$7mq@hpscit.sc.hp.com>
Source record: 110890

In article <1995Aug27.022846.22484@galileo.cc.rochester.edu>,
Bill VanRemmen <bill@alfalfa.pas.rochester.edu> wrote:
>LynnGol (lynngol@aol.com) wrote:
>: I am looking for a company that can build custom Ceramic Filters for 240
>: kHz.
>
>Don't know if they do custom filters, but have you tried muRata/Erie?
>404-436-1300
>
> -Bill, KA2WFJ
>

We tried to approach Murata about custom ceramic filters and they wouldn't
give us the time of day. They simply don't do custom filters, period, no matter how
high your volume. They only make filters that would be of general interest
to many customers.

If anyone else knows where we can go to get custom filters, please let
me know. I am specifically looking for 10 MHz. (not 10.7 MHz).

BTW, on your 240 kHz. filter: did you realize that 252 kHz. is a standard
frequency (it's half of 455)? Both Toko and Murata make that one.
If you can QSY from 240 to 252, you're in business.

Rick Karlquist N6RK
Hewlett Packard
rkarlqu@scd.hp.com

3982. FSK Demodulator schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: rudykevy@aol.com
Message-ID: <425h92$pe4@newsbf02.news.aol.com>
Source record: 110891

I'd like to put together a little outboard (serial port) FS demodulator. I believe that there is a chip out there which does much of the work and would take audio output from my transceiver and give me TTL level input to my computer. Any suggestions as to where to look for a schematic or the chip? Thanks for your help.

3983. Vintage Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: rmwatson@eskimo.com
Message-ID: <DE6J9r.Jno@eskimo.com>
Source record: 110892

I wish to build a 1930's era transmitter and receiver, so I am looking for some schematics for a cw transmitter, and a superhet receiver. I would like to build the transmitter for the 80/40 meters, and the receiver for the same freqs, or 80-10 meters. I wish for the project to be fairly simple in design.

Thanks,

rmwatson@eskimo.com
Robert/KJ7BO

3984. Re: T/R switching 440Mhz brick

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DE78yH.HM9@nsc.nsc.com>
Source record: 110893

The circuit is a little more complicated than that with RF chokes and DC blocking capacitors but if you use PIN diodes such as Motorola MPN3404 (which is pretty cheap) and mind the velocity factor of the coax to calculate wavelength, the circuit will work fine up to a few 100 watts.
73, Al

3985. Re: Push-pull, grounded-screen amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DE7945.HoL@nsc.nsc.com>
Source record: 110894

grounded grid and screen I have not seen...
I suppose one could ground the screen and bias the other elements
appropriately.
73, Al

3986. WTB: Old mechanical calculators & slide rules

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: <>
Message-ID: <0000265000000348@SANDH.COM>
Source record: 110895

I am interested in purchasing old mechanical calculators and slide rules.

I collect the old electro-mechanical "rotary" calculators that were made by Frieden, Marchant, Monroe, and other manufacturers from the period of the 1920's through the late 1960's. I also collect non-electrical mechanical calculators and am particularly interested in Curta brand calculators. I am not interested in adding machines that print on tape or electronic calculators.

If you have an old mechanical calculator or slide rule collecting dust in a closet, please send me an e-mail message.

Phil Sherrod (phil@sandh.com)

-- 33: usenet.rec.radio.amateur.homebrew --

3987. Re: How to make fox hunt target?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: mmusick@talx.com
Message-ID: <mmusick-3108951113210001@198.102.74.50>
Source record: 110896

> I am at the very start of the planning of a fox-hunt transmitter
> system. I would like to be able to put together in an inexspensive way,
> a transmitter for a fox hunt.

Jonathan -

Normal practice for "hidden foxes" is as you surmise - use a commercial HT (like your old Icom) with some sort of controller. There are controller kits available from time to time which are usually somebody's kitchen-table project, but I can't readily tell you what is available today.

There was an ID'er/controller featured in the July (I think...) issue of "73". It was a very simple design based on a PIC uP, and you would buy the kit with the callsign already burned into the chip. It would be legal and usable for foxhunting.

It is particularly important in "beginning" foxhunt programs to make sure the fox transmission has some content to it to make sure it can be distinquished from QRM/QRN. Obviously, it needs to be in FM to be sure that you can draw from the largest potential field of hunters. A low-power unmodulated CW carrier will be difficult to hunt unless your hunt area is very limited, and keying the PTT for true CW ID might be pretty rough on the HT.

I will advise against Mike's idea of putting the fox in the beacon subband. Other users of this area are expecting true CW and/or SSB, and your operation of a "mystery beacon" during a coincident band opening will upset the weak-signal users who depend on this area. Also, FM operation (even if just a MCW ID) is not appreciated there.

There has been a long-standing suggested national foxhunting frequency of 146.565, which we use on hunts that are not through the repeater. That should be a good starting place, though most of the recognized voice simplex channels in your area (but not 146.520!) could be used.
...mm

==========
Mike Musick/N0QBF mmusick@talx.com**
TALX Directory Division 71301.3106@compuserve.com
St. Louis, MO
Opinions expressed are my own...
...like someone else would want 'em, right?

** - If you have to reply email rather than in the newsgroup,
use the CompuServe address. Our mail server died a while back

and I've been given "real soon" on when it'll be up. You know
how *that* works!
==========

3988. Re: NEED HELP MAKING TV OSCILLATOR/JAMMER, SHORT RANGE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: russ@gslink.net
Message-ID: <42561p$nl@ddi2.digital.net>
Source record: 110897

In article <DE1Jz2.EqM@cs.dal.ca>, ai557@ccn.cs.dal.ca says...
>
>SHACK 9529 (shack9529@aol.com) wrote:
>: DOES ANYONE KNOW HOW TO MAKE AN OSCILLATION CIRCUIT THAT WILL INTERFERE
>: WITH TV. MY PURPOSE IS TO USE IT AS A JOKE DURING FOOTBALL GAMES AT A
>: FRIENDS HOUSE.
>: PLEASE HELP! THANKS
>

>
>KA-f*****g BOOOOOOOOOOOOOOMMMMMMMMMMMMMMMMMMMM!
>
>The stereo never worked again...
>
>-Jeffy

Funny story. A teacher who just happened to be a ham taught a
short intro electronics class when I was in sixth grade. The feature
project was a tiny transmitter for jamming TV bcasts. He'd instruct
us to mount it close to the twinlead and turn it on (this was long
before the advent of cable).

Of course, he suggested that we offer our services to fix the problem,
which consisted of sneakily recovering the jammer and subsequently
giving the neighbor a few good lines of techno-babble describing the
problem. Thus demonstrating our electronic prowlness and "kindness". <g>

3989. Re: Plans for solid state HF Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DE78MI.HA4@nsc.nsc.com>
Source record: 110898

Motorola has several excellent ap notes on the subject and they can be had for free on their internet home page.
Regards, Al

3990. Re: Need info on Moto Hybrid RF Power amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-08-31 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <425pq7$sop@newsbf02.news.aol.com>
Source record: 110899

In article <421tdq$rlc@Mercury.mcs.com>, willmore@MCS.COM (David Willmore) writes:

> I think that it is the final for a Moto handheld
>in the mid VHF band. I would like to use it in the 2m amateur band
>(144-148).
>If it bears any resemblance to the 607, it will put out 7 to 10 Watts. That
>would make a great module for homebrew designs. 1mW in, 10 W out! Too bad
>it takes > 2A at 7.5V, but I can live with it. :)

Well, this is just a thought. If you know anybody in the two-way land mobil business you may want to give him / her a jingle. I worked in 2-way radio about 15 years ago and I have clear reccollections of there being a cross reference guide that cross references standard parts (2Nxxxx, etc......) to Motorola in house numbers. I also remember seeing a web page for motorola. Mabey you can get somewhere there.

Unfortunately, I don't think there you will find a cross referecne for the high band part you posess. I reeks of a very 'custom' part. The last high band "brick" I remember that Motorola made was a MHW-252, and that was back in the 70's, I think. In the mean time, I'll check with a couple of my buddies in the biz, and see what they come up with. Good luck to 'ya.

Pat Tracy, KE1C

3991. Re: $1,800 WEEKLY! MAILING OUR CIRCULARS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: "T. Hanson" <ultmark@phoenix.net>
Message-ID: <425v8k$i8h@gryphon.phoenix.net>
Source record: 110900
Cross-posted to: soc.culture.russian,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.ham-radio,ott.jobs,ott.forsale.other,ott.forsale.computing,ont.jobs,newbridge.rec,newbridge.notice,newbridge.forsale,misc.invest.technical,misc.invest.stocks,misc.invest.canada,bc.jobs,alt.current-events.russia,ab.jobs

ichudov@star89.galstar.com (Igor Chudov @ home) wrote:
>John L. Rouse (jrouse@dc.infi.net) wrote:
>* Bell-Northern Research <bizsol@magi.com> wrote:
>* >
>* > Come and visit our WWW site we may be able to help you advertise your mail
>* > order business. We offer many different types of jobs and income opportunities
Isn't it funny how by you spamming back you get your site spammed all
around. When will you self appointed internet police learn to ignore the
post, and mail the postmaster.

>* > for everyone!!
>* >
>* > http:******
>* >
>* Boy, this really has a lot to do with ham radio, doesn't it?
>* Just another example of the greedy in hot pursuit of the
>* greenback without actually spending money for advertising..
>* I see this is also copied to alt.current-events.russia. Lots
>* of potential there -- get your kiosk on the Internet, hi...
>
>Just mail to his postmaster.
>--
> - Igor. SCS&R Yellow Pages: http://www.galstar.com/~ichudov/index.html
> For public PGP key, finger me or send email with Subject "send pgp key"
>"There is something sexy about a computer nerd." - actress Sandra Bullock

--

Sincerely,
Todd H. Hanson

E-Mail ultmark@phoenix.net
||||||||||||||||||||||||||||||||
||||||||||||||||||||||||||||||||

3992. TEK 491 SPECTRUM ANALYSER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: P.Dalliessi@massey.ac.nz
Message-ID: <P.Dalliessi.117.30465383@massey.ac.nz>
Source record: 110901

Desperately need help with a Tek. 491 spectrum analyser problem.
SA works fine on all bands. Problem is in the "LOG" mode, the on screen dynamic display is far from linear. e.g., a -35dbm signal set on log. ref. at top of screen, shows -25db after 20db of attenuation is switched in, whether by the internal IF attenuator switch, or using an external attenuator. This effect is even more pronounced as the signal is attenuated nearer the base line. The problem does seem to be connected with the log. video detector.

Is there a Tektronix engineer out there, or someone familiar with the 491 who could help?

I would appreciate a direct "EMAIL" reply, initially, and we could then continue on the netnews for the benefit of others who may have a similar problem.

Thanks in anticipation.

Peter Dalliessi, ZL4MS,
FIMS,
Massey University, Palmerston North,
New Zealand.

3993. Re: An image rejection filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4260be$93m$3@mhadg.production.compuserve.com>
Source record: 110902

Are you saying we can't homebrew a receiver because it covers the CB band?
Huh? This is the USA... Right?
--
73, Jay WB0VNE - AAV5TH

3994. Re: August QST CMOS Keyer 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4260fj$93m$4@mhadg.production.compuserve.com>
Source record: 110903

Hey wait a sec! They still print technical stuff. I even know the author of a few articles <grin>. Now some might debate how technical they are but I still think they are worth a flip (of the page) or two.
--
73, Jay WB0VNE - AAV5TH

3995. Sub-audible tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: butch@apollo.wes.army.mil
Message-ID: <427av7$64n@prop.wes.army.mil>
Source record: 110904
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

I have a Kenwood tr-7950 that does not have the optional tu-79 tone unit installed. Kenwood says that option is no longer available. does any one know of a way to build one? The local repeaters are all using 100Hz tones, so thats the only one I will need.
Any info about how to make one or how to modify another unit to work in the 7950 would be appreciated.

Thanks,

Butch KF5DE

3996. Re: Sub-audible tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: fladams@iadfw.net
Message-ID: <427ukq$gl6@news.iadfw.net>
Source record: 110905
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

butch@apollo.wes.army.mil (Butch Magee) wrote:

>I have a Kenwood tr-7950 that does not have the optional tu-79 tone unit
>installed. Kenwood says that option is no longer available. does any
>one know of a way to build one? The local repeaters are all using 100Hz
>tones, so thats the only one I will need.
>Any info about how to make one or how to modify another unit to work in
>the 7950 would be appreciated.

>Thanks,

>Butch KF5DE

Butch, It shouldn't be that hard to put in an aftermarket tone board.
The factory board will only let you set it up for three different
frequencies, if I remember correctly. If you only need one frequency,
I would look at one of the miniature tone boards that Communications
Specialists sell. They are available from a lot of the mail order
places. They are very simple to hook up. The original factory tone
board plugged into a small plug on the 7950. My guess it was a B+,
GND and tone into the radio line. Even if it is not, you can call
Communications Spealists and they will tell you where to connect their
boards on most radios. I hope this helps....73's Floyd WD5ENJ

3997. Re: Need source of custom CERAMIC Filters for 240kHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: qrksb@aol.com
Message-ID: <426e0v$6mh@newsbf02.news.aol.com>
Source record: 110906

Rick, tnx for the 262 kHz suggestion. It's comforting to know that even the likes of HP has trouble getting MuRata budge! I have tried calling a few companies out of EEM, but, no dice. This filter dilema is most frustrating!!

Mark KH6HPQ

3998. Re: FSK Demodulator schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <427l66$e1m@newsbf02.news.aol.com>
Source record: 110907

In article <425h92$pe4@newsbf02.news.aol.com>, rudykevy@aol.com (RudyKEVY) writes:

>I'd like to put together a little outboard (serial port) FS demodulator.

>I believe that there is a chip out there which does much of the work and
>would take audio output from my transceiver and give me TTL level input
>to my computer. Any suggestions as to where to look for a schematic or
>the chip? Thanks for your help.
>
>

I am a little fuzzy on this, but there seemed to be a shareware program out there from Germany called HAMCOM. With it, came a schematic that had a simple bridge rectifier that would provide +/- 12volts or so from the CTS & RTS lines. The 'guts' of the circuit was just a little op amp that was set up as a comparitor, thereby acting as a limiter & level translator. You do not want TTL levels, you need RS232 which is a bipolar, or +/- level signal. (Unless you are using an old Comodore, which does use TTL levels on a psuedo-RS232 port). Alternately, you could use 2, 9 Volt batteries to power the op amp. Hope this helps.

Pat Tracy, KE1C

3999. multiband mobile HF antenna plans wanted.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <427rgnINN60c@sepia.wv.tek.com>
Source record: 110908

I saw a particular antenna design at the last Ham swap meet I attended
which used a loading coil mounted on a motorized threaded shaft which
was used to tune the antenna. The whole thing was housed in a 4 foot
section of 2" pvc pipe. You had to supply your own whip antenna
for the top, but this thing would tune up on any frequency!!
If I remember right, the original design was done by a guy named
Don Johnson.

Has anyone seen plans or an article on how to build one of these?
Any pointers would be appreciated.
Thanks,
Ed Burress
KC7GFX

4000. Re: FSK Demodulator schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: rudykevy@aol.com
Message-ID: <4282vh$idp@newsbf02.news.aol.com>
Source record: 110909

Thanks for your comments, Pat especially those pertaining to the type of input I need to the computer.

The op amp circuit you describe is not the one I am after. That is a "comparator" type demodulator and feeds a squared up audio signal to the computer where the software does the rest of the job. This works quite well for SSTV and (I am told) fairly well for RTTY, etc. However I want to do the frequency to voltage conversion outside the computer and feed some really promising software for the commercial and amateur TOR modes.

4001. Re: Plans for solid state HF Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DE8Fzu.9oq@sunsrvr6.cci.com>
Source record: 110910

In article <42071g$oeq@news.sdd.hp.com>, Mike Hoggatt <mikeh@sdd.hp.com> wrote:
>Anybody know a source or have plans for solid state HF Linear amp
>(10M thru 80M) in the 600 watt range?
>
>tnx
>Mike, KN6IP

A company called "Communications Concepts" carries parts for amps shown in Motorola app notes. They advertise in RF Design and some ham-related magazines.

73...Jim N2VNO

4002. Re: Home-made low Ohm resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Sep1.150150.357@nad.com>
Source record: 110911

In article <42314g$2l2@universe.digex.net>, gc@universe.digex.net (Gary Chatters) writes:
> In article <420boq$j5f@pith.uoregon.edu>,
> Gary Davis <gdavis@gladstone.uoregon.edu> wrote:
>>I am building a high-amp, variable voltage power supply. The heart
>>of the circuit is a LM317T voltage regulator, followed by several
>>series pass transistors (2N3055). The output of each transistor should
>>be followed by a .05 Ohm, 2 watt resistor. Such resistors are not
>>readily available at Radio Shack.
>>
>>Can anyone give me advice on how to custom build such resistors?
>>I have many high ohm, high watt resistors, but need to know how
>>many wraps of wire around the resistors are needed for .05 ohms?
>>
>
> The ARRL Handbook has a table of properties of copper wire.
> For example, 20 guage copper wire has a resistance of 10 milliohms
> per foot.
>
> gc

Use Nichrome (Nickel/Chromium) alloy wire. It is a fairly high resistance wire
(don't remember the ohms/ft) used for winding resistors and heating elements.
We used to use it for model rocket engine ignitors. Back in Jr high school, I
borrowed a few yards from the lab. I'm sure you can get it from elect.
suppliers.
One problem is you cannot solder to it. Screw the ends to a barrier strip.

Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

4003. Re: FSK Demodulator schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: AT&T GIS <Bob.Archer@ColumbiaSC.ATTGIS.com>
Message-ID: <DE8K0w.Izv@ncrcae.ColumbiaSC.ATTGIS.COM>
Source record: 110912

You are right.. In a 1980/81 QST there were plans for this
MOulator/DEModulator. I built several for some friends & myself to do rtty &
cw with our Radio Shack Model I Computers. Chip was 2207 & 2210, I think. I'll
look in my mothballs when I get time. If you don't get another answer, post
again here with a mailing address.

Happy Hamming,
Bob Archer, N4ECO

>==========RudyKEVY, 8/31/95==========
>
>I'd like to put together a little outboard (serial port) FS
>demodulator.
>I believe that there is a chip out there which does much of the
>work and
>would take audio output from my transceiver and give me TTL
>level input
>to my computer. Any suggestions as to where to look for a
>schematic or
>the chip? Thanks for your help.
>
Bob Archer N4ECO

4004. Motorcycle intercom

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-01 00:00:00 UTC
From: it@scimitar.dolphinics.no
Message-ID: <4277jn$lbg@oslo-nntp.eunet.no>
Source record: 110913

Hi,

I would like to build a motorcycle intercom that transmits in the 46Mhz range. This range is used by illegal cordless phones in Norway, so I shouldn't interfer with a critical band.

Since I only need a range of approx. 300m, I'll probably only need a few milliwats. I know how to build the microphone preamplifier, a VOX and the FM receiver part. But how do I build a fairly frequency stable transmitter stage using a xtal based oscillator? In other words: how do I get from the audio signal to the antenna?

It is almost impossible to find litterature in Norway covering these issues. Please help me out. If you know where to find schematics (books or on the Web) I would appreciate that information.

Thanks,

Ivan Tving

--
==========
Ivan Tving, development engineer | Tel:+47 22627024, Fax:+47 22627180
Dolphin Interconnect Solutions AS | Visiting Address: Olaf Helsets vei 6,
E-mail: it@dolphinics.no | P.O. Box 52 Bogerud, N-0621 Oslo, Norway
----
"It's not a job - it's an adventure"
==========

4005. Re: FSK Demodulator schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-02 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <42ajmt$8es@newsbf02.news.aol.com>
Source record: 110822

The EXAR XR2211 demodulator chip is just the thing!
I have designed around it and it will work upto 2400 baud on
VHF, 300 Baud on HF. Some of the MFJ decoder also used this
chip...

4006. Tube Manuals FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-02 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <42ak6d$8ic@newsbf02.news.aol.com>
Source record: 110823

I have a set of RCA tube manuals as published by RCA back in the early 50's.
These manuals have all the good stuff like design information and load lines.
They are in good condition and have never been exposed to a harsh environment.

e-mail for info!

PDRUNEN@AOL.COM

4007. Re: FSK Demodulator schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-02 00:00:00 UTC
From: rudykevy@aol.com
Message-ID: <42avi6$bk6@newsbf02.news.aol.com>
Source record: 110824

Ok...thanks a lot for the postings and the E-mail. The AM7911 and EXAR XR2211 sound most promising.

Just to clarifiy for those who questioned me. I do use a PK232 and also some small homebrew comparators (Jan'94 QST) but the object is to feed some software with especially broad capability for examining and printing a wide variety of commercial and amateur TOR transmissions.

Since there appears to be some interest I will post my results along with the software source if/when I get permission to do that and/or it becomes commercially available.

Thanks again.

4008. DJ580T mod question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-02 00:00:00 UTC
From: travisp@ix.netcom.com
Message-ID: <428a5o$7rb@ixnews6.ix.netcom.com>
Source record: 110914
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

I am atempting to do the extended receive mod. on my DJ580T. I know
that you are supposed to cut the red wire, but I want to make sure
which wire you cut. With the unit's display facing up and the bottom
removed you can see a "red" loop wire that is about the same size as
the blue one, and then there is a small "orange/red" wire at the top.
I believe I cut the larger loop which is red and not the smaller loop
that is orange/red. If anyone can clear this up for me I would greatly
appreciate it. Thanks and 73.

KE4MBD - Travis

4009. Re: $1,800

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-02 00:00:00 UTC
From: kk5dr@bga.com
Message-ID: <428ptn$1th@giga.bga.com>
Source record: 110915

Why is this article here?? It's outright commercial advertising, free of charge! If it were in my power, I would
delete every one of them!!

4010. Re: Push-pull, grounded-screen amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-02 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <810028785.4485@pinetree.microserve.com>
Source record: 110916

"Al Koblinski (W7XA)" <canksc@tevm2.nsc.com> wrote:
>grounded grid and screen I have not seen...

Isn't this a common configuration for tubes like 4-400's (not push-pull, but grounded grid and screen)? Sweep tubes, too.

73,

Jack WB3U

4011. Need Mod. Manual??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-02 00:00:00 UTC
From: wb6siv@lightside.com
Message-ID: <wb6siv-0209950030400001@user55.lightside.com>
Source record: 110917

Check out the Artsci Mod books, all major brands covered. The manual is discounted at URL http://www.csz.com/sarrio.html. 73's Ray

--
Ray Sarrio Co.
http://www.csz.com/sarrio.html

4012. Fm Transmitter...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-02 00:00:00 UTC
From: lottsim@aol.com
Message-ID: <429vje$2q3@newsbf02.news.aol.com>
Source record: 110918

I was going to buy this $29 FM Transmitter, but I then I realized it only transmitted a few feet. I've seen some FM transmitters that do 3/4 of a mile, but that don't have stereo line in with dual speaker separation.

I'm no genious at electronics, so I'd really appreciate it if either (A) somebody could build it for me and I'd pay him/her $65, or (B) Somebody directs me in the right direction.

One time I made an electrical thing that "buzzes" when you touch the two wires together...one of my great accomplishments.

Thanks,
Alex Rampell

4013. Re: Need source of custom CERAMIC Filters for 240kHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-02 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <428jdt$mml@grape.epix.net>
Source record: 110919

rkarlqu@scd.hp.com (Richard Karlquist) wrote:
>In article <424ii8$7mq@hpscit.sc.hp.com>,

;>Correction to my previous posting. The standard frequency is 262 kHz.
;>not 252 kHz., and it's no particular relationship to 455 kHz. Does
;>anyone know how 262 came to be a standard IF anyway? Only thing I can
'>figure is it is half of 525, which is the bottom of the AM radio band.
;>Any lower and you'd have a nasty 2nd order crossover spur in the mixer.
;>
;>Rick

Well I don't know how it casme to be but if memory serves me it used to
be the standard automobile AM radio IF. In the days of tubes and vibrator
power supplies. At least it was 2.. something and 262 sounds right.

Garry(WB0NNO)

4014. Re: FSK Demodulator schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-02 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <429ss4$25k@newsbf02.news.aol.com>
Source record: 110920

In article <4282vh$idp@newsbf02.news.aol.com>, rudykevy@aol.com (RudyKEVY) writes:

> However I want
>to do the frequency to voltage conversion outside the computer and feed
>some really promising software for the commercial and amateur TOR modes.
>
>

Oh, I understand now. I guess what you are seeking is a true demodulator part of a MODEM. Sorry, I can't be of much help in that area. I am no expert when it comes to hf modems, but I have grabbed a few files from here and there on the subject of hf modems. I would probably atttempt to build a simple one for myself for RTTY, but when you get into some of the more complicated hf modems & techniques, things get a little more difficult. I am pretty much completly ignorant about SITOR, AMTOR, GTOR, PACTOR, etc..., other than the fact that they exist. My guess is that the prices of multimode hf modems reflect the level of sophistication contained within. If I had to guess, I would say that the day of the simple analog band pass filter, followed by a frequency discrimator /detector/flip-flop have gone the way of the dodo bird, hoop skirts, bobby sox, and big fins on Caddilacs. With the prices of DSP products being what they are, and the capabilities of DSP, I would boldly guess that this is what will be used for all types of modems in the future, if not already. Trying to duplicate this function with discrete parts would be quite a chore. I mean shucks, you can go to Radio Shaft, and for a few bucks, come home with a simple, functional automatic notch filter that uses digital filtering techniques. Granted, it's not the best, but try and duplicate that in the analog world. Possible, but not easy. When I finally get around to fiddling with the RTTY & related modes on hf, I think I'll just take the lazy mans way, buy a box, and plug it in. Even a bad one (MFJ) will probably work better than one that I spent 100 hours building and troubleshooting.

Good luck to 'ya Rudy(?) Happy motoring.

Pat Tracy, KE1C

4015. Re: Anyone ever use that Mr. Beer thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-02 00:00:00 UTC
From: blanton@ni.net
Message-ID: <blanton-0209951248460001@xband.ni.net>
Source record: 110921

In article <420ofn$63g@news4.digex.net>, fuzz@cnj.digex.net (Paul M. Zeller) wrote:

> I was browsing my television channels, as I tend to do from time to
> time, and noticed a thing called Mr. Beer on QVC 2. Does anyone have
> any experience with this and is this worth it? It appears to be
> cheaply put together.

Definitely a different kind of 'homebrew'!!! ;-)

Lee, WA8YBT/6

4016. Re: Anyone ever use that Mr. Beer thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <42bd3c$muk@ixnews2.ix.netcom.com>
Source record: 110825

In <blanton-0209951248460001@xband.ni.net> blanton@ni.net (J. L.
Blanton) writes:
>
>In article <420ofn$63g@news4.digex.net>, fuzz@cnj.digex.net (Paul M.
>Zeller) wrote:
>
>> I was browsing my television channels, as I tend to do from time to
>> time, and noticed a thing called Mr. Beer on QVC 2. Does anyone
have
>> any experience with this and is this worth it? It appears to be
>> cheaply put together.
>
>
>Definitely a different kind of 'homebrew'!!! ;-)
>
>Lee, WA8YBT/6

Tried it once on 2m but intermod was terrible . . . .

4017. Re: Anyone ever use that Mr. Beer thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <42bari$fb7@newsbf02.news.aol.com>
Source record: 110826

In article <blanton-0209951248460001@xband.ni.net>, blanton@ni.net (J. L. Blanton) writes:

>> I was browsing my television channels, as I tend to do from time to
>> time, and noticed a thing called Mr. Beer on QVC 2. Does anyone have
>
>Definitely a different kind of 'homebrew'!!! ;-)
>

Check with Homer Simpson, I think he has one.

4018. Re: FSK Demodulator schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <42barf$fb6@newsbf02.news.aol.com>
Source record: 110827

In article <42ajmt$8es@newsbf02.news.aol.com>, pdrunen@aol.com (PDRUNEN) writes:

>
>The EXAR XR2211 demodulator chip is just the thing!
>I have designed around it and it will work upto 2400 baud on
>VHF, 300 Baud on HF. Some of the MFJ decoder also used this
>chip...
>
>
Yup - that's probably just what Rudy is looking for. I myself haven't seen an Exar data book in years, but I do have a dim reccollection of that being a PLL type of device. Is that correct? Are they still around? I wonder, just how well did that work under normal hf conditions, that being noise, fading, phase distortions, etc....? Ever since I got this computer that I'm using this very instant, I have been getting more and more anxious to get it hooked up with the hf station. It seems there could be some software for the soundblaster thingy to allow one to maybe demodulate RTTY and SSTV. Whaddaya think?

4019. Re: Ultra-miniature Direction-finding Unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: mpowers9@temasek.teleview.com.sg
Message-ID: <42c7f3$mb1@temasek.teleview.com.sg>
Source record: 110828
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

On behalf of Martin Landeros (landeros@u.washington.edu), who wrote:

: On Thu, 27 Apr 1995, Mark Kinsler wrote:

: > >I've always thought it would be great if one could make a really small
: > >direction-finding unit that would be the size of a small calculator,
: > >including the antenna (something like James Bond would use). I'm curious
: > >if anyone has ever tried making such a unit, and would like to share their
: > >experiences with it. I've never gotten beyond the "thinking about it"
: > >stage myself.
: >
: > Am I imagining it, or did I see a very small direction finding unit that
: > used the GPS satellite in Popular Science or somewhere? I think it cost
: > about a zillion dollars. Anyone remember?
: > M Kinsler
: >
: >
: I just sow one last week on one of those catalogs found on Alaska
: Airlines, I think it was around 500.00 US $$.

: Martin.

Are you discussing direction, as in Lat/Lon, or are you discussing
RFemission direction, which I happen to be interested in ?

--

Discover the businesses of MENSA members at the MpowerBase:
http://cyber-active.com/mpower Mpower Consultants, Ltd.(M^)

4020. HTX100 schem or transverter mods??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Sep3.170708.359@nad.com>
Source record: 110829
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi,
Does anyone have a schematic for the Radio Shack HTX100 10 meter rig,
or has anyone added seperate low-level transmit and recieve?
I'd like to use mine for a 28mhz tunable if for a DEM 432 mhz IF transverter.

Thanks,
Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

4021. Re: Schematics from Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: danb@a.crl.com
Message-ID: <42bh4r$igd@nntp.crl.com>
Source record: 110830

jimbob@acpub.duke.edu (james P. Meyer) wrote:

>Is whatever service manual I might be able to get from R-S going to be
>halfway decent as far as showing me a full schematic with parts
>values? If so, what's the R-S part number for the manual?

I can't speak for their SW radios, but the service manual for my
HTX-202 was very complete in that regard. Cheap too--compared to the
Yaesu one for my FT-530 at $25, RS only wanted $6.59 for this one.

The part number would probably be MS- followed by the catalog number
of your radio. The best thing woud be to take the radio to a store
and tell them that you want a service manual for it. If the
salesperson looks blank at that, ask him/her to call Consumer Mail and
ask for a service manual... (They may be calling it Radio
Shack/Unlimited by now, I'm not sure). If the person _still_ doesn't
have a clue, ask for the manager, but it's really not too hard.

--
Dan Brown, KE6MKS
danb@a.crl.com, NOT danb@crl.com
Don't tread on me.

4022. Power Supply Question...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: danb@a.crl.com
Message-ID: <42bhkb$iob@nntp.crl.com>
Source record: 110831

I've recently come into possession of an (apparently) old power supply, and I'm wondering if anyone might have info on it.

The nameplate reads:

POWER SUPPLY
MODEL

(stamped) OEM 10E P 1912 (may be 1942)

INPUT 105-125V., 47-429 CPS

POWER/MATE CORP.
Hackensack, N. J.

It measures about 5" square by 9 1/2" long, and is labeled "REGULATED POWER SUPPLY" on the front, with a pot for voltage adjustment. AC input, DC output, and "Sense" (+ and -) are via a 6-position barrier strip.

One transformer occupies the back half of the unit; another, smaller, one is nearer the front.

I'm wondering (1) what the voltage/current capacity of this are (I expect large; the thing weighs a ton), (2) if the company's still in business, and (3) anything else that might be useful. Thanks for any information!
--
Dan Brown, KE6MKS
danb@a.crl.com, NOT danb@crl.com
Don't tread on me.

4023. Ham Radio Test Simulators - Mac

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: john@wd1v.mv.com
Message-ID: <john-0309950824030001@wd1v.mv.com>
Source record: 110832

FREE - NEW Macintosh HAM TEST SIMULATORS

Studying for a ham test and have access to an Mac?

Upgrade Fast! Simulate the test and get S T I M U L A T E D!

Scores of 90% or > even get applause!

The new Macintosh Ham Test Simulators are HERE (and there if you can FTP)!

o Novice Ham Test 5.0 SA.sea
o Technician Ham Test 5.0 SA.sea
o General Ham Test 5.0 SA.sea
o Advanced Ham Test 5.1 SA.sea
o Extra Ham Test 5.0 SA.sea

The latest version "5" feature:

HyperCard 2.3 as a stand-alone application (SA) eliminating
your need to have HyperCard. All you need is a Mac with 4
Meg of memory and version System 7 or greater.

Each version "5" Ham Test Simulator has the latest questions
as prepared by the Question Pool Committee.

Each version "5" Ham Test Simulator is FREE OF CHARGE and work the
same way as the originals did (written by Diana, KC1SP).

You may obtain a version "5" Ham Test Simulator by mailing me a *FORMATTED
disk (1 per test) and include a Self Addressed and Stamped disk mailer for
the return.

Each version "5" Ham Test Simulator is also bundled with a shareware CW
program called MacMorse 1.4 written by Doug, WB0EON.

Also included in the version "5" collection are text files that relate an
interesting variety of ideas about the best way to study CW and prepare
for tests.

Or warm your phone line and get JUST the tests:

America On Line - Macintosh Ham Radio Section

or:

ftp://oak.oakland.edu//pub3/hamradio/mac/theory-and-morse/AdvancedHamTest.sea.bin
(Aug 30th)
ftp://oak.oakland.edu//pub3/hamradio/mac/theory-and-morse/ExtraHamTest.sea.bin
ftp://oak.oakland.edu//pub3/hamradio/mac/theory-and-morse/GeneralHamTest.sea.bin

ftp://oak.oakland.edu//pub3/hamradio/mac/theory-and-morse/NoviceHamTest.sea.bin
ftp://oak.oakland.edu//pub3/hamradio/mac/theory-and-morse/TechnicianHamTest.sea.bin

Your comments and suggestions for future versions are always welcome. Stay
in touch
and good luck with YOUR next test!

73,

\/
John D. Seney, WD1V Internet: john@wd1v.mv.com
144 Pepperidge Drive America On Line: jseney@aol.com
Manchester, NH 03103-6150 AX.25 Pkt: wd1v@wb1dsw.nh.usa.na
(H) 603-668-1096 Ampernet: wd1v@wd1v.ampr.org
\/
LeCroy Sales Engineering - Maine, New Hampshire, and Northeastern
Massachusetts
(O) 800-553-2769 (F) 603-627-1623 (P) 800-SKYPAGE #5956779

All opinions are my own, including Digital Storage Scope.FAQ

To obtain the latest copy automatically, simply send me an EMAIL
with "subscribe scope.faq" in the subject field.
\/

4024. Re: Power Supply Question...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: Dave Skarbowski <skarbows@ptd.net>
Message-ID: <DEByAx.G2s@postoffice.ptd.net>
Source record: 110833

danb@a.crl.com (Dan Brown) wrote:
>I've recently come into possession of an (apparently) old power
>supply, and I'm wondering if anyone might have info on it.
>
>The nameplate reads:
>
>POWER SUPPLY
>MODEL
>
>(stamped) OEM 10E P 1912 (may be 1942)
^^^
10 volts

>
>INPUT 105-125V., 47-429 CPS
>
>POWER/MATE CORP.
^^^^^^^^^^^^^^^^
They closed their doors in Hacensack NJ about 87' or so and moved to California. I'm pretty sure they are completely out of business now. I worked as a power suply design engineer for them during the early 80's.

>I'm wondering (1) what the voltage/current capacity of this are (I
>expect large; the thing weighs a ton), (2) if the company's still in
>business, and (3) anything else that might be useful. Thanks for any
>information!

10 volts @ ????A....sorry, I don't have much info on the current rating or how to decode the date code. They made some pretty good OEM supplies back in the late 70's. I have several 12 and 15 volt 40 amp models here that have been powering my shack for 15 plus years without repair. Hope this helps....

Dave, n2fam

4025. Re: Anyone ever use that Mr. Beer thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <810092877.17139@pinetree.microserve.com>
Source record: 110834

blanton@ni.net (J. L. Blanton) wrote:
> fuzz@cnj.digex.net (Paul M. Zeller) wrote:

>> I was browsing my television channels, as I tend to do from time to
>> time, and noticed a thing called Mr. Beer on QVC 2. Does anyone >>
have any experience with this and is this worth it? It appears to >>
be cheaply put together.

>Definitely a different kind of 'homebrew'!!! ;-)

Maybe it's a new type of Beverage antenna. :)

73,

Jack WB3U

4026. Re: Schematics from Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <42cb4p$q1d@news.duke.edu>
Source record: 110835

danb@a.crl.com (Dan Brown) wrote:

>jimbob@acpub.duke.edu (james P. Meyer) wrote:

>>Is whatever service manual I might be able to get from R-S going to be
>>halfway decent as far as showing me a full schematic with parts
>>values? If so, what's the R-S part number for the manual?

> I can't speak for their SW radios, but the service manual for my
>HTX-202 was very complete in that regard. Cheap too--compared to the
>Yaesu one for my FT-530 at $25, RS only wanted $6.59 for this one.

I ordered the service manual last friday. Twelve bucks and it will be
mailed to me. The lady at R-S knew exactly what I wanted and even
remembered 90% of the part number for it! A quick call to wherever,
resulted in a full part number and price.

Say what you will about "Radio Shaft" or "Radio Schlock", I have found
that generally I get very good service. And I've found one store that
will get *all* my R-S business.

Jim "no sig" Meyer

4027. Re: Fm Transmitter...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <810093111.17139@pinetree.microserve.com>
Source record: 110836

lottsim@aol.com (LOTTSIM) wrote:

>I was going to buy this $29 FM Transmitter, but I then I realized it
>only transmitted a few feet. I've seen some FM transmitters that do
>3/4 of a mile, but that don't have stereo line in with dual speaker
>separation.
>
>I'm no genious at electronics, so I'd really appreciate it if either
>(A) somebody could build it for me and I'd pay him/her $65, <<snip>>

Wow, $65.00 to build a transmitter. I must be in the wrong business.
:)

4028. Amp parts FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: kk5dr@bga.com
Message-ID: <42cpqi$odh@giga.bga.com>
Source record: 110837

I have lots of amp parts forsale, a list follows;
(NEW) Peter Dahl plate transformer , primary is 220-240vac, sec, 2000-2400-3040vac rms @ 1amp. CCS
$200 plus shipping 46lbs.
(NEW) electrolitic capacitor bank (11) 800 mf @ 450vdc caps., in series is 73.3 mf @4950vdc $160
shipped
(NEW) 30 amp power contactors DPDT $15 ea.
(NEW) (2) JENNINGS vac rlys SPST 12kv @5 amps. 26.5 vdc coils (setup in tandem for T/R rely) $200
shipped.
(USED) load cap 140-1100 pf @2kv $20 shipped
(USED) plate cap (c-1) 150pf @ 4kv $20 shpd
(USED) manual for DRAKE L-75 amp $5 w/sase
(USED) DRAKE L-75 power transformer, good shape. $50 + shpg
(USED) squirrel cage & muffin blowers, misc.
etc. etc. etc. etc. E-mail for more, or to check for other parts or cabinets.
Signed, Matt/KK5DR

4029. Re: Home-made low Ohm resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: sefranek@iii2.iii.net
Message-ID: <42cpjl$icq@iii2.iii.net>
Source record: 110838

Or, better still consider power FETs, no resistors necessary.
Don't use copper wire, it drifts with temperature.

Tom

--
Thomas C. J. Sefranek WA1RHP Work: 508-425-2200

4030. Re: Vintage Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-0309951611430001@d160.nb.interaccess.com>
Source record: 110839

In article <DE6J9r.Jno@eskimo.com>, rmwatson@eskimo.com (Robert Watson) wrote:

> I wish to build a 1930's era transmitter and receiver, I wish for the
project to
> be fairly simple in design.

It might be best to get a copy of the ARRL Handbook from the 30's.

Dave Moorman, K9SW
Downers Grove,
Illinois

--
Still looking for a snappy signature

4031. Re: Anyone ever use that Mr. Beer thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: jim@n5ial.mythical.com
Message-ID: <1995Sep3.204924.7918@n5ial.mythical.com>
Source record: 110840

In article <blanton-0209951248460001@xband.ni.net> blanton@ni.net
(J. L. Blanton) writes:
>In article <420ofn$63g@news4.digex.net>, fuzz@cnj.digex.net (Paul M.
>Zeller) wrote:
>
>> I was browsing my television channels, as I tend to do from time to
>> time, and noticed a thing called Mr. Beer on QVC 2. Does anyone have
>> any experience with this and is this worth it? It appears to be
>> cheaply put together.

>Definitely a different kind of 'homebrew'!!! ;-)

Definitely an interesting concept, though.... <grin>

I mean think about it.... I'm assuming (at least, in a humorous and
not-so-serious sense), from where the original poster placed his article
and from the kit's name, that this Mr. Beer kit is an Amateur Radio kit
that works as a radio and also dispenses and/or brews beer.

This could really be a neat thing---it combines two of my hobbies into
one nice, neat package, and could be fun for long nights of operating,
too. Just picture it...you're in the middle of a nice chat with AMTOR,
PacTOR, or cw (or whatever modes you prefer), and you draw a nice, fresh
IPA, bitter, bock, or even a nice oatmeal stout right straight from your
radio. Saves a trip (or trips) to the beer fridge! :-)

Hmmmmm.....I wonder..... <grin>

Later,
--jim

--
73 DE N5IAL (/4) MiSTie #49997 < Running Linux 1.2.13 >
jim@n5ial.mythical.com ICBM: 30.23N 86.32W
|| j.graham@ieee.org Packet: --OFFLINE-- (Ft. Walton Beach, FL)
E-mail me for information about KAMterm (host mode for Kantronics TNCs).

4032. Re: NEED HELP MAKING TV OSCILLATOR/JAMMER, SHORT RANGE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-03 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <42cjga$ka7@detroit.freenet.org>
Source record: 110841

I presume that you are no longer interested in them as friends,
and that you also don't like their neighbors.
--

4033. 4 Sale: National HR05TA1 and Hammarland HQ140-AX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: Wilmoth@Primenet.com
Message-ID: <42dgd2$d08@nnrp3.primenet.com>
Source record: 110842
Cross-posted to: rec.antiques.radio+phono,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,rec.radio.amateur,rec.radio.amateur.equipmenet,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

National brand ham Receiver: HRO5TA1
---
50 khz to 30 Mhz

1940's Circa.

Excellent condition complete with all 9 plug in tuning coil sets, original speaker and power supply (both external) owners manual

Hammarlund ham Receiver: HQ140-AX

All Band

1960's Circa.

Excellent Condition. Missing External Speaker and Owner Manual.

Make offer on either or both radios if interested.

4034. Re: multiband mobile HF antenna plans wanted.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <42dirr$jqa@grape.epix.net>
Source record: 110843

edbu@sepia.wv.tek.com (Ed Burress) wrote:
;>I saw a particular antenna design at the last Ham swap meet I attended
;>which used a loading coil mounted on a motorized threaded shaft which
;>was used to tune the antenna. The whole thing was housed in a 4 foot
;>section of 2" pvc pipe. You had to supply your own whip antenna
;>for the top, but this thing would tune up on any frequency!!
;>If I remember right, the original design was done by a guy named
;>Don Johnson.
;>
;>Has anyone seen plans or an article on how to build one of these?
;>Any pointers would be appreciated.
;>Thanks,
;>Ed Burress
;>KC7GFX
You are right the designer is Don Johnson and the design is published in a book he wrote "40+5 Years of HF Mobileing. It is available from World Radio Books for about $15.00 or so. The design may be published in other places also but I don't know of any. There are also several commerical sources of the antenna one of which is Hi Sirrea who along with others adverise in QST and probabbly other places. I recomend the book as its a very nice bedside reader and tells of many designs over the years.

Garry(WB0NNO)

4035. Re: Anyone ever use that Mr. Beer thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <42dn2v$gr9@cc.iu.net>
Source record: 110844

In <420ofn$63g@news4.digex.net>, fuzz@cnj.digex.net (Paul M. Zeller) writes:
>I was browsing my television channels, as I tend to do from time to
>time, and noticed a thing called Mr. Beer on QVC 2. Does anyone have
>any experience with this and is this worth it? It appears to be
>cheaply put together.

zounds! sounds like a visit to alt.beer is in order...

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

4036. Re: Fm Transmitter...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <42dncf$gr9@cc.iu.net>
Source record: 110845

In <429vje$2q3@newsbf02.news.aol.com>, lottsim@aol.com (LOTTSIM) writes:
>somebody could build it for me and I'd pay him/her $65, or (B) Somebody
>directs me in the right direction.
>Thanks,
>Alex Rampell

ok..the right direction....uh, perhaps Gates Rad..er, Harris Broadcast...
someone else will have to come up with the phone numbers, corporate HQ
is in Melbourne...

(wouldn't you love to be there when the RFQ comes in for this one...)

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

4037. Fm Transmitter...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <42e0s3$q5f@pipe2.nyc.pipeline.com>
Source record: 110846

To: lottsim@aol.com (LOTTSIM)
Subject: Fm Transmitter...
From: acatalan

In rec.radio.amateur.homebrew lottsim@aol.com (LOTTSIM) said:

>I was going to buy this $29 FM Transmitter, but I then I realized it only

>transmitted a few feet. I've seen some FM transmitters that do 3/4 of a mile,
>but that don't have stereo line in with dual speaker separation.

I used to build surveillance FM x-mitters for private dicks. That was fun. You need a stereo x-mitter? Ramsey electronics makes one.. I picked one up at a ham fest and put it together in an hour and a half. A no brainer, plenty of
room to work on the board (no tiny SMT parts) I looked for their address I can't find the papers. Look in the hobby mags. The heart of the stereo xmitter was a vlsi chip that did all the multiplexing for the stereo FM modulating
of the free running oscillator with only one next stage of amplification really
acting only as a buffer. the output goes to an antenna through a 75 or 100 ohm resistor. I removed that to get a bit more range. As you can imagine the
FCC would not appreciate a substantial amount of amplification from any transmitter whose frequency stability is derived from a FREE-running oscillator.
(licensed or not) My Ramsey stereo FM transmitter works like a charm. I built
a MONO one in the late 70's which I brought to the beach with me to play Black Sabbath over the crappy disco stations - DEATH to DISCO!!!!!!!
Pirate FM lives! (at least within a 500 ft perimeter)
You can do it yourself, save your 65 bucks to buy it. I think it was less than that to buy it. Let me know how you made out and/or if you need any help.
Anthony G. Catalano 73 de WW2W ham op

--
Anthony G. Catalano WW2W ham op

4038. Re: NEED HELP MAKING TV OSCILLATOR/JAMMER, SHORT RANGE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <42e2of$str@pipe2.nyc.pipeline.com>
Source record: 110847

Get a "junk box" 3,579.5KHz colorburst crystal. Make an oscillator using a 9v battery. Connect a 3ft piece of wire to an RF hot-spot on the ckt and run it down your pant leg. If they notice the TV goes wacky evertime you enter the room they will put you in charge of the fridge detail in the kitchen during playtime.
p.s. With the colors going wacky and after a few buds both teams will look the same and you'll just enjoy the pretty colors. As an alternate you can become MR. POULARITY in your neighborhood by calling CQ on CW at full legal limit
during the last quarter on that 80mtr frequency!
--
Anthony G. Catalano WW2W ham op

"We should have controlls on certain forms of speach" - Dianne Feinstein
(how liberating)

4039. Re: How to make fox hunt target?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: acatalan@nyc.pipeline.com
Message-ID: <42e43l$ui@pipe2.nyc.pipeline.com>
Source record: 110848

I built one that keyed the ht and sent CW tones into the audio mic line. The keyer can ID my call only as it is diode programmed. A better way is simply to use a 555 chip for the key timing and the new vioce recording chip now carried by Radio Shack. you ca get up to 20 seconds of audio. I was thinking of making a simpex repeater with 2 or 3 of them cascaded. You can record a taunting audio message to all those wandering plebes! I place my "bunny" in a military shell box, painted it camoflauge and had drilled a small hole for a BNC connector onto which I made a thin stiff wire antenna painted black with some twigs and leaves twisted around it taken from the spot where it was hidden. It was in a bush "protected" by a catapillar nest off in a god-forsaken corner in Floyd Bennet Air Field in Brooklyn. It was found after 2 hours. If you can take advantage of a radio's HI/LO setting by keying that randomly too. You can also mess up those phase sensitive arrays by horizontally polarizing the signal. Placing a hidden wire reflector or director neaby can also "tax" one's expertise in such an effort. Have no mercy let them suffer.
--
Anthony G. Catalano WW2W (the BUNNY) ham op

4040. Change WBFM to NBFM????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <42e92l$ra3@ixnews4.ix.netcom.com>
Source record: 110849
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

I may purchase a military surplus RT-68/GRC 38 - 54.9mhz FM transceiver. It uses wide-band FM. Any way to change it to narrow-band FM? If so, how? I plan to use it for 6m operation.

Thanks

John
KE6TGN

4041. Re: Push-pull, grounded-screen amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Sep4.094058.65146@ucl.ac.uk>
Source record: 110850

In article 4485@pinetree.microserve.com, jackl@pinetree.microserve.com (WB3U) writes:
> "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com> wrote:
> >grounded grid and screen I have not seen...
>
> Isn't this a common configuration for tubes like 4-400's (not
> push-pull, but grounded grid and screen)? Sweep tubes, too.
>
> 73,
>
> Jack WB3U

I know grounded screen can be used, but I've never seen anything push-pull grounded screen. I've had some trouble doing this, and woder if there are any known problems (and hopefully solutions).

davek

4042. Re: Power Supply Question...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: sefranek@iii2.iii.net
Message-ID: <42f4rm$9me@iii2.iii.net>
Source record: 110851

Hi Dan,
Dare I suggest you just test the output? Look for voltage sag with
increasing load. My guess would be when it's down 10% your at the limit.
Also the supply may just shut down with too much current.

THis is the company that built really stupid adjustments on some of their
supplies... like don't use a metal screwdriver, if it contacts the case,
boom!

My boss at MIT refused to sign any purchase orders for their products,
for this reason.

Feel free to E-Mail any questions.

Tom
--
Thomas C. J. Sefranek WA1RHP Work: 508-425-2200

4043. transistor replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: majec@bga.com
Message-ID: <42f53e$dut@giga.bga.com>
Source record: 110852

I have an ft101ex and I am working on the now deaf reciever. I found that q2 on the IF board is dead. The manual calls for a 2SC784r. What is an easy to find replacement for that transistor.

I am new to homebrew/breaking radios but I enjoy tinkering. Also I wonder who is the manufacture of parts useing the "2SXXX" prefix.

My question is, what is an easy to find replacement transistor. Will a 2222 work or how about a nte 123ap. I have those on hand.

Q2 (2SC784r) is the second IF amp after a jfet Q1 (2SK19gr).

Any help is appreciated.
Thanks

Ed Guinn
kb5ruf
majec@bga.com

4044. Ramsey Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: tsnyder@mail.fgi.net
Message-ID: <42f5d5$940@grail.fgi.net>
Source record: 110853

Has anyone built any of the QRP transmitter kits by Ramsey? Are they mostly just for the fun of building or do they actually perform reasonably well? If the adage "you get what you pay for" applies, then I wouldn't expect much performance for just $30.

Tom Snyder tsnyder@mail.fgi.net

4045. Re: Schematics from Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: smithj@innet.com
Message-ID: <42fak8$8rr@lucky.innet.com>
Source record: 110854

In article <42cb4p$q1d@news.duke.edu>,
jimbob@acpub.duke.edu (james P. Meyer) wrote:
>danb@a.crl.com (Dan Brown) wrote:
>
>
> I ordered the service manual last friday. Twelve bucks and it will be
>mailed to me. The lady at R-S knew exactly what I wanted and even
>remembered 90% of the part number for it! A quick call to wherever,
>resulted in a full part number and price.
>
>
>
Yup, if you can find a store that hires good people and trains them right, you got a good one.

I went into a RadShack and asked for a manual and was told they do not sell them to the general public. When asked why, I was told it was because they don't want to be responsible if someone modifies a piece of equipment to do something illegal, or hurt themselves fixing it.

A call to the District Manager solved that. all in all, RadShack is a good deal, if you can stand the high prices...

Jim N8AVX

4046. Re: NEED HELP MAKING TV OSCILLATOR/JAMMER, SHORT RANGE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: alex@anat3d1.anatomy.upenn.edu
Message-ID: <42fab9$t2t@netnews.upenn.edu>
Source record: 110855

Try Information Unlimited, 603-673-4730. They advertise a kit that
does what you want for $24.50 + $5 S&H. They advertise bi-monthly in
Popular Electronics (a great mag for strange ads).

--

Alex Shrom - ajshrom@phoenix.princeton.edu - Major: History of Cat Art
Princeton '98 http://www.princeton.edu/~ajshrom Minor: Yes, unfortunately

4047. Re: Schematics from Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: ibmdelf@aol.com
Message-ID: <42fcqf$epe@newsbf02.news.aol.com>
Source record: 110856

I've purchased several service manuals for RS products over the years ranging from a laptop computer to a DVM. I've done this atseveral stores and never had a hitch. The only thing is that they require you come into the store and pay in advance and the service manual is mailed directly to you (from Texas I assume).

I recently found out that I can order directly from Radio Shack by calling 800-THE SHACK (800-843-8422). If you have the product catalog number (usually right on the product) they can generally find the listing for the service manual if one exists for sale. They take over-the-phone payment with major credit cards (including their own Radio Shack credit card.)

Del, KD4B
Raleigh, NC

4048. Re: Need info on Moto Hybrid RF Power amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: walter shawlee 2 <walter2@cyberstore.ca>
Message-ID: <42felr$96d@sulla.cyberstore.ca>
Source record: 110857
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

willmore@MCS.COM (David Willmore) wrote:
>
> I've got a few Motorola Hybrid RF Power amplifiers of unknown specification.
> They have the pinout of a MHW607, but their part number is XHW5066MOD. Yes,
> that's XHW and not MHW. I think that it is the final for a Moto handheld
> in the mid VHF band. I would like to use it in the 2m amateur band (144-148).
> If it bears any resemblance to the 607, it will put out 7 to 10 Watts. That
> would make a great module for homebrew designs. 1mW in, 10 W out! Too bad
> it takes > 2A at 7.5V, but I can live with it. :)

David...
In general, Motorola uses the "X" to indicate experimental pre-production parts. You will see this on everything from microprocessors to RF modules.
If you replace the X with an M, this is normally the real production number.
Most of these moules ar enow obsolete, except for a few Cablevision buffers.
I can find no reference to this device in any Motorola RF data book, but my oldest is 91, so possibly it exists in an older issue.
The power/output pin outs seeme to be consistant, so I would just power it up, and see what happens. Start at 12VDC.

bye for now,
walter

4049. Re: FSK Demodulator schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: sherwood@oribi.cig.mot.com
Message-ID: <42fg9k$aif@newdelph.cig.mot.com>
Source record: 110858

>>The EXAR XR2211 demodulator chip is just the thing!
>>I have designed around it and it will work upto 2400 baud on
>>VHF, 300 Baud on HF. Some of the MFJ decoder also used this chip
>>
>anxious to get it hooked up with the hf station. It seems there could be
>some software for the soundblaster thingy to allow one to maybe demodulate
>RTTY and SSTV. Whaddaya think?

I have been brousing through the Amsoft CD rom and there is shareware
on there for using a sound blaster card. Also there is software on there
to receive various digital modes(even pactor, I think). It requires an
external demodulator. Maybe that would be just what you guys are looking for.
Let me know if you need more details; I cant write this and look at the CD
rom at the same time.

chuck sherwood N9QZT
sherwood@cig.mot.com

--
Chuck Sherwood
sherwood@cig.mot.com
708-632-7078

4050. Re: QRP KIT pse help me out!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: kenkd1xs@aol.com
Message-ID: <42fiet$gke@newsbf02.news.aol.com>
Source record: 110859

You may want to try the NN1G SWL-40 kit. I just built 1 last month. $50 and you supply knobs, connectors, and case. It puts out 1.5W on 40M (or 30M). Receiver is singlle conversion and pretty decent. All parts on 1 board.

There was a write up in November 1994 QST, page 37. Kit can be ordered from Dave Benson, NN1G, Small Wonder Labs, 80 East Robbins Ave, Newington, CT 06111.

Ken KD1XS

4051. Re: Motorcycle intercom

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: "Paul C. Barnes" <barnes@america.com>
Message-ID: <42eck4$c89@enterprise.america.com>
Source record: 110860

Some of the radio gadget places in the US sell wireless transmitters that are very small. Go to an electronic store and browse thru some of the books and see if there are some ads there for such devices. In the US they are fairly cheap and easy to use, just connect to power, microphone and antenna. They usually have an accompanying receiver, too.

4052. Re: Schematics from Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: fladams@iadfw.net
Message-ID: <42fkf9$fff@news.iadfw.net>
Source record: 110861

jimbob@acpub.duke.edu (james P. Meyer) wrote:

> Before I spend money on something that may not be what I need, I'll
>ask for some advise.

> I've got a used R-S DX-440 that seems to be a bit low in sensitivity
>on almost all the AM bands including all the SW bands. I could test
>and probably fix whatever's wrong if I could get decent schematics.
>Is whatever service manual I might be able to get from R-S going to be
>halfway decent as far as showing me a full schematic with parts
>values? If so, what's the R-S part number for the manual?

>Jim "no sig" Meyer

You might also try ordering directly from Tandy National Parts in Fort Worth, Tx. Their number is (817)870-5709. I bought a PRO-2006 manual from them a while back for $7.95. I would compare this to buying from your nearest Radio Shack Store. By the time you pay shipping from Tandy National Parts, it may be cheaper from your local store.

Floyd Adams WD5ENJ

4053. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: jfriley@airmail.net
Message-ID: <42fm2a$fns@news.iadfw.net>
Source record: 110862

>Push pull operation

Call me soft hearted, Tom. But the thought of anyone spending time to build up a pair of 4CX1000'a in push-pull and then watching the fireworks when they turn them on was just too cruel to allow. Got me to thinking about an old Gates rig: the FM-5B. Had a pair of 6076's in push-pull. The tubes didn't have much gain at VHF so it wasn't too awful. So they took the same idea and put a pair of 4CX15000's in push pull. Called it the FM-20B. Oscillated wonderfully on 27 MHz. And every time it did the repair bill was about two thousand bucks. The rig used screen neutralization with bread cutters in parallel with each screen bypass. When it oscillated the RF current in the screen circuit would be so high it would turn the aluminum plates on the caps soft and, over time, they would bend over into each other.

Who was that kid over in Cleveland with the pair of oscillating 4-1000's that had a Nike missle target-acquisition radar shut down? K8RRR?

Fred

4054. Re: transistor replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <810253650.3266@pinetree.microserve.com>
Source record: 110863

In article <42f53e$dut@giga.bga.com>, majec@bga.com (ed guinn) wrote:

>I have an ft101ex and I am working on the now deaf reciever. I found
>that q2 on the IF board is dead. The manual calls for a 2SC784r. What
>is an easy to find replacement for that transistor.

Larger audio/video service companies stock numbers like that. They buy them from companies like MCM Electronics and Consolidated Electronics (CEI). These are Japanese numbers, and both the 2SC784 and 2SK19 (fet) are very common. The 2SK19, in fact, was used in thousands and thousands of stereos as a good low-noise device for FM front ends.

Reputable shops don't substitute these parts, they use identical Japanese numbers, or worst case, Japanese replacements. MCM and CEI also sell data books covering 2SA, 2SB, 2SC, 2SD, 2SK and 3SK (mosfet) devices. The same shop that stocks the transistors should have a copy of those books to look up devices. If they don't, you're in the wrong place.

73,

Jack WB3U

4055. Re: Schematics from Radio Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: seans@gp.magick.net
Message-ID: <42fcaa$2u7@news.magick.net>
Source record: 110864

james P. Meyer (jimbob@acpub.duke.edu) wrote:

: Before I spend money on something that may not be what I need, I'll
: ask for some advise.

: I've got a used R-S DX-440 that seems to be a bit low in sensitivity
: on almost all the AM bands including all the SW bands. I could test
: and probably fix whatever's wrong if I could get decent schematics.
: Is whatever service manual I might be able to get from R-S going to be
: halfway decent as far as showing me a full schematic with parts
: values? If so, what's the R-S part number for the manual?

: Jim "no sig" Meyer

Subject: Re: Static Killer
Message-ID: <CB.95Jan5120728@willow021.cray.com>
In-reply-to: artburke@tyrell.net's message of Thu, 5 Jan 1995 00:48:54 GMT
Lines: 109
Nntp-Posting-Host: willow021
Organization: Cray Research, Inc.
References: <D1wq9J.9Iu@tyrell.net>
Date: 5 Jan 95 12:07:04 CST

Art Burke writes:

Several messages back, someone posted information relating to a MOSFET
on one of the boards in the Radio Shack DX series shortwave radios.
I have a Sangean 803 or 803a, the one without narrow/wide, etc. It, too
has become 'deaf.' Could the person who posted the 'fix' either re-post
it or e-mail the info to me? Thanks.

Following are excerpts from my info file on this model. Write me if
you'd like the whole file.

Chris

ANTENNAS AND STATIC ZAPPING

From: F048@MUSIC.FERRIS.EDU (Tim Deady)

I found that the only thing that had been fried was a Field-Effect
Transistor labaled Q1 [See next note. Ed.] on the circuit board (this
is in a DX-390/Sangean 818 mind you, other models could be different).
I replaced this with an MPF102 FET that I bought at Radio Shack for $.99
(Cat. No. 276-2062) and my radio has been working fine ever since.

From: Mike.Stine@f239.n109.z1.fidonet.org (Mike Stine)

Your message mentioned zapping the front end of the Sangean The front end of the Sangean 803A/DX-440 has a FET which will blow. Its Q115. Radio Shack used to sell the part which you can use as a replacement, its MPF102 and sells for 79 cents (US).

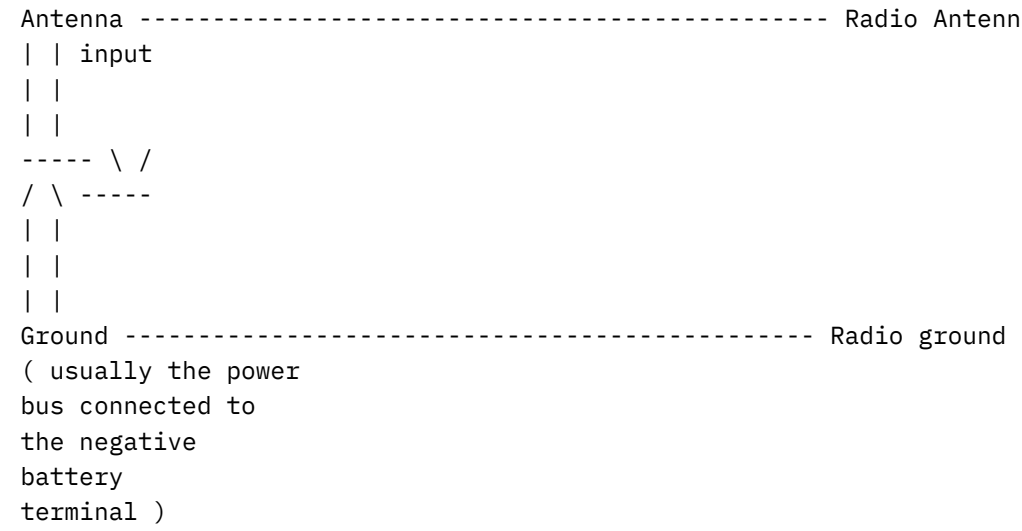
WARNING! Some receivers (Sangean, early Sonys, etc) do not have overload protection for reasonable voltage transients on external antennas! Put back-to-back diodes in parallel between the external antenna lug and the external ground lug on the radio. Most any silicon diodes will do. Then your front end FET won't burn out as easily next time. (This includes damage from static electricity when you touch the antenna terminals in the dry wintertime.)

From: jfeng@VNET.IBM.COM (Joseph Feng)

>is there any way to prevent the damage in the first place?

I would use the technique that is described for the Sony 2010: put a couple of paralleled back-to-back diodes between the antenna lead and the circuit ground(usually the same as the negative battery terminal). This method has a wide applicability beyond just RF front ends.

Suggested diodes are 1N914/1N4148, available almost anywhere including Radio Shack. The circuit can be found in the 2010 mods that get posted occasionally. I have no evidence that it works for Sangean radios, although the principle is well-known.



From: zlau@arrl.org (Zack Lau (KH6CP))

Perhaps the most cost effective solution is to ground the antenna through a high value resistor, perhaps 470 ohms to 10,000 ohms. This will drain

the charge while not noticeably degrading reception. The resistor wattage isn't important, 1/4 watt is a common value. A 1000 ohm 1/4 watt resistor might be a good value to ask for.

Basically, static electricity accumulates on the antenna, and it discharges through the FET. The resistor drains the charge, preventing the voltage from building up.

From: mikelson@sys6626.bison.mb.ca (charles mikelson)

I took it to a local Dealer , who said "I was lucky it wasn't worse"
as it turned out it was easy to fix:
Just remove the batteries until all capacitors discharged I haven't had any problems since.

From: WhiskerP@lgwct.logica.com (Peter Whisker)

I posted an article a week ago about how I thought my DX-440 had been zapped. Thankfully, when I opened it up, all that had happened was that the wire had become detached from the whip antennna. Phew! All is now happy again!

--

Chris Brewster Cray Research, Inc.

Hope this is what you need.

--
==========
Sean Smithers
Internet: seans@gp.magick.net
CompuServe: 70132,136
Packet: N7ZWU @ WB7VMS.#MURPH.OR.USA.NOAM

4056. Quad Antenna Design Programs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: KC6UFM@aol.COM
Message-ID: <950904004039_10375834@mail06.mail.aol.com>
Source record: 110865

Hello, Folks:

I'm looking for a program, preferably either PD/Freeware or Shareware,
that will do Quad antenna design and modeling similar to what Yagi Max does
for a Yagi antenna.

I have played with MiniNEC and a few others similar to that, but frankly,
they are harder to use than doing the calculations by hand!

Thanks for any help or info that you may be able to provide!

Marty Albert -- KC6UFM
Cherokee Pass, MO
KC6UFM@AOL.COM

4057. Re: Ramsey Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <42fbs1$fm3@news1.inlink.com>
Source record: 110866

In article <42f5d5$940@grail.fgi.net>, tsnyder@mail.fgi.net says...
>
>Has anyone built any of the QRP transmitter kits by Ramsey? Are they
>mostly just for the fun of building or do they actually perform
>reasonably well? If the adage "you get what you pay for" applies, then
>I wouldn't expect much performance for just $30.
>
>Tom Snyder tsnyder@mail.fgi.net

I can say from experience that every kit produced by Ramsey functions exceptionally well for the cost.
No, Ramsey is not comparable with Heathkit, but then if Heathkit were still manufacturing Amateur Gear, the kits would cost about double of an assembled Kenwood product.

Most Ramsey products are documented such that the experienced builder can and in many cases modify the original designs with higher quality components or options not offered by Ramsey. I feel their concept is to provide the very basics of each kit at a very reasonable cost. For example, I have built upwards of 36 of their two-meter amplifier kits. Building the same unit from scratch will cost almost double. The RF transistor alone costs over 40 dollars at most supply houses. Even with access to discount supply houses, the cost is still over their kit price.

As a rule of thumb, you can usually figure every Ramsey Kit is going to be missing one or two minor components and in rare cases one of the major components. In order to produce the product and have it retail for such a reasonable price, I am convinced they use blind orangutangs to package them.

Gary

4058. Re: transistor replacement

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <42fcg0$fm3@news1.inlink.com>
Source record: 110867

In article <42f53e$dut@giga.bga.com>, majec@bga.com says...
>
>
>
>I have an ft101ex and I am working on the now deaf reciever. I found that
>q2 on the IF board is dead. The manual calls for a 2SC784r. What is an
>easy to find replacement for that transistor.
>
>I am new to homebrew/breaking radios but I enjoy tinkering. Also I wonder
>who is the manufacture of parts useing the "2SXXX" prefix.
>
>My question is, what is an easy to find replacement transistor. Will a
>2222 work or how about a nte 123ap. I have those on hand.
>
>Q2 (2SC784r) is the second IF amp after a jfet Q1 (2SK19gr).
>
>Any help is appreciated.
>Thanks
>
>Ed Guinn
>kb5ruf
>majec@bga.com
>

Hi Ed

No the transistors you mentioned are not compatable, however, the
replacement numbers for those you have shown are readily available and very
low in cost.
The 2SC784r is replaced by ECG 229 cost between 1.88 and 3.13.
The 2SK19gr is replaced by ECG 453 cost between 1.53 and 2.55.
The ECG 229 is a normal stock item, however the ECG 453 may be ordered.
PS - the low price is considered retail and the high price is list price.

Gary - N0ZOI

4059. Re: Ultra-miniature Direction-finding Unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-04 00:00:00 UTC
From: root@lenin.svl.trw.com
Message-ID: <42fs9s$3eh@gatekeeper.svl.trw.com>
Source record: 110868
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

In article <42c7f3$mb1@temasek.teleview.com.sg>,
Anderson @ Mpower <mpowers9@temasek.teleview.com.sg> wrote:
>On behalf of Martin Landeros (landeros@u.washington.edu), who wrote:
>
>
>: On Thu, 27 Apr 1995, Mark Kinsler wrote:
>
>: > >I've always thought it would be great if one could make a really small
>: > >direction-finding unit that would be the size of a small calculator,
>: > >including the antenna (something like James Bond would use). I'm curious
>
>Are you discussing direction, as in Lat/Lon, or are you discussing
>RFemission direction, which I happen to be interested in ?

What interest do you have? It's a specialty here. Small DF units
exist, it's primarily a price-performance issue.

--
#include <std.dsclmr> root@lenin.svl.trw.com

4060. What type of capacitor is this ???????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Sep5.144418.98362@ucl.ac.uk>
Source record: 110722

I've a circuit diagram that specifies a type DM-15, 500pF, 500V silver-mica capacitor. Anyone know what a type DM-15 is ????? More to the point, where can I get them from - preferably in the UK, but a foreign source will do, if I cant get them here.

The circuit specifies a lead length (1/4") to use on these caps to resonate at 144MHz, so substituting any old 500V, 500pF silver-mica cap may not be wise.

davek G8WRB.

4061. Re: How to make fox hunt target?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: marvin@rain.org
Message-ID: <42hv3r$ou2@news.rain.org>
Source record: 110723

Mike Musick (mmusick@talx.com) wrote:
: > I am at the very start of the planning of a fox-hunt transmitter
: > system. I would like to be able to put together in an inexspensive way,
: > a transmitter for a fox hunt.

: Jonathan -

: Normal practice for "hidden foxes" is as you surmise - use a commercial HT
: (like your old Icom) with some sort of controller. There are controller
: kits available from time to time which are usually somebody's
: kitchen-table project, but I can't readily tell you what is available
: today.

Another less expensive (?) approach is to use a dual-band HT and cross band it. The one I use is an FT-470 and it works quite well although it does seem to only cross band using low power.

<snip>

: It is particularly important in "beginning" foxhunt programs to make sure
: the fox transmission has some content to it to make sure it can be
: distinquished from QRM/QRN. Obviously, it needs to be in FM to be sure
: that you can draw from the largest potential field of hunters. A low-power
: unmodulated CW carrier will be difficult to hunt unless your hunt area is
: very limited, and keying the PTT for true CW ID might be pretty rough on
: the HT.

We have found beginning hunters are sometimes reluctant to go onto regular hunts so I started a beginners T-Hunt to address that problem. The hunt is on foot located at a local park. We start out with some instruction that is followed by (usually) two hunts. The first hunts were using HTs only and people were shown how to use body fade to get bearings. We also showed a couple of methods to attenuate the signal including tuning off frequencey, sliding the antenna on the BNC connector, and removing the antenna completely. We are fortunate in having L-Tronics here in town and they have been provide several L-Pers to play with as well as providing instruction. Not exactly inexpensive equipment, but great for finding the T :)

<snip>

: There has been a long-standing suggested national foxhunting frequency of
: 146.565, which we use on hunts that are not through the repeater. That
: should be a good starting place, though most of the recognized voice
: simplex channels in your area (but not 146.520!) could be used.

We generally use 146.565 but 146.520 has been used occassionally as
well. Of course, low power was being used!

4062. 1N21B or TH8121C

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: ftronel@ens-lyon.fr
Message-ID: <42i2m4$qje@cri.ens-lyon.fr>
Source record: 110724

Hello,

I need informations about diodes 1N21B or TH8121C.
I only know that they could be used in microwave applications.

Please e-mail : ftronel@ens-lyon.fr

Frederic
F1SDZ

4063. Re: Home-made low Ohm resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <42i34t$f2h@hpscit.sc.hp.com>
Source record: 110725

>Use Nichrome (Nickel/Chromium) alloy wire. It is a fairly high resistance wire
>(don't remember the ohms/ft) used for winding resistors and heating elements.

>One problem is you cannot solder to it. Screw the ends to a barrier strip.
>Joe - AA3GN

A better choice is Manganin wire. You *can* solder to it, and it has a very
low temperature coefficient of resistance. It is almost as high resistance
as Nichrome.

Manganin wire is available from Lakeshore, (lsci-sales@bronze.coil.com)

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4064. wanted: triodes for AN/APR-4

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: sbutcher@molbiol.ox.ac.uk
Message-ID: <1995Sep5.165528@ania.path.ox.ac.uk>
Source record: 110726

Hi,
apologies if this is not a brilliant place to post..... but hopefully we are ok.. I tried .audio.tubes but was directed here.

we are looking for some triodes to replace some damaged a couple of days ago.

(1) triode 9002 miniature 7 pin

(2) acorn triode JAN-955

we need 2 of (1) for tuning unit TN-18/APR4, and 1 of (2) for tuning unit TN-1B/APR1 for a 1943 AN/APR-4 receiver. Any pointers to where to find these, preferably in the UK would be very gratefully received. Everything else is working fine. If you are passing through, said receiver is currently on display at the IEE 100 years of radio meeting .
replies to group (if deemed appropriate) or email or to Peter Butcher at the IEE meeting (next to the BBC stand) :)
many thanks in advance
S

4065. Re: Ramsey Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: shields@nps.navy.mil
Message-ID: <shields.65.43C868DA@nps.navy.mil>
Source record: 110727

>In article <42f5d5$940@grail.fgi.net>, tsnyder@mail.fgi.net says...
>>
>>Has anyone built any of the QRP transmitter kits by Ramsey? Are they
>>mostly just for the fun of building or do they actually perform
>>reasonably well? If the adage "you get what you pay for" applies, then
>>I wouldn't expect much performance for just $30.
>>
>>Tom Snyder tsnyder@mail.fgi.net

I teach a communications class for graduate students in management curriculums here at NPS. I require a class project and one of the options is for the students to get a no code tech license and build a kit. Many of the students (who have never seen a resistor, etc.) choose to build Ramsey kits and over the past three years I have seen about 50 FM stereo transmitters and 2m and 6m transmitters and receivers. The students have always been able to get them to work and their complaints, if any, are that there is a part or two missing (Ramsey always sends the missing parts), and that they had trouble determining what some of the componets were (I have had students ask how to tell which lead is which on resistors, etc.).

Thus it is my opinion that anyone could build any of the Ramsey kits and that they will work. The smarter and more experienced one is, the more likely you are to want to modify and improve the kit, but they all seem to work as specified.

Mike Shields

4066. odd-ball IC chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: ibmdelf@aol.com
Message-ID: <42i6e2$88s@newsbf02.news.aol.com>
Source record: 110728

I'm looking for a replacement IC that is the control chip in a Sear garage door opener. The Texas Instrument ID on it is CX8544 (16-pin DIP). It took a lightning hit and it's got to be replaced. The rest of the control board checks out. None of the usual parts houses lists it. I'm thinking it might be a special chip made to order for the real manufacturer of the opener.

Any ideas on this one?

Thanks,
Del, KD4B
Raleigh, NC

4067. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <42is5s$fnv@newsbf02.news.aol.com>
Source record: 110729

In article <42fm2a$fns@news.iadfw.net>, jfriley@airmail.net (J. Fred Riley) writes:

>The rig used screen neutralization with bread cutters in parallel with >each screen bypass. When it oscillated the RF current in the screen >circuit would be so high it would turn the aluminum plates on the caps >soft and, over time, they would bend over into each other.

I have heard of screen neutralization before, but it has been a very long while. Isn't this kind of a cheesy way of neutralizing? Sure sounds like a real PITA to adjust correctly. I am not any kind of an amplifier builder,but I did work on some old GE and Motorola tube amps back in my two way radio days. The GE's had feedback from plate to grid, a real snap to tune up.

Pat, KE1C

4068. Re: Home-made low Ohm resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <42j1gv$i0i@newsbf02.news.aol.com>
Source record: 110730

In article <42i34t$f2h@hpscit.sc.hp.com>, rkarlqu@scd.hp.com (Richard Karlquist) writes:

>
>A better choice is Manganin wire. You *can* solder to it, and it has a very
>low temperature coefficient of resistance. It is almost as high resistance
>as Nichrome.
>
>Manganin wire is available from Lakeshore, (lsci-sales@bronze.coil.com)
>
>Rick Karlquist N6RK
>rkarlqu@scd.hp.com
>
>
>------------------- Heade

Hi Rick,
But it doesn't matter if the resistance drifts, so long as it drifts up with temperature. Actually copper wire will reduce thermal runaway, as temperature rises the resistance goes up and current in the hot device decreases! We used special zero or low drift materials like maganin for meter shunts and shunts for current limiting sensors, but it is actually counterproductive in this application..
Tom

4069. Re: QRP KIT pse help me out!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: John Shuster <shuster5647@delphi.com>
Message-ID: <xLMj8Ff.shuster5647@delphi.com>
Source record: 110869

For a good low cost high quality kit, write to:
Oak Hills Research
20879 Madison St.
Big Rapids, MI 49307

Ask for a copy of their catalogue.

You can get their Sprint II on sale now for $80.

John

4070. Re: Change WBFM to NBFM????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <42ht1a$hap@unisql.unisql.com>
Source record: 110870
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

Most of these miliary rigs can be "converted" to NBFM by placing a series resistor in the mic audio line. This provides a lower amplitude to the modulator, and hence reduced deviation. Start with a 5K pot and a deviation meter, and see if this works for you. If all is well, install a fixed-value resistor in the mic.

Jim N6OTQ

4071. How to design antenna for 48MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-05 00:00:00 UTC
From: it@scimitar.dolphinics.no
Message-ID: <42h334$m7j@oslo-nntp.eunet.no>
Source record: 110871
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

How do one build a mono-pole antenna shorter that lambda/4 that has a
75ohms impedance matching?

I need an antenna for portable equipment that transmits and receives at
approx. 48MHz. It is inconvenient to use a dipole and it shouldn't be
longer than 10" (25cm).

If I put a coil in series with the antenna, it should be possible to
compensate for the shorter length. How do I determine the induction
of that coil?

Since it is not a dipole (and I can't use the earth as reflector) how
do I "emulate" the second half of a dipole? Can a LC network between
signal ground and the base of the antenna do the trick? How do I calculate
the LC values?

That was a lot of questions. I'll appreciate all replies.

Thanks, Ivan Tving

==
Ivan Tving, development engineer | Tel:+47 22627024, Fax:+47 22627180
Dolphin Interconnect Solutions AS | Visiting Address: Olaf Helsets vei 6,
E-mail: it@dolphinics.no | P.O. Box 52 Bogerud, N-0621 Oslo, Norway
----
"It's not a job - it's an adventure"
==

4072. Re: Change WBFM to NBFM????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: mcduffie@unlinfo.unl.edu
Message-ID: <42it32$s9s@crcnis3.unl.edu>
Source record: 110731
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

Jim Strohm <jstrohm@blazer> writes:

>Most of these miliary rigs can be "converted" to NBFM by placing a series
>resistor in the mic audio line. This provides a lower amplitude to the
>modulator, and hence reduced deviation. Start with a 5K pot and a deviation
>meter, and see if this works for you. If all is well, install a
>fixed-value resistor in the mic.

>Jim N6OTQ

While you can "get by" with this method, it is a very poor one. Two
things are being ignored. By dropping the audio input, you will never
reach the level where clipping or compression begins and will lose
considerable average level. Second, you are doing nothing to narrow
the receiver to the expected signal. Adjacent channel problems
can/will come up, as well as poor audio recovery from the received
signal.

Installing narrow IF filters and changing a few components in the
detector circuit, can improve the situation considerably. In some
cases, you might be able to just turn the deviation pot down on the
transmitter and get by with it.

Gary

4073. Re: DJ580T mod question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: Rick Perry <kg7a@wolfe.net>
Message-ID: <42ium9$6p8@news1.wolfe.net>
Source record: 110732
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

That's the wire (red- larger loop).

Rick, KG7A

4074. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: jfriley@airmail.net
Message-ID: <42iuum$s5b@news.iadfw.net>
Source record: 110733

ptracy@aol.com (PTracy) wrote:
>I have heard of screen neutralization before, but it has been a very long
>while. Isn't this kind of a cheesy way of neutralizing?

It depends on how it's done. All our tube-type commercial FM transmitters above 5 KW use screen neutralization. It is very, very effective and works wonderfully. Because the screen inductance to ground is used to provide the voltage to accomplish neutralization, it is absolutely essential that the inductance be just right and well distributed. The frequency range of an FM transmitter is only +/-10% from the center frequency. So its fairly easy with big tubes. A bigger tube with too low a self-neutralization frequency or smaller tubes with a very high self-neutralization frequency don't lend themselves to this technique. At the 5 KW level, where the tube is smaller, Bruene neutralization is the best choice.

Back in the bad old days there were some cheesy screen neutrazation circuits. But, done right--and done with the right size tetrode--its the best.

Fred

4075. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <42j0k3$5o6@news.azstarnet.com>
Source record: 110734

ptracy@aol.com (PTracy) wrote:
>In article <42fm2a$fns@news.iadfw.net>, jfriley@airmail.net (J. Fred
>Riley) writes:
>
>>The rig used screen neutralization with bread cutters in parallel with
>>each screen bypass. When it oscillated the RF current in the screen
>>circuit would be so high it would turn the aluminum plates on the caps
>>soft and, over time, they would bend over into each other.
>
>I have heard of screen neutralization before, but it has been a very long
>while. Isn't this kind of a cheesy way of neutralizing? Sure sounds like
>a real PITA to adjust correctly. I am not any kind of an amplifier
>builder,but I did work on some old GE and Motorola tube amps back in my
>two way radio days. The GE's had feedback from plate to grid, a real snap
>to tune up.

Screen neutralization is used when the self-neutralization frequency is below the desired operating frequency. The screen inductance is series-resonated to ground the screen. Obviously, this is effective only over a narror frequency range, which opens up the possibility of instability at other frequencies. A common problem with the myopic design method <g>.

I assume that the GE radios you speak of were push-pull designs. These are easy to meutralize with cross-coupled capacitors when both grid and plate are tuned with balanced circuits. This is in effect, a bridge circuit.

Regards,

Wes -- N7WS

4076. VHF Radio Transmitter: MAKING ONE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: 910256@admu.edu.ph
Message-ID: <42jav8$6ml@news.admu.edu.ph>
Source record: 110735

Can somebody help me out with how to make a home-made
vhf radio transceiver? I'd like schematics, if possible.
Manuals, references, etc., are most welcome.

Please email me at: 910256@balut.admu.edu.ph
****

4077. ICOM IC-Z1A mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: rsell87265@aol.com
Message-ID: <42ja65$lkq@newsbf02.news.aol.com>
Source record: 110736

I'm looking for info or sourcing to mods for the Icom IC-Z1A Hand held.
What type mods are available, how to do them, etc. I have some info
currently and am tring to find out what else is available.

Roger

4078. Re: Change WBFM to NBFM????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <42kfv6$co@unisql.unisql.com>
Source record: 110737
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

In my defense, I suggested a 0.02 fix on a $20. rig.

If you want a 25-year-old military surplus rig to work like a $900 1995 rig, you can do it. But it's going to cost more than $900 if you figure your time as worth more than minimum wage.

A speech processor (properly adjusted) is useful on any rig. There's no telling what condition the existing audio shaping circuitry is in on a surplus rig that's old enough to vote. Getting the deviation down to where the rig can be heard and understood on the air is the first step. Better receiver filtering is esssential as well -- but you can buy a superior one-chip FM receiver from Moto for $3. Do you want to go through a varnish-laden IF chain to get a couple more dB when you can go to Radio Shack and buy 20 dB and a hamburger for $5?

I am a strong proponent of CHEAP test lash-ups that provide a go/no-go initial test on surplus gear. It saddens me when people spend hundreds of dollars testing and tweaking a tin-can radio when they could have put a nickel bandaid on it, had some fun, and put the money toward a nice rig -- either a modern rig or a classic that's worth the time and money.

BTW, is there any place in the country where there's enough 6 meter traffic for adjacent-channel rejection to be a factor?

Jim N6OTQ

4079. Re: DJ580T mod question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: greg@core.rose.hp.com
Message-ID: <DEHuMF.6CI@icon.rose.hp.com>
Source record: 110738
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

Gerald Phillips (travisp@ix.netcom.com) wrote:
: I am atempting to do the extended receive mod. on my DJ580T. I know
: that you are supposed to cut the red wire, but I want to make sure
: which wire you cut. With the unit's display facing up and the bottom
: removed you can see a "red" loop wire that is about the same size as
: the blue one, and then there is a small "orange/red" wire at the top.
: I believe I cut the larger loop which is red and not the smaller loop
: that is orange/red. If anyone can clear this up for me I would greatly
: appreciate it. Thanks and 73.
:
: KE4MBD - Travis

Yes, the right wire is the thicker, red wire. The skinnier orange-ish wire
loop goes to the microphone. Don't ask me how I know this... :-).

Greg KO6TH

4080. Search spare part for wide band amplifier ZHL-1042J

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: bohl@sp056.cern.ch
Message-ID: <bohl.810382875@rscernix>
Source record: 110739

Dear colleagues,

does anybody know what type of transistor is used in the final
stage of the Mini Circuits wideband amplifier ZHL-1042-J ?

Mini Circuits does not make spare parts available for this
amplifier. A new amplifier costs about USD 500.

Until now I just got one useful info. It was Mike, KD4QDM, who
told me that the transistor is probably a GaAs FET from Avantek.

Does anybody know more ?

73 de Thomas, F5SWE
Th.Bohl@cern.ch

4081. Re: What type of capacitor is this ???????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <42kjg8$1v9@maureen.teleport.com>
Source record: 110740

```
; davek@medphys.ucl.ac.uk (Dave Kirkby) writes:
;
; I've a circuit diagram that specifies a type DM-15, 500pF, 500V silver-mica
; capacitor. Anyone know what a type DM-15 is ????? More to the point, where
; can I get them from - preferably in the UK, but a foreign source will do,
; if I cant get them here.
;
; The circuit specifies a lead length (1/4") to use on these caps to resonate at
; 144MHz, so substituting any old 500V, 500pF silver-mica cap may not be wise.
;
; davek G8WRB.
```

As I recall (he said in a geezerly voice), the DM15 was one of the rectangular jobs with the dots for color code. There were several sizes of the things, and I suppose but don't know that the DM15 was one specific size. Haven't seen one in a coon's age, and would be surprised if you could still buy one.

Should be pretty easy to set up a test fixture with an HT and diode detector to test for resonance. I'd guess you'd end up with leads just a bit longer than 1/4" on a more modern, physically smaller capacitor if 1/4" was right with the DM15.

73,
Roy Lewallen, W7EL

4082. Re: Ramsey Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <DEHttt.8Ht@eskimo.com>
Source record: 110741

I stopped buying Ramsey kits when I saw a design which had a bypass capacitor directly from the output of an op amp to ground. Every first-semester electronics student knows better than that.

73, Bill W7LZP
wrt@eskimo.com

4083. Re: What type of capacitor is this ???????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: dmturne@ptsfa.pacbell.com
Message-ID: <42kn9n$lbd@gw.PacBell.COM>
Source record: 110742

In article <42kjg8$1v9@maureen.teleport.com> w7el@teleport.com (Roy Lewallen) writes:
>; I've a circuit diagram that specifies a type DM-15, 500pF, 500V silver-mica
>; capacitor. Anyone know what a type DM-15 is ????? More to the point, where
>
>As I recall (he said in a geezerly voice), the DM15 was one of the rectangular
>jobs with the dots for color code. There were several sizes of the things, and
>I suppose but don't know that the DM15 was one specific size. Haven't seen one
>in a coon's age, and would be surprised if you could still buy one.
>

A DM-15 is a Dipped Mica (size 15); they use printed value numbers
(eg NNX: NN first two digits, X number of zeros).

Jameco, Circuit Specialists and many others still sell them.

--
Dave Turner (510) 823-2001 dmturne@pacbell.com

4084. PIC Programmers starting at only $29!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: itutec@aol.com
Message-ID: <42kqm3$1tc@newsbf02.news.aol.com>
Source record: 110743

ITU Technologies is proud to introduce the ITU PIC Programmer Model PIC-1, the first truly low-cost and versatile programmer for the Microchip Family of PIC microcontrollers. This programmer is designed for programming Microchip's popular PIC16C6x/7x/8x family of microcontrollers. The programmer is approximately 3.3" x 3.7" in size and features a built-in 18 pin DIP socket and an expansion header. The expansion header is provided for programming adapters and in-system programming of EEPROM-based PICs. A variety of adapters will also be available to support 28/40 pin DIP PICs and other packaging forms. The PIC-1 programmer comes complete with an interfacing cable to connect to your PC parallel port, programming software, and power supply. The included power supply is for US use only, foreign customers must provide their own converter/power supply.

The programming software included is designed to program all of the supported PICs mentioned above. Software updates will be available electronically free of charge. The software allows programming of the PICs program memory, setting of configuration fuses, program verification and the ability to read PIC memory to a file. The software also allows data memory programming, reading of data memory, and bulk erase of EEPROM-based PICs. The software is DOS-based and is Windows95 compatible.

An UNREGISTERED shareware version of Don Lekei's Macro+ Assembler for Microchip PIC Microcontrollers (ASPIC) is included with each programmer for your evaluation.

SPECIAL INTRODUCTORY PRICING FOR INTERNET CUSTOMERS
For a limited time, this special introductory pricing is available:

ITU PIC Programmer (Model PIC-1) KIT $29
This kit includes:
* an easy to follow instruction manual for building your programmer
* a high quality printed circuit board with silkscreen
* all components needed to build the programmer
* PIC Programming Software for IBM PC AT-compatible Computers
* a cable to connect the programmer to a PC's parallel port
* a power supply for the programmer (for US use)
* a User's manual introducing the PIC-1 programmer and software

ITU PIC Programmer (Model PIC-1) Assembled/Tested $49
As above, but assembled and tested.

ALSO AVAILABLE PIC-N-GO PACKAGES:

PIC-N-GO packages are designed for the microcontroller novice. They include the ITU PIC Programmer Model PIC-1, as above, plus a PIC16C84-04/P microcontroller. This EEPROM-based microcontroller is ideal for the novice and the PIC-N-GO packages are the most attractive programmers available for the beginner. You can program and erase the PIC16C84 many times without the use of an EPROM eraser, making it the best choice for those starting out with microcontrollers. These packages are great for students and hobbyists looking to acquaint themselves with microcontrollers.

PIC-N-GO KIT only $39
* includes PIC-1 programmer kit and PIC16C84-04/P microcontroller (w/ data sheet)

PIC-N-GO Assembled/Tested only $59
* includes assembled and tested PIC-1 programmer and PIC16C84-04/P (w/ data sheet)

Quantity discounts are available, making these packages the perfect choice for schools and clubs wishing to teach introductory microcontroller usage.

All products include a 30-day money back guarantee and a 90-day warranty. Due to the nature of kit building, all kits must be returned unassembled to qualify for a full refund.

Please e-mail us at ITUTec@aol.com with your questions or if you would like ordering information. Also, see our World-Wide Web page at http://www.iglou.com/itu for more product information!

ITU Technologies
e-mail: ITUTec@aol.com
http://www.iglou.com/itu ftp://iglou.com/members/ITU
PIC programmers starting at $29!

4085. Re: Looking for Don Johnson book.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: "Charles J. Hawley Jr." <hawley@aries.scs.uiuc.edu>
Message-ID: <42l2s8$pia@vixen.cso.uiuc.edu>
Source record: 110744

edbu@sepia.wv.tek.com (Ed Burress) wrote:
>I'm looking for a book called
>"40 years of HF mobileering" by Don Johnson. I have tried
>Ham Radio Outlet, Portland Radio Supply, Norvac Electronics,
>Powells Technical Books, Old Tyme Radio Company, and The
>ARRL. I also tried our County, and State library, no luck.
>
>I am sure that this book is out of print, but since several
>people have suggested it as a source of information, I have
>reason to believe that it does exist. It is the Radio
>equivalent of searching for the Necronomichon (fictitious
>book of spells and names of the dead).
>
>Anyone know where I can find a copy? I'm looking in particular
>for plans to build a motorized tuneable HF mobile antenna.
>
>Thanks,
>Ed Burress
>KC7GFX

As of Jan, 1993 Don Johnson could be reached at:
Box 595
26659 Capay Street
Esparto, CA 95267-0595
Although he is not in the antenna business, he sells a few parts and will
send you a printout of the construction details.
Maybe he has some books left. They have only been out about 2 years.
He doesn't give a phone # in the notes, but refers to phone calls
regarding construction problems. Maybe information gives it out.

Chuck
KE9UW
Urbana, Illinois

4086. Looking for old QST articles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: VE4KLM <slmusr03@MBnet.MB.CA>
Message-ID: <Pine.SUN.3.91.950906152359.23218B-100000@access.mbnet.mb.ca>
Source record: 110745

I am looking for several articles in old QST magazines that are no longer available at any of the local libraries here. Most of the libraries only catalogue articles back to 5 years ago on micro film. After that you are on your own.

If any one can help me, I would like the following articles :

QST Apr 1959, "An inside picture of Directional Wattmeters", W. Bruene

QST Jul 1973, "A simple computing SWR meter", D. Fayman

QST Oct 1956, "The Monimatch", L. McCoy

Ham Radio Aug 1979, "Broadband Power Tracking VSWR Bridge", H. Perras

Ham Radio May 1980, "Automatic VSWR and Power Meter", V. Leenerts

Also, I find that alot of schematics and articles only deal with HF, how about anything regarding VHF VSWR measurments ?

You can fax (if you don't mind) any articles to the following fax number where I work :

204 783 8286

If you can scan the article (GIF or JPG) that would be even better since we have the UNIX version of XV at our disposal.

I hope some one can help me here. Thanks.

Regards from

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Maiko Langelaar, VE4KLM, Winnipeg, Manitoba, Canada
Winnipeg ARES Group, Basic + 5 WPM, Software Eng.
Internet Address : slmusr03@slmsoft.ca

4087. Looking for Don Johnson book.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <42kp9fINN8m1@sepia.wv.tek.com>
Source record: 110746

I'm looking for a book called
"40 years of HF mobileering" by Don Johnson. I have tried
Ham Radio Outlet, Portland Radio Supply, Norvac Electronics,
Powells Technical Books, Old Tyme Radio Company, and The
ARRL. I also tried our County, and State library, no luck.

I am sure that this book is out of print, but since several
people have suggested it as a source of information, I have
reason to believe that it does exist. It is the Radio
equivalent of searching for the Necronomichon (fictitious
book of spells and names of the dead).

Anyone know where I can find a copy? I'm looking in particular
for plans to build a motorized tuneable HF mobile antenna.

Thanks,
Ed Burress
KC7GFX

4088. Oak Hills xcvr-not receiving?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: tamoroso@ix.netcom.com
Message-ID: <42l4i3$gj@ixnews2.ix.netcom.com>
Source record: 110747

I have an Oak Hills QRP Explorer 80M kit built radio, and am having trouble receiving any signal. My Sony SWL radio gets good signal on 80M-ie W1AW code practice, which I need, but the Explorer is silent. The factory says it is properly aligned (they did it-I don't have the instrumentation) and working. Do I need a true 80M antenna for reception? (inasmuch as I don't right now) Would an antenna tuner help? All replies appreciated-save bandwidth if possible and email to

tamoroso@ix.netcom.com

TNX ES 73'S

>Tom<

4089. Re: Ramsey Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <42lj5g$a25@newsbf02.news.aol.com>
Source record: 110748

In article <42fbs1$fm3@news1.inlink.com>, raiar@inlink.com (Gary V. Deutschmann, Sr.) writes:

>No, Ramsey is not comparable with Heathkit, but then if Heathkit were still
>manufacturing Amateur Gear, the kits would cost about double of an assembled
>Kenwood product.

BUT! It would probably be twice as reliable. Kenwoods and Polaroid cameras are in one way very similar: Cheap to buy, expensive to use. Polaroid film aint cheap, and neither is getting the same radio fixed 3 times for the same problem for $150 - $200 a shot.

Poor to fair performance from both.

4090. Solid state convesions.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <42lj4v$a22@newsbf02.news.aol.com>
Source record: 110749

Well, lets see what this turns into.

I have a great radio that I just won't unload, at least not yet. It is a Drake B line, all tube. I just haven't been all that satisfied with the reliability (real or perceived) of most of the Jap Crap on the market.

What I have been thinking of is this - I would like to convert some parts of this to solid state. I would like to do this only because of the difficulty in obtaining tubes. The section I was considering doing first was the transmitter. Replacing the driver and final stages at first, then moving back into the earlier stages. The final stage is pretty well defined in my mind. Something like an MRF151/141G in push pull, followed by appropriate low pass filters. I'll probobly run it at 36 Volts('151) or 24 Volts ('141) or thereabouts. The part I can't quite figure out yet, is how to get from the grid (high Z) point of the driver down to 50 ohms, where I could then use some kind of wide band amp of the MHW590 variety. Would a current feedback op amp like a Comlinear device be appropriate here? Any thoughts?

Pat - KE1C

4091. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <42l7n6$5q4@newsbf02.news.aol.com>
Source record: 110750

In article <42j0k3$5o6@news.azstarnet.com>, Wes Stewart
<N7WS@azstarnet.com> writes:

>I assume that the GE radios you speak of were push-pull designs. These
are
>easy to meutralize with cross-coupled capacitors when both grid and plate
are
>tuned with balanced circuits. This is in effect, a bridge circuit.

Nope, just a single 4CX250B in lowband & VHF, or a single 4CX35O in the
UHF versions. They were called Power Mates. Don't remember the
combination numbers. Absolutely bullet proof design. I did do a couple of
Motorolas in the beginning, and they were push pull. In the usual
Motorola fashion too, a whole lotta clap-trap, hoses, clamps, and general
doo-doo. Nowhere near as easy to work on as compared to the GE stuff.

4092. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <42l7nb$5q6@newsbf02.news.aol.com>
Source record: 110751

In article <42iuum$s5b@news.iadfw.net>, jfriley@airmail.net (J. Fred Riley) writes:

>It depends on how it's done. All our tube-type commercial FM
>transmitters above 5 KW use screen neutralization. It is very, very
>effective and works wonderfully. Because the screen inductance to

Well, I'll be darned. I unfortunatley never had the chance to work around any "real" amplifiers, just the little wimpy land mobile stuff. 350 Watts max, if I were lucky.

Now I understand. Thanks much.

Pat Tracy, KE1C

4093. Re: What type of capacitor is this ???????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <42lkkk$alh@newsbf02.news.aol.com>
Source record: 110752

In article <42kn9n$lbd@gw.PacBell.COM>, dmturne@ptsfa.pacbell.com (Dave Turner) writes:

>
>A DM-15 is a Dipped Mica (size 15); they use printed value numbers
>(eg NNX: NN first two digits, X number of zeros).
>
>Jameco, Circuit Specialists and many others still sell them.
>
>

Actually the prefix can be CM or DM. CM is Millitary, and DM is commercial grade. The number is the case size and lead style. The value is either directly printed NNN with the tolerance printed directly or if a tailing tolerance code (D,K, or J) is present the third digit is the multiplier. So a part labeled CM-05ED 150J03 is a Millitary grade 15 pF .1% 500 volt rated device with .120 inch spaced non-crimped leads. The current varies with manufacturer for each case style!

On the other hand a DM-05 150 10% is a 150 pF commercial grade part.

So watch out for the prefix and the letter after the value code. No D,K, or J and you read it direct as the number, 152 10% is a 152 pF, 152Dxx is a 1500 pF.

On a lighter note, I guess they use D for commercial and C for millitary because neither letter has anything to do with the grade type name. ;-) Simple system isn't it?

73 Tom

4094. September 95 CD-ROM Released

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <NEWTNews.810501690.25979.amsoft@amsoft>
Source record: 110753
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

PRESS RELEASE, AMATEUR RADIO DISTRIBUTION ONLY, SEPTEMBER 5, 1995:

PUBLISHER: AmSoft
AUTHOR: Pete deVolpi, KC3TL
E-MAIL: amsoft@epix.net
MAIL: AmSoft, PO Box 666, New Cumberland, PA 17070-0666
TELEPHONE: 717-938-8249
FACSIMILE: 717-938-6767

AmSoft announces the September 1995 release of it's CD-ROM.
More than 850,000 callsigns are found in seconds with this CD-ROM.
Includes calls issued up to 7 August, 1995. Every issue comes with
the AmCall auto-logging station logbook which uses this CD-ROM.
Help locate lost & missing children with the 1400 image library from
the Heidi Search Center & Center for Missing or Exploited Persons.
A Complete user interface "CDVIEW" for the Ham Radio Software
library eliminates the need for you to use DOS commands and
hard drive space. The massive 23,599 file amateur radio software
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For more detailed information please E-Mail amsoft@epix.net

4095. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: jfriley@airmail.net
Message-ID: <42ll99$6m7@news.iadfw.net>
Source record: 110754

Wes Stewart <N7WS@azstarnet.com> wrote:
>Screen neutralization is used when the self-neutralization frequency is below the
>desired operating frequency.
Actually, screen neutralization is done when the tube is operated
below the self-neutraliation frequency. For instance, the
4CX500A/4CX1000D has a self neutralization frequency of 140-170 MHz
and the 4CX15000A has a self neutralization frequency of 120-150 MHz.
A lot depends on the socketing. The addition of series inductance in
the screen lead develops the voltage needed for neutralization. And
this inductance can be varied by a variable capacitance in parallel or
in series. As a practical matter it's easy enough to do with variable
inductance by simply adjusting the size. length or number of grounding
straps from screen to ground. Operating the screen at DC ground makes
this easy to execute. "Care and Feeding..." has a good theoretical
discussion no practical examples. If you're interested in a few
references let me know and I'll check my library.

Fred

4096. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <703657311wnr@ifwtech.demon.co.uk>
Source record: 110755

Fred Riley writes:
:
: Wes Stewart <N7WS@azstarnet.com> wrote:
: >Screen neutralization is used when the self-neutralization frequency is below the
: >desired operating frequency.
: Actually, screen neutralization is done when the tube is operated
: below the self-neutraliation frequency. For instance, the
: 4CX500A/4CX1000D has a self neutralization frequency of 140-170 MHz
: and the 4CX15000A has a self neutralization frequency of 120-150 MHz.
: A lot depends on the socketing. The addition of series inductance in
: the screen lead develops the voltage needed for neutralization. And
: this inductance can be varied by a variable capacitance in parallel or
: in series. As a practical matter it's easy enough to do with variable
: inductance by simply adjusting the size. length or number of grounding
: straps from screen to ground. Operating the screen at DC ground makes
: this easy to execute.

With a typical air-system socket incorporating a screen bypass, you
can do the same by inserting tabs of PTFE sheet between the screen
fingers and the tube ring. Measure the reverse transmission loss from
output to input with the tube on idling bias, and insert tabs until
the loss is maximized.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

4097. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: jfriley@airmail.net
Message-ID: <42llg8$6m7@news.iadfw.net>
Source record: 110756

Wes Stewart <N7WS@azstarnet.com> wrote:

>Screen neutralization is used when the self-neutralization frequency is below the
>desired operating frequency.

You can use screen neutralization above or below the
self-neutralization frequency. When you're above you use net series
capacitance to cancel part of the screen lead reactance. When you're
below you add inductance to increase the screen lead reactance. As an
example, the 4CX5000A has a self-neutralization frequency of 150-170
MHz, depending on the socketing. And yet we used it for years as a
screen-neutralized amp. Very stable too. Even given the primitive
internal structure of the tube.

Fred

4098. Ammeter shunt help needed...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: richer@cambridge.village.com
Message-ID: <42n7ba$3is@cambridge.village.com>
Source record: 110757

Greetings to the assemblage...

I've a problem not specifically ham-related, but well
within the abilities of those here...I hope...8*)

I've just refitted an ancient Land-Rover with a new alternator
to replace an elderly 20-amp generator. Unfortunately, the
ammeter now pins out (it's a 30-amp meter on a 60-amp
alternator - ungood!)

I'd like to put a shunt resistance behind it to halve the
meter reading, thereby making it at least usable and functional.
My own thought was a small coil of AWG 14 copper wire across the
pins of the meter might help, but I'm not sure of lengths and so on.

Anybody give me a hand here? Old Churchill and I would be most grateful,.

Al Richer/N1TWY

4099. Re: An image rejection filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep7.164556.12182@ke4zv.atl.ga.us>
Source record: 110758

In article <4260be$93m$3@mhadg.production.compuserve.com> Jay Craswell
<73016.27@CompuServe.COM> writes:
>Are you saying we can't homebrew a receiver because it covers the CB band?
>Huh? This is the USA... Right?

Yep, this is the USA, home of the ECPA and other restrictive garbage.
Don't be fooled into imagining it's still a free country, not with
a President willing to publicly advocate violating parts of the
Constitution and Congressmen advocating voiding other parts of the
Constitution, and bureaucrats without number willing to implement
any restrictive nonsense they can think up. However, be that as it
may, it's not yet illegal to build a CB receiver, unless you plan
on selling it. Then you need government permission.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4100. Re: K Beep!<--Rooster Crowing sounds cooler.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep7.165853.12349@ke4zv.atl.ga.us>
Source record: 110759

In article <4251g1$279@ixnews3.ix.netcom.com> au@ix.netcom.com (au) writes:
>In <41odia$m8e@fountain.mindlink.net> andrew_taylor@mindlink.bc.ca
>(Andrew Taylor) writes:
>>Hello, Id like to build an "roger beep"....can't seem to find
>>any schematics anyplace.
>
>Boy talk about flame bait! Roger beep in ham area?

Hey, if it's good enough for NASA, and repeaters, why not?
Can't be worse than some of the noises output by certain
repeater controllers, now orphaned. :-)

To implement a courtesy beep, you need a dual 555 chip. One
section is made to free run for the tone, and the other section
is setup as a one shot to hold up PTT and gate the tone onto
the mic line at the end of a transmission.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4101. Re: 900 MHz repeaters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep7.165344.12262@ke4zv.atl.ga.us>
Source record: 110760

In article <420j0j$ufk@gandalf.compumedia.com> markm@compumedia.com (Mark McDermott) writes:
>Has anyone built a 900 MHz repeater out there, if so what did you use
>for the RXTX sections?

Grainger Associates 6710 duplex radio. Rack mount, 15 watts, duplexer included, 24 MHz split. Works good, costs little (surplus anyway). These radios were originally intended to supply the equivalent of a 4-wire leased line over radio in the spectrum immediately above 928 MHz. A crystal change and a bit of tweaking brings them down into the ham band. And a simple controller turns one into a repeater. The harder part is finding mobile and HT rigs for the users.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4102. Re: Ammeter shunt help needed...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DEJuuq.CIE@hpcvsnz.cv.hp.com>
Source record: 110761

W8JI Tom (w8jitom@aol.com) wrote:
: In article <42n7ba$3is@cambridge.village.com>,
: richer@cambridge.village.com (Al Richer) writes:

: > like to put a shunt resistance behind it to halve the
: >meter reading, thereby making it at least usable and functional.
: >My own thought was a small coil of AWG 14 copper wire across the
: >pins of the meter might help, but I'm not sure of lengths and so on.
: >
: >Anybody give me a hand here? Old Churchill and I would be most grateful,.
: >
: >
: > Al Richer/N1TWY
: >
: >

: Al, We used special materials for accurate shunts at Prime Instruments,
: and cheap ole brass for cheap meters. What I would do is find a 30 amp
: load, and play with a shunt until the meter reads 15 amps. That sho ain't
: accurate, but it's easy. I don't think you want or need a 1% shunt anyway.
: Just be sure the material is wide enough so it doesn't get too hot. That
: will minimize drift.

Good ideas. Some suggestions to get you started: _sometimes_ such meters already have a shunt, located remote to the meter, so the full battery current (usually they monitor all battery current except the starter current, not actually generator current) doesn't have to come to your dashboard. If that's the case, then a shunt placed at the meter will depend on lots of other things like resistance of the wires from the meter to the original shunt, ...

But assuming all the current goes through the meter, if you put a 10 to 15 amp load (e.g. headlamps) on and measure the voltage drop across the meter, then you can figure the resistance you need for the shunt, so you have a starting point. Specifically, to halve the meter scale, shunt it with a resistance equal to the meter resistance, or the measured voltage divided by the indicated current. And if the meter internal resistance is composed of copper wire, then if the shunt is the same temperature as the meter, it would be most accurate to have the shunt of the same material, or at least one with the same temperature coefficient of resistance. In this application, it just isn't going to matter that much anyway... copper or brass should work fine. 14 gauge copper is 2.5 milliohms per foot, and should handle 15 amps with very modest temperature rise. Beware of keeping very solid connections so the current is shared equally between the meter and the shunt!

4103. (HELP)CORE CHOICE FOR COIL DESIGN

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: uid@ornl.gov
Message-ID: <uid.45.304F47BC@ornl.gov>
Source record: 110762

I am working on a radio design for thru the ground radio using coils as the receiver and transmitter antenna.

I need a impedance matching transformer between the coil and the receiver. The problem is that I need a very high al value (Large amount of inductance).

Powder Iron toroids are out of the question because of size. My other choice is a ferrite pot core made by Amidon which is type material 77. It is of the right size and will accommadate the windings. This material is primarally used at higher frequencies than the 31 KHZ I wish to use.

Will this type of core material (type 77) cause excessive core loss (poor sensitivity due to core loss at receiver impedance match) at the frequency I wish to use on receive (31KHZ).

If so, Then can you suggest another core manufactor and type material.

Danny Britton
QB7@ORNL.GOV

4104. Re: Power Supply Question...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <810508775.27683@pinetree.microserve.com>
Source record: 110763

sefranek@iii2.iii.net (Thomas C Sefranek) wrote:

>THis is the company that built really stupid adjustments on some of
>their supplies... like don't use a metal screwdriver, if it contacts
>the case, boom!
>
>My boss at MIT refused to sign any purchase orders for their
>products, for this reason.

Seems to me that many products have internal adjustments like that.
That's what tuning tools are for. Your boss must have a great deal of
difficulty finding equipment that meets his needs.

73,

Jack WB3U

4105. Re: Solid state convesions.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <810509700.27683@pinetree.microserve.com>
Source record: 110764

ptracy@aol.com (PTracy) wrote:

>Well, lets see what this turns into.
>
>I have a great radio that I just won't unload, at least not yet. It
>is a Drake B line, all tube.
<< snip >>
>What I have been thinking of is this - I would like to convert some
>parts of this to solid state. I would like to do this only because
>of the difficulty in obtaining tubes.

IMHO, you're going about this the wrong way, and for the wrong reasons. Tubes aren't that hard to find, so if that's all you're after, there's no reason to do all that work. OTOH, there *are* legitimate reasons to convert to SS. Better frequency stability, better receiver specifications (if converted properly), higher efficiency (no filaments), less heat, etc.

I personally always thought the real trouble with tubes was the way their specs fall off with age. If it was me, I'd start with the RF amp & mixer, then the VFO, then work my way through the IF to the audio. The TX driver and finals would be the last to go.

That will allow you to power the rig in the interim with the addition of only a small 12V supply. Converting the finals first, you end up having to use *both* a large, high current LV supply and the large HV supply that came with the rig.

I also think that a conversion in this way provides the most bang for the buck. Receiver specs and frequency stability can be greatly improved at relatively low cost, meanwhile, the tube driver and finals continue to put out a signal every bit as good as anything on the market. :)

73,

Jack WB3U

4106. Re: Ramsey Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: mulveyr@vivanet.vivanet.com
Message-ID: <42n7nj$81f@vivanews.vivanet.com>
Source record: 110765

Michael K. Shields (shields@nps.navy.mil) wrote:
: >In article <42f5d5$940@grail.fgi.net>, tsnyder@mail.fgi.net says...
: >>
: >>Has anyone built any of the QRP transmitter kits by Ramsey? Are they
: >>mostly just for the fun of building or do they actually perform
: >>reasonably well? If the adage "you get what you pay for" applies, then
: >>I wouldn't expect much performance for just $30.
: >>
: >>Tom Snyder tsnyder@mail.fgi.net

: I teach a communications class for graduate students in management curriculums
: here at NPS. I require a class project and one of the options is for the
: students to get a no code tech license and build a kit. Many of the students
: (who have never seen a resistor, etc.) choose to build Ramsey kits and over
: the past three years I have seen about 50 FM stereo transmitters and 2m and 6m
: transmitters and receivers. The students have always been able to get them to
: work and their complaints, if any, are that there is a part or two missing
: (Ramsey always sends the missing parts), and that they had trouble determining
: what some of the componets were (I have had students ask how to tell which
: lead is which on resistors, etc.).

: Thus it is my opinion that anyone could build any of the Ramsey kits and
: that they will work. The smarter and more experienced one is, the more
: likely you are to want to modify and improve the kit, but they all seem to
: work as specified.

Of course, the problem with Ramsey kits is that while they may work, they
typically don't work well for what you pay. For the cost of the QRP HF
transmitters, for example, you can purchase a copy of "QRP Classics" and
a few parts, and build several better-performing rigs, for less money.

Ramsey is also known for having problems with spurs and harmonics
with their transmitters, so much so that they can be illegal. A recent
magazine review of their 2M transciever kit noted that when the kit
was assembled and aligned according to the manual, it failed to meet
FCC regulations for signal purity. Since the average Ramsey purchaser
is unlikely to have access to a spectrum analyzer, the user could be
in for a nasty surprise.

4107. Re: September 95 CD-ROM Released

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: headshrnkr@aol.com
Message-ID: <42o96k$3ka@newsbf02.news.aol.com>
Source record: 110766
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

May I ask why you needed to SPAM this ad across 4 boards? One posting would have really been fine, ok?

"We, the people are the rightful masters of both the congress and the courts - not to overthrow the constitition, but to overthrow men who pervert the constitution" - A. Lincoln

Bruce J. Howes
HeadShrnkr@aol.com

4108. Re: September 95 CD-ROM Released

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: lewis@phoenix.phoenix.net
Message-ID: <lewis-0709951943240001@dial126.phoenix.net>
Source record: 110767
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <NEWTNews.810501690.25979.amsoft@amsoft>, amsoft@epix.net wrote:

> PRESS RELEASE, AMATEUR RADIO DISTRIBUTION ONLY, SEPTEMBER 5, 1995:
>
> PUBLISHER: AmSoft
> AUTHOR: Pete deVolpi, KC3TL
> E-MAIL: amsoft@epix.net
> MAIL: AmSoft, PO Box 666, New Cumberland, PA 17070-0666
> TELEPHONE: 717-938-8249
> FACSIMILE: 717-938-6767
>
> AmSoft announces the September 1995 release of it's CD-ROM.
> More than 850,000 callsigns are found in seconds with this CD-ROM.
> Includes calls issued up to 7 August, 1995.

Damn, cut off is one day before my upgrade was posted by FCC ;-)

<<<<SNIP>>>>

Over 1350
> amateur radio modification files. Windows/Win95/OS2/DOS friendly.
> Retail Price $39.00 plus Shipping USA $3, Foreign $5 Via Air Mail
> FedEx to most of the USA Lower 48 States Overnight for only $11.00
>
> For more detailed information please E-Mail amsoft@epix.net

Are there any files or programs for the Macintosh, ie. is this a PC/Mac compatible cd-rom?

I use a Power-Mac and have Softwindows to run Dos and windows software, but I prefer native software for the speed and ease of use. Can I use your product with my system?

Lewis
~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~

Lewis Stephens KC5PSX lewis@phoenix.phoenix.net Pasadena,Texas

~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~'`^`'~*-,._.,-*~

4109. Amateur Radio Manufacturs On-line List

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: aclr@ripco.com
Message-ID: <DEJMIL.A1H@rci.ripco.com>
Source record: 110768
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I have made a list of ham manufacturs that are on-line.
http://pages.ripco.com:8080/~aclr/email.html

I also have a list a radio mods.
http://pages.ripco.com:8080/~aclr/radio/mod.html

I hope that the lists help the hams all over the world.

73'z from N9LVC :)

--
The Amateur Cross Link Repeater Association.
Post Office Box 34446
Chicago, IL 60634
312.714.5411
ACLR@ripco.com http://pages.ripco.com:8080/~aclr/aclr.html

4110. HTX100 schem or transverter mods??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: MUENZLERK@uthscsa.edu
Message-ID: <01HUZVWBH4GI00BLXV@uthscsa.edu>
Source record: 110769
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

landisj@nad.com (Joe Landis - Systems & Network Mgr) writes:

-Hi,
-Does anyone have a schematic for the Radio Shack HTX100 10 meter rig,
-or has anyone added seperate low-level transmit and recieve?
-I'd like to use mine for a 28mhz tunable if for a DEM 432 mhz IF
transverter.
-
-Thanks,
-Joe - AA3GN

You can go to your "friendly" neighborhood Radio Shack store and
ask for a Service Manual for your HTX-100. They cost around $15.
This is the book that is used by the service technician.
I think you can also call 1-800-THE-SHACK and order it on your
credit card. It won't have anything about modifications but it has
a detailed schematic. As far as the low level transmit you might
be able to modify the output section for low level output.
I guess you are looking for the milliwatt range. It might be easier
to build a 30db attenuator.

Kevin, WB5RUE
muenzlerk@uthscsa.edu

4111. Re: Ammeter shunt help needed...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <42necb$nav@newsbf02.news.aol.com>
Source record: 110770

In article <42n7ba$3is@cambridge.village.com>,
richer@cambridge.village.com (Al Richer) writes:

> like to put a shunt resistance behind it to halve the
>meter reading, thereby making it at least usable and functional.
>My own thought was a small coil of AWG 14 copper wire across the
>pins of the meter might help, but I'm not sure of lengths and so on.
>
>Anybody give me a hand here? Old Churchill and I would be most grateful,.
>
>
> Al Richer/N1TWY
>
>

Al, We used special materials for accurate shunts at Prime Instruments,
and cheap ole brass for cheap meters. What I would do is find a 30 amp
load, and play with a shunt until the meter reads 15 amps. That sho ain't
accurate, but it's easy. I don't think you want or need a 1% shunt anyway.
Just be sure the material is wide enough so it doesn't get too hot. That
will minimize drift.

Tom

4112. Re: building basic SWR meter with coax strip, diode, etc ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <810508544.27683@pinetree.microserve.com>
Source record: 110771

VE4KLM <slmusr03@MBnet.MB.CA> wrote:

>Can some one give me a basic schematic or details on how to make
>a basic SWR meter that I can use for 2 meters and 30 meters ?
>
>The one I am looking for is made using a strip of coax, diodes, and
>a few other miscellaneous parts. I heard about this on a local net,
>but the details were not given, and no one seems to know who brought
>it up in the first place.

I notice you haven't had any replies here on the newsgroup, so I'll give it a shot. The metering technique you're describing sounds like the Monimatch design published in old (60's) editions of the ARRL Handbook. One of the problems with that design is that it's frequency sensitive. I think you would have a great deal of trouble making it work well on both HF and VHF.

I know this won't help you build a meter, but maybe it will save you the trouble of building a bad one.

73,

Jack WB3U

4113. Re: ICOM IC-Z1A mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: rtm@ftp.netgate.net
Message-ID: <rtm-0709951722160001@ng62.netgate.net>
Source record: 110772

In article <42ja65$lkq@newsbf02.news.aol.com>, rsell87265@aol.com
(RSell87265) wrote:

> I'm looking for info or sourcing to mods for the Icom IC-Z1A Hand held.
> What type mods are available, how to do them, etc. I have some info
> currently and am tring to find out what else is available.
>
> Roger

Here's a repost of the Z1A mods:

Ok, after messing around with the radio on my own and then getting the
"official" mod, here's a summary of the various diode mods for the Z1A:

Icom Z1A mods

[B]+[#]+[POWER] = Extended Receive.
VFO *DISPLAYS* 50-299.900 and 300-999.900.
AM Aircraft band enabled.
SET mode now has a new "PLACE" function for setting
the direct entry starting digit.

There is room for four diodes in the Z1A located on the CPU board to the left
of the ribbon cable connector. On a US version, only the bottom two are
installed. D15 is just below and to the right of the four diodes. These
diodes are bigger than the rest of the surface mounted components and are easy
to spot.
The official ICOM mod (which I unofficially saw...) is to remove D15 for
extended TX and to use the above keyboard mod for extended receive. According
to the sheet, the 800-900 band is NOT available in US versions.

```
+-+ +-+
| | | | <---- Installing diodes in either of these seems to do
+-+ +-+ nothing.
```

```
+-+ +-+
| | | | <---- IN: US Version 144-148 TX 440-450 TX
+-+ +-+ OUT: Extended 136-174 TX 380-470 TX (Lose auto-repeater
^ and tone encode)
|
+------------ IN: US 144-148 TX 440-450 TX
OUT: European 144-148 TX 430-440 TX
```

```
+-+
"D15"--> | | <---- IN: US Version Stock
+-+ OUT: Extended TX 136-174 380-470 (keeps auto-repeater
and tone encode)
```

A word of warning about messing with the four diode pads: If you detach either one of the installed diodes, the CPU will reset and you'll lose ALL of your memories. (found that out the hard way...) D15 doesn't seem to affect the memories at all.

Since the 800MHz band is not available in US versions, my guess is that there's a keyboard mod to unlock it instead of a diode. The diodes only seem to control the country versions. If anyone has any more keyboard mods, please post them.

Bruce KD6ALI

--

--

Bob Martin N6MZV * rtm@ftp.netgate.net

4114. Re: Solid state convesions.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <42o8d6$3a0@newsbf02.news.aol.com>
Source record: 110773

In article <810509700.27683@pinetree.microserve.com>,
jackl@pinetree.microserve.com (WB3U) writes:

>
>IMHO, you're going about this the wrong way, and for the wrong
>reasons. Tubes aren't that hard to find, so if that's all you're

You're right! Hard, but not impossible. I guess I have reccolections of reading and hearing about the lack of availability of the 6JB6's for the final. Heard some of the boys on 3898 and thereabouts talking about this a while back.

>I personally always thought the real trouble with tubes was the way
>their specs fall off with age. If it was me, I'd start with the RF
>amp & mixer, then the VFO, then work my way through the IF to the
>audio. The TX driver and finals would be the last to go.

After writing the message, I re-thougt that myself. The vfo is already solid state, it's a J-FET if I recall. I guess the real hard part woud be the stage that mixes the vfo with the xtal lo. Re-doing that stage would be a challange!

>of only a small 12V supply.

There is a 4 pin socket that has 6.3VAC on it. This I believe was there to power some outboard vhf converters. this could be doubled,filtered and regulated to provide DC for the solid state stuff. Shoud be plenty of extra capacity there.

>improved at relatively low cost, meanwhile, the tube driver and finals
>continue to put out a signal every bit as good as anything on the
>market. :)
>
Yup, you got that right. Tube watts are just like or better than Fet watts. Thanks for the input Jack, ant TTYL

Pat, KE1C

4115. Re: Power Supply Question...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-07 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <42o8df$3a4@newsbf02.news.aol.com>
Source record: 110774

In article <810508775.27683@pinetree.microserve.com>,
jackl@pinetree.microserve.com (WB3U) writes:

>Seems to me that many products have internal adjustments like that.
>That's what tuning tools are for. Your boss must have a great deal of
>difficulty finding equipment that meets his needs.

His boss sounds exactly like one of the PHD scientist type guys I work
with. I don't greet him with the usual "good morning" or "howdy, what's
up", it's "What the **** did you break now?". Smart guy, sharp as a tack,
but given the opportunity,he could screw up an Iron bar.

Pat, KE1C

4116. Re: DJ580T mod question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: chris claxton <ckilch@bdm.com>
Message-ID: <42pdcl$f9c@news.mcl.bdm.com>
Source record: 110775
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

>
>Yes, the right wire is the thicker, red wire. The skinnier orange-ish wire
>loop goes to the microphone. Don't ask me how I know this... :-).
>
>Greg KO6TH

And here I thought I was the ONLY one who had done that!

4117. WTB: Hickock AN/USM-118B CAL Module & Cardsets

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: triode@ix.netcom.com
Message-ID: <42oltm$j5q@ixnews7.ix.netcom.com>
Source record: 110776

I recently fried the CAL module on my Hickock tube tester, and since it's potted in epoxy it's impossible to reverse engineer. Does anyone have a schematic, a spare module, cardsets, or even a complete operational tester

they'd like to sell? Any and all help will be greatly appreciated, and promptly rewarded.

Mike Hathaway

triode@ix.netcom.com

4118. Re: odd-ball IC chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: ibmdelf@aol.com
Message-ID: <42pje1$bt6@newsbf02.news.aol.com>
Source record: 110777

I appreciate the suggestion, but as they say, "been there, done that". The board assembly from Sears is around $85. I went up the chain of Sears technicians and reached the end. The answer was basically (as expected) that the discreet chip is not available through Sears, only the board.

I've also received a couple of replies that indicated this chip cannot be cross-referenced nor does it show up in any semiconductor database. I'm coming to the conclusion that the board is now good for parts (less one).

Thanks to all for the input.

Del

4119. VCTCXO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: davec@lfs.loral.com
Message-ID: <42pl1c$org@news.manassas.ibm.com>
Source record: 110778

I'm looking for sources for Voltage Controlled Temperature
Compensated Crystal Oscillators for cellular phones.
Specifically I'm looking for a contact for KDS and Toyocom(?).
Any others would also be appreciated. Thanks in advance.

Dave Chianucci Loral Federal Systems

4120. Re: September 95 CD-ROM Released

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <42pm57$3qh@unisql.unisql.com>
Source record: 110779

This is SPAM.

This is not appreciated.

Please stop.

4121. Re: (HELP)CORE CHOICE FOR COIL DESIGN

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <42ps04$gvi@maureen.teleport.com>
Source record: 110780

```
; uid@ornl.gov writes:
; I am working on a radio design for thru the ground radio using coils as the
; receiver and transmitter antenna.
;
; I need a impedance matching transformer between the coil and the receiver. The
; problem is that I need a very high al value (Large amount of inductance).
;
; Powder Iron toroids are out of the question because of size. My other choice
; is a ferrite pot core made by Amidon which is type material 77. It is of the
; right size and will accommadate the windings. This material is primarally used
; at higher frequencies than the 31 KHZ I wish to use.
;
; Will this type of core material (type 77) cause excessive core loss (poor
; sensitivity due to core loss at receiver impedance match) at the frequency I
; wish to use on receive (31KHZ).
;
; If so, Then can you suggest another core manufactor and type material.
;
; Danny Britton
; QB7@ORNL.GOV
```

The type 77 pot core is a good choice for this application. Use one which does not have a gap.

Roy Lewallen, W7EL
w7el@teleport.com

4122. Wanted: Any Schematic diagram of baycom modem with TCM3105

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: sansoni@mbox.vol.it
Message-ID: <42pr7l$fmt@t500.vol.it>
Source record: 110781
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateurs.digital.misc

Hallo,
I'm looking for any type of diagrams of baycom modems also on ISA bus
cards.
many tnx.

Guido Sansoni	Errare umanum est
6, Alga Marina	perseverare
00040 LAVINIO LIDO DI ENEA (RM)	DIABOLICUM!
e-mail: sansoni@mbox.vol.it	:-)

|-----------------BEGIN PGP PUBLIC KEY BLOCK------------------- |
Version: 2.6.2

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-----------------END PGP PUBLIC KEY BLOCK----------------------

4123. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <42o6ou$k1p@news.azstarnet.com>
Source record: 110782

jfriley@airmail.net (J. Fred Riley) wrote:
>Wes Stewart <N7WS@azstarnet.com> wrote:
>>Screen neutralization is used when the self-neutralization frequency is below the
>>desired operating frequency.
> Actually, screen neutralization is done when the tube is operated
>below the self-neutraliation frequency. For instance, the
>4CX500A/4CX1000D has a self neutralization frequency of 140-170 MHz
>and the 4CX15000A has a self neutralization frequency of 120-150 MHz.
>A lot depends on the socketing. The addition of series inductance in
>the screen lead develops the voltage needed for neutralization. And
>this inductance can be varied by a variable capacitance in parallel or
>in series. As a practical matter it's easy enough to do with variable
>inductance by simply adjusting the size. length or number of grounding
>straps from screen to ground. Operating the screen at DC ground makes
>this easy to execute. "Care and Feeding..." has a good theoretical
>discussion no practical examples. If you're interested in a few
>references let me know and I'll check my library.
>
>Fred

Hi Fred,

You are of course correct that screen neutralization can be done both above and below the self-neutralizing frequency. I was replying to the post that discussed the melt-down of the resonating capacitors, so I assumed the case of operation at the higher frequency.

"Care and Feeding" does suggest, however, that below the self-neutralizing frequency, normal cross-neutralizing circuits apply. (para 5.6.1) It mentions the series capacitor method for use above the self-neutralizing frequency in paragraph 5.6.2. It goes on to say that if the tube is to be used over a wide range of frequencies, then the capacitor should be user adjustable. This reinforces my suggestion that this is a narrow-band solution. All of the above is in the case of tetrodes and pentodes, which I believe was the subject of the discussion.

Personally, I'm sticking to my 8877s :-)

Thanks for clarifying my "shoot-from-the-hip" response to this <g>.

73, Wes -- N7WS

4124. Re: odd-ball IC chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: "Your Email Address"
Message-ID: <42odv5$jja@tibalt.supernet.ab.ca>
Source record: 110783

In article <42i6e2$88s@newsbf02.news.aol.com>, ibmdelf@aol.com (IBM Del F) says:
>
>I'm looking for a replacement IC that is the control chip in a Sear garage
>door opener. The Texas Instrument ID on it is CX8544 (16-pin DIP). It
>took a lightning hit and it's got to be replaced. The rest of the control
>board checks out. None of the usual parts houses lists it. I'm thinking
>it might be a special chip made to order for the real manufacturer of the
>opener.
>
>Any ideas on this one?
>
>Thanks,
>Del, KD4B
>Raleigh, NC

try ordering it from sears. It may work, I fix typewritters and often
get components directly from sears parts and service

4125. Transformer help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: antenna@ix.netcom.com
Message-ID: <42pae6$4aa@ixnews6.ix.netcom.com>
Source record: 110784

Hello,

Are there any places that rewind transformers? Any info would be
greatly appriciated. Thanks in advance.

73 de Bob N3LSS

4126. Re: 900 MHz repeaters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: tswisher@freenet.columbus.oh.us
Message-ID: <42pt7o$7sc@acme.freenet.columbus.oh.us>
Source record: 110785

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: In article <420j0j$ufk@gandalf.compumedia.com> markm@compumedia.com (Mark McDermott) writes:
: >Has anyone built a 900 MHz repeater out there, if so what did you use
: >for the RXTX sections?

: Grainger Associates 6710 duplex radio. Rack mount, 15 watts, duplexer
: included, 24 MHz split. Works good, costs little (surplus anyway).
: These radios were originally intended to supply the equivalent of
: a 4-wire leased line over radio in the spectrum immediately above
: 928 MHz. A crystal change and a bit of tweaking brings them down
: into the ham band. And a simple controller turns one into a repeater.
: The harder part is finding mobile and HT rigs for the users.

: Gary
: --
: Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
: Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
: 534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
: Lawrenceville, GA 30244 | |

Where'd you get it???????? How much????? Enquiring minds want to know!!!!!

Tom Swisher, N8GQK

4127. Re: Looking for Don Johnson book.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <42o6o3$3nt@grape.epix.net>
Source record: 110786

edbu@sepia.wv.tek.com (Ed Burress) wrote:
:I found a copy at the Radio Bookstore, $14.95 + shipping. When I told
:>the guy on the phone what the title was, he finished the sentence
before
;>I could...he knew the author, the publisher, the copyright date, etc.
;>If anyone is interested, they have a free 24 page catalog and a 1-800
number:
;>1-800-457-7373. I have no relationship with them other than they were
;>able to sell me a copy of a book that the ARRL technical department,
and
;>librarian didn't even know existed.
;>
;>Thanks for all the replies.
;>73's
;>Ed Burress
;>KC7GFX
World Radio also sell this book. The magizine "World Radio" home of the
famous (infamous) Kurt Struba, the worlds greatest self proclamed antenna
expert. Good magizine as well as a good source of radio related books.
That is where I got my copy of Don Johnsons book. Someone might pass out
rhe phone number as I don't have it handy.

Garry(WB0NNO)

4128. Re: Looking for old QST articles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <42o76b$3nt@grape.epix.net>
Source record: 110787

VE4KLM <slmusr03@MBnet.MB.CA> wrote:
:>
;>I am looking for several articles in old QST magazines that are no
;longer
;>available at any of the local libraries here. Most of the libraries
;only
;>catalogue articles back to 5 years ago on micro film. After that you
;are
;>on your own.
;

Several of these were also in older versions of the ARRL HAndbook so if your library has them you might check. All radio magizines ever published are available from Carnagie Mellon University Library in Pisttsburg, Pa. I've been there and seen most of them. They will furnish copies on reguest thru the inter library loan system here in the states. Also Maryland Radio Center in Laural MD has a room with most every Hamm magizine ever published. The owner does not do research but if you are in the area its open to the public and had a 10 cent per page copier. One of the local radio clubs take care of it. Its a great idea and more clubs should do something similar.

Garry(WB0NNO)

4129. VCTCXO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: davec@lfs.loral.com
Message-ID: <42pjrd$org@news.manassas.ibm.com>
Source record: 110788

I'm looking for sources for Voltage Controlled Temperature
Compensated Crystal Oscillators for cellular phones.
Specifically I'm looking for a contact for KDS and Toyocom(?).
Any others would also be appreciated. Thanks in advance.

Dave Chianucci Loral Federal Systems

4130. Re: Solid state convesions.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep8.174600.16879@ke4zv.atl.ga.us>
Source record: 110789

In article <42lj4v$a22@newsbf02.news.aol.com> ptracy@aol.com (PTracy) writes:
>Well, lets see what this turns into.
>
>I have a great radio that I just won't unload, at least not yet. It is a
>Drake B line, all tube. I just haven't been all that satisfied with the
>reliability (real or perceived) of most of the Jap Crap on the market.

How much of it (I won't use the racist term) have you owned?
Other than Kenwood of course. :-)

>What I have been thinking of is this - I would like to convert some parts
>of this to solid state. I would like to do this only because of the
>difficulty in obtaining tubes. The section I was considering doing first
>was the transmitter. Replacing the driver and final stages at first, then
>moving back into the earlier stages. The final stage is pretty well
>defined in my mind. Something like an MRF151/141G in push pull, followed
>by appropriate low pass filters. I'll probobly run it at 36 Volts('151)
>or 24 Volts ('141) or thereabouts. The part I can't quite figure out yet,
>is how to get from the grid (high Z) point of the driver down to 50 ohms,
>where I could then use some kind of wide band amp of the MHW590 variety.
>Would a current feedback op amp like a Comlinear device be appropriate
>here? Any thoughts?

Yes, sounds like you're trying to ruin a fairly good pair of old
radios by turning them into poor clones of modern Japanese radios.
The Japanese have more experience, and more engineers. You're unlikely
to come up with anything that works as good as the B line does now,
much less as good as a modern Japanese radio.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4131. Re: Ramsey Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep8.180429.17006@ke4zv.atl.ga.us>
Source record: 110790

In article <42n7nj$81f@vivanews.vivanet.com> mulveyr@vivanet.vivanet.com writes:
>Michael K. Shields (shields@nps.navy.mil) wrote:
>: Thus it is my opinion that anyone could build any of the Ramsey kits and
>: that they will work. The smarter and more experienced one is, the more
>: likely you are to want to modify and improve the kit, but they all seem to
>: work as specified.
>
> Of course, the problem with Ramsey kits is that while they may work, they
>typically don't work well for what you pay. For the cost of the QRP HF
>transmitters, for example, you can purchase a copy of "QRP Classics" and
>a few parts, and build several better-performing rigs, for less money.
>
> Ramsey is also known for having problems with spurs and harmonics
>with their transmitters, so much so that they can be illegal. A recent
>magazine review of their 2M transciever kit noted that when the kit
>was assembled and aligned according to the manual, it failed to meet
>FCC regulations for signal purity. Since the average Ramsey purchaser
>is unlikely to have access to a spectrum analyzer, the user could be
>in for a nasty surprise.

No lie! Ramsey isn't the only one making potentially dirty kits,
but they are the only ones whose design enables the transmitter
while an out of lock synthesizer sweeps the band. That's an
unforgiveable error (and easily fixed). However, as I said,
Ramsey isn't alone. Much the same could be said of Hamtronics
kits or the late VHF Engineering offerings. Even Ten-Tec decided
to withdraw their transceiver kit because they found they couldn't
design one that an amateur with inadequate test equipment, and
inadequate skills, could reliably be counted upon to tune up to
meet Federal regulations. Rick Campbell's no-tune designs seem as
near foolproof as it gets, but even he can't design damn-fool-proof
kits.

Folks, if you're going to build transmitters, look at the kit
suppliers as convienent one stop purchasing agents, but know
enough about design and testing to correct their errors and
tune up their designs properly, just as if you were working
from scratch. If all you know is how to follow directions in
a manual, you'll likely end up in deep doo.

Gary
--
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534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us

Lawrenceville, GA 30244 | |

4132. Re: building basic SWR meter with coax strip, diode, etc ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep8.181450.17115@ke4zv.atl.ga.us>
Source record: 110791

In article <810508544.27683@pinetree.microserve.com> jackl@pinetree.microserve.com (WB3U) writes:
> VE4KLM <slmusr03@MBnet.MB.CA> wrote:
>
>>Can some one give me a basic schematic or details on how to make
>>a basic SWR meter that I can use for 2 meters and 30 meters ?
>>
>>The one I am looking for is made using a strip of coax, diodes, and
>>a few other miscellaneous parts. I heard about this on a local net,
>>but the details were not given, and no one seems to know who brought
>>it up in the first place.
>
>I notice you haven't had any replies here on the newsgroup, so I'll
>give it a shot. The metering technique you're describing sounds like
>the Monimatch design published in old (60's) editions of the ARRL
>Handbook. One of the problems with that design is that it's frequency
>sensitive. I think you would have a great deal of trouble making it
>work well on both HF and VHF.
>
>I know this won't help you build a meter, but maybe it will save you
>the trouble of building a bad one.

The Monimatch isn't a *bad* SWR meter. The fact that it's frequency sensitive just means it's a bad wideband *power meter*. But since SWR is just a ratio, you don't care whether the forward and reverse readings are absolute or relative. All you need is a CAL pot and a set mark on the meter. There are some practical problems with maintaining directionality over a wide range, but that's typical of most SWR meter designs and not unique to the Monimatch design. It might not be my first choice for addressing this problem, but it wouldn't be my last choice either.

Gary
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4133. Re: Ammeter shunt help needed...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-08 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <42omog$8hr@newsbf02.news.aol.com>
Source record: 110792

Tom, Actually the way we made sure stray resistance didn't hurt was to tap the meter across an inner section of the shunt material, with the high current connections at the outside. We used low current meters. If the meter is a full current meter with internal shunt (usually the case in cheap automotive or generator type moderate current applications) I can't think of any way to avoid contact resistance problems. Can you?

73 Tom

4134. Re: DJ580T mod question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: aclr@ripco.com
Message-ID: <DEM93v.1D9@rci.ripco.com>
Source record: 110793
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

Greg Dolkas (greg@core.rose.hp.com) wrote:
: Gerald Phillips (travisp@ix.netcom.com) wrote:
: : I am atempting to do the extended receive mod. on my DJ580T. I know
: : that you are supposed to cut the red wire, but I want to make sure
: : which wire you cut. With the unit's display facing up and the bottom
: : removed you can see a "red" loop wire that is about the same size as
: : the blue one, and then there is a small "orange/red" wire at the top.
: : I believe I cut the larger loop which is red and not the smaller loop
: : that is orange/red. If anyone can clear this up for me I would greatly
: : appreciate it. Thanks and 73.
: :
: : KE4MBD - Travis

: Yes, the right wire is the thicker, red wire. The skinnier orange-ish wire
: loop goes to the microphone. Don't ask me how I know this... :-).

: Greg KO6TH

cut the blue wire and tx on those freqs

--
The Amateur Cross Link Repeater Association.
Post Office Box 34446
Chicago, IL 60634
312.714.5411
ACLR@ripco.com http://pages.ripco.com:8080/~aclr/aclr.html

4135. Re: Anyone ever use that Mr. Beer thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: gfiber@halcyon.com
Message-ID: <42r2nf$c3l@news.halcyon.com>
Source record: 110794

In article <42dn2v$gr9@cc.iu.net>, wnewkirk@iu.net (Bill Newkirk) says:
>
>In <420ofn$63g@news4.digex.net>, fuzz@cnj.digex.net (Paul M. Zeller) writes:
>>I was browsing my television channels, as I tend to do from time to
>>time, and noticed a thing called Mr. Beer on QVC 2. Does anyone have
>>any experience with this and is this worth it? It appears to be
>>cheaply put together.
>
>zounds! sounds like a visit to alt.beer is in order...
>
Are all of to young to remember " 807s ". :)

Gary

4136. Re: 900 MHz repeaters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep9.035323.19679@ke4zv.atl.ga.us>
Source record: 110795

In article <42pt7o$7sc@acme.freenet.columbus.oh.us> tswisher@freenet.columbus.oh.us (Tom Swisher) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: In article <420j0j$ufk@gandalf.compumedia.com> markm@compumedia.com (Mark McDermott) writes:
>: >Has anyone built a 900 MHz repeater out there, if so what did you use
>: >for the RXTX sections?
>
>: Grainger Associates 6710 duplex radio. Rack mount, 15 watts, duplexer
>: included, 24 MHz split. Works good, costs little (surplus anyway).
>: These radios were originally intended to supply the equivalent of
>: a 4-wire leased line over radio in the spectrum immediately above
>: 928 MHz. A crystal change and a bit of tweaking brings them down
>: into the ham band. And a simple controller turns one into a repeater.
>: The harder part is finding mobile and HT rigs for the users.

>Where'd you get it???????? How much????? Enquiring minds want to know!!!!!

The local power company was using them to control their network before they switched to fiber. I bought all they had at a surplus sale. They were using GA 6710s as masters, GA Scancom 1200s in the switchyards, and a bunch of Motorola MR9600s for trunks. I've been peddling the excess units at hamfests for a couple of years now. I still have 5 of the MR9600s available, in 8 foot rack mounts. $150 each, you pay truck freight.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4137. Re: September 95 CD-ROM Released

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: bob@ultranet.com
Message-ID: <42t1q7$kr7@caesar.ultra.net>
Source record: 110796
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <42o96k$3ka@newsbf02.news.aol.com>, headshrnkr@aol.com proclaims...
>
>May I ask why you needed to SPAM this ad across 4 boards? One posting
>would have really been fine, ok?
>
>--
>--------------------------------
>
>
>"We, the people are the rightful masters of both the congress and the
>courts - not to overthrow the constitition, but to overthrow men who
>pervert the constitution" - A. Lincoln
>
>Bruce J. Howes
>HeadShrnkr@aol.com

I dont consider this a spam at all. Actually they are all places
where people who might get benefit from this fine product can be
found and they might appreciate knowing where they can get this
CDROM.

--
****
*** bob@ultranet.com ***
*** 74504.1273@compuserve.com ***
*** Amateur Radio Station KD1GG ***
*** AARL Club Station KB1BRM ***
****

4138. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <42racb$p0h@newsbf02.news.aol.com>
Source record: 110797

In article <42o6ou$k1p@news.azstarnet.com>, Wes Stewart
<N7WS@azstarnet.com> writes:

>
>"Care and Feeding" does suggest, however, that below the
self-neutralizing
>frequency, normal cross-neutralizing circuits apply. (para 5.6.1) It
mentions
>the series capacitor method for use above the self-neutralizing frequency
>in paragraph 5.6.2. It goes on to say that if the tube is to be used
over
>a wide range of frequencies, then the capacitor should be user
adjustable.
>This reinforces my suggestion that this is a narrow-band solution. All of

>the above is in the case of tetrodes and pentodes, which I believe was
the
>subject of the discussion.
>
>

Hi Wes and Fred,

Not only does the amp have a restricted operating range, the designer has to exceptionally careful that no spurious resonances occur. The screen grid tuning circuits decrease isolation at other frequencies, and can create problems with out of band stability.

All in all, I prefer conventional bridge or other broad band techniques, and a tube that isn't operated near or above it's self neutralizing frequency.

73 Tom

4139. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <42sfbq$pft@news.azstarnet.com>
Source record: 110798

w8jitom@aol.com (W8JI Tom) wrote:
>In article <42o6ou$k1p@news.azstarnet.com>, Wes Stewart
><N7WS@azstarnet.com> writes:
>
>>
>>"Care and Feeding" does suggest, however, that below the
>self-neutralizing
>>frequency, normal cross-neutralizing circuits apply. (para 5.6.1) It
>mentions
>>the series capacitor method for use above the self-neutralizing frequency
>>in paragraph 5.6.2. It goes on to say that if the tube is to be used
>over
>>a wide range of frequencies, then the capacitor should be user
>adjustable.

[stuff deleted]

>Hi Wes and Fred,
>
>Not only does the amp have a restricted operating range, the designer has
>to exceptionally careful that no spurious resonances occur. The screen
>grid tuning circuits decrease isolation at other frequencies, and can
>create problems with out of band stability.
>
>All in all, I prefer conventional bridge or other broad band techniques,
>and a tube that isn't operated near or above it's self neutralizing
>frequency.

Yep, I agree. My original post said:

"Screen neutralization is used when the self-neutralization frequency
is below the desired operating frequency. The screen inductance
is series-resonated to ground the screen. Obviously, this is effective
only over a narrow frequency range, which opens up the possibility
of instability at other frequencies. A common problem with the myopic
design method <g>."

Regards,

Wes

4140. Seeking Info on Short-Range (8-9 ft) RF Data Links

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: <>
Message-ID: <42slgb$s9b@news.onramp.net>
Source record: 110799
Cross-posted to: comp.robotics.misc,sci.electronics,rec.radio.amateur.homebrew

Can anyone direct me to an info source for short-range radio links used to keep several robots in constant contact with a central computer, in a constrained environment like a test maze? Must be low-power and light-weight.

I've checked rec.radio.*, rec.radio.amateur.*, sci.electronics; and searched the Web various ways. I've been seeking such for a couple of years. It seems there are several FM transmitter ICs for Mr. Microphone/Karoke toys, not too many simplified FM receiver chips and no one I've found that builds an FSK modem into them. It seems this problem crosses multiple disciplines so I've been unsure of the best place to look.

I'm looking for a very low-cost approach to have a 9600-baud serial link between non-line-of-sight but close-proximity points. It seems such gadgets would be useful for many different projects; radio-controlled cars, radio-mice, robots etc.

Originally I considered ultrasonics, which I don't think would be as reliable for data transmission and just seems messy. I'm also thinking of pulsed, dispersed IR with many detectors mounted around the maze. I need bi-directional, so the maze would also have many ganged transmitters with a receiver on the robots.

I'm looking for something I can build rather than buy. This is a pet project of mine for several years and I've been hoping the technology would catch up and I would find a two-chip solution that you just add a few discrete components to and go.

Have I overlooked an easy solution here? Any help is greatly appreciated!

Jeff Rush
email: jrush@onramp.net

4141. Re: Ramsey Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <DEMsA3.244@eskimo.com>
Source record: 110800

alex@anat3d1.anatomy.upenn.edu (Alex Shrom) wrote:
>In article <DEHttt.8Ht@eskimo.com> wrt@eskimo.com (Bill Turner) writes:
>>I stopped buying Ramsey kits when I saw a design which had a bypass
>>capacitor directly from the output of an op amp to ground. Every
>>first-semester electronics student knows better than that.
>
>I'm a first-semester electronics student, and I don't see what's wrong
>with that if the amp is powered from a single supply and what you want
>is a clean DC voltage reference voltage from the output. Am I missing
>something? Does it have to do with the low-output impedance of the
>amp?
>
>Of course, in the design you saw it may well have been totally
>hare-brained.
>>
The output of an op amp is a very low-impedance voltage source. When one tries to drive a capacitor with such a source, the op amp has to supply a large amount of current to charge and discharge the capacitor during each part of the AC cycle. The higher the frequency, the more the current. And when the capacitor gets charged, what have you accomplished? The voltage it's charged up to is just what you would have had anyway without it in the circuit.

The various IC manufacturer's books all say if you NEED a capacitor on the output of an op amp, at least put a small value resistor in series with it -- typically 10-50 ohms or so, depending on the application. Without the resistor, the current drawn by the op amp will be needlessly high, and due to excessive phase shift it may become unstable enough to actually break into oscillation.

73, Bill W7LZP
wrt@eskimo.com

4142. Ramsey FM-4 kit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: fedpress@omnifest.uwm.edu
Message-ID: <42sup4$vl@omnifest.uwm.edu>
Source record: 110801

Yeah, I know it's off topic, but I'd like to know if anyone out there has direct personal experience SPCIFICALLY with Ramsey Electronics' FM-4 kit? I'm thinking of using it as part of a system for simultaneous translation of meetings, and I'm curious about range, audio quality, using it with boom-mike headsets, etc.

TNX ES 73,

Rick WB9GYT

4143. Re: Wanted: Any Schematic diagram of baycom modem with TCM3105

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: fehner@cts.com
Message-ID: <DEnqJA.434@crash.cts.com>
Source record: 110802
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateurs.digital.misc

sansoni@mbox.vol.it (Guido Sansoni) wrote:

>Hallo,
>I'm looking for any type of diagrams of baycom modems also on ISA bus
>cards.
>many tnx.
> --
>| Guido Sansoni | Errare umanum est |
>| 6, Alga Marina | perseverare |
>| 00040 LAVINIO LIDO DI ENEA (RM) | DIABOLICUM! |
>| e-mail: sansoni@mbox.vol.it | :-) |
>| |

Hello Guido,
You can get a GIF of the schematic of the original Baycom modem
at my FTP site. ftp.cts.com/pub/fehner/btnc.gif

Please let me know via E-Mail if you have any problem in
retrieving the file.

Barbara KK6IB
E-Mail: fehner@cts.com

4144. Looking for CB schematic ***CB > 10M convertalble?***

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <42sp7n$k92@newsbf02.news.aol.com>
Source record: 110803

What I have is an old KRACO cb. It is called "OUT-A-SIGHT" and the model # is KCB-4060. This is an under the seat / in trunk type of radio, with channel selection, volume control, and squelch controls in the mic, with a long cord connecting the mic to the radio. It's really well built built unit! Shielding, all metal housing, feedthru caps, well done. Oh, it works too.

What I would like to do is find a schematic for this radio to determine if it is possible (I'm sure it is) and just how hard this would be to convert 10M. I does have a PLL type synthesizer in it's own sheilded box. I does NOT look anything even remotely like the HY-GAIN type of radios that I'm familiar with. Being frugal, (or is that cheap?) I hesitate to buy a Sams photofact for it. It would be worth more than the radio.

Does anybody out there have a schematic / photofact for this unit? If so, please let me know. I'll be happy to pay copying costs, postage, etc.....

Pat Tracy, KE1C

4145. Re: Seeking Info on Short-Range (8-9 ft) RF Data Links

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: rmore30042@aol.com
Message-ID: <42tk5j$fn@newsbf02.news.aol.com>
Source record: 110804
Cross-posted to: comp.robotics.misc,sci.electronics,rec.radio.amateur.homebrew

In the 8 - 9 foot range you will find that infrared communications is far superior. It is a simple matter to use commonly available IR detectors (they cost around $2.50) and LEDs to transmit serial data. With checksums and an ACK NAK protocol this can be very reliable and really inexpensive.

4146. Re: Need source of custom CERAMIC Filters for 240kHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: pskh@aol.com
Message-ID: <42tlvv$1b1@newsbf02.news.aol.com>
Source record: 110805

I am having a hard time myself looking for SSB filters at 9.0 Mhz .

Incidentally, it may be possible to make simple 4 crystal 10 mHZ filters
usingh 4 crystals and 4 capacitors + 2 transformers, but the performance
will be not in the
same league as a professional 9.0 Mhz 10 crystal filters .
I ts hould be fine for CW or rough SSB though.

4147. Re: Looking for Don Johnson book.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: "John H. Ferguson" <JHFerg@tiac.net>
Message-ID: <42rhbr$afm@sundog.tiac.net>
Source record: 110806

The book '40 + 5 years of HF Mobileering' is available from Worldradio Books, Sacramento, CA or Big DK Publishing Co. Esparto CA.

Hope this helps!

John (N1IPT)

4148. Re: Anyone ever use that Mr. Beer thing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-09 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <42s6fj$m3e@tierra.santafe.edu>
Source record: 110807

gfiber@halcyon.com (Gary P. Fiber) wrote:
>In article <42dn2v$gr9@cc.iu.net>, wnewkirk@iu.net (Bill Newkirk) says:
>>
>>In <420ofn$63g@news4.digex.net>, fuzz@cnj.digex.net (Paul M. Zeller) writes:
>>>I was browsing my television channels, as I tend to do from time to
>>>time, and noticed a thing called Mr. Beer on QVC 2. Does anyone have
>>>any experience with this and is this worth it? It appears to be
>>>cheaply put together.
>>
>>zounds! sounds like a visit to alt.beer is in order...
>>
>Are all of to young to remember " 807s ". :)
>
>Gary
>
Well, I for one remember 807's. Had a couple last night.

I also have a real 807 on a shelf above my Pentium to remind me where
this all started. :-)

--
==========

James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

4149. Re: Seeking Info on Short-Range (8-9 ft) RF Data Links

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: hulvey@ix.netcom.com
Message-ID: <42tfnn$ub@ixnews5.ix.netcom.com>
Source record: 110808
Cross-posted to: comp.robotics.misc,sci.electronics,rec.radio.amateur.homebrew

> It seems there
>are several FM transmitter ICs for Mr. Microphone/Karoke toys, not too
many
>simplified FM receiver chips and no one I've found that builds an FSK
modem into
>them. It seems this problem crosses multiple disciplines so I've been
unsure of the
>best place to look.
>
>I'm looking for a very low-cost approach to have a 9600-baud serial
link between
>non-line-of-sight but close-proximity points. It seems such gadgets
would be
>useful for many different projects; radio-controlled cars, radio-mice,
robots etc.

For simple commands that only go across the link in small bursts, Holtek makes some nice chips for remote control applications These chips can be used to modulate IR, RF or whatever. They just encode/decode a ternary (3 state) string which you program by tying a few inputs high or low, or leaving them open. I've heard the open state can be unreliable, but I would think that tying it to a voltage divider made from two equal value resistors might keep it stable. Untied high-impedance inputs have a tendency to float around with 60Hz current in your walls.

For a continuous link, the XR-2206 and XR-2211 can be used to do simple FSK encoding and decoding. The chips are made by Exar, but can also be found from other suppliers. However, they only work up to a few 100 kHz. You could chopper-modulate them up to the frequency of interest, though, and then filter it to the proper bandwidth. Then, just chpper modulate it back down before demodulating it at the receiver.

Of course, you would have to abide by the good ol' FCC part 15, no matter what you do, and the 26.96MHz to 27.28MHz and 49.82MHz to 49.90MHz bands (I think those frequencies are right, but I'd check that) are commonly used for remote control applications (like RC cars and boats, etc.). For FSK at these frequencies, you might try a 74HC4046 (or 74HCT4046) made by RCA/Harris. (Other versions of the 4046 like the original CMOS CD4046 made by Harris, or the MC14046 by Motorola) only go to around 1 MHz.) It might be tweaked into working at the 27 MHz band with a really small cap. However, it may be unstable. Also, you could build a voltage controlled oscillator with a varactor cap and a transistor and a crystal to control the frequency

and use that for generating FSK. Crystals for such a VCXO are available from hobby shops who sell remote control items. There are also several PLL circuits which will operate at those frequencies.

The chip in most of those Mr. Microphone toys is probably the BA1404 made by ROHM in San Diego. It doesn't even operate over the entire FM broadcast band if I remember correctly (just the lower half, I think), but might be made to work at lower frequencies. You can buy a kit based on the BA1404 from Ramsey Electronics. Also, they have an FM receiver kit. You could start with these kits and modify them to transmit data.

I think there are many ways of doing this with the current technology, but all will require some tailoring to the specific band you are planning to transmit in. That usually means doing a little math to calculate tank frequencies, filter cut-off frequencies, RC time constants, etc. All are pretty cheap, too. Good luck!

-Rob

4150. WTD: Source for Surplus Inductors, Transformers, Etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: rmwatson@eskimo.com
Message-ID: <DEo4At.GIo@eskimo.com>
Source record: 110809

I am working on a homebrew project, and need a reliable source for
SURPLUS hard to find and obsolete power transformers, coils, and other radio
parts. Your help is appreciated. Also, please see the following list of
parts I need, maybe we could work something out.

Thanks,

Robert/KJ7BO
rmwatson@eskimo.com

LIST:

TRANSFORMERS:

Triad R-8A (or equivalent)
250-0-250 volts, 75ma
5v, 2A
6.3v, 2.5A
(Qty: 1)

Stancor PM-8410 (or equivalent)
360-0-360 volts, 120ma
5v, 3A
6.3v, 3.5A
(Qty: 1)

Stancor A-3823 (or equivalent)
8.5K Ohm to 3.2 Ohm voice coil
(Qty: 1)

Miller 512-W1 (or equivalent)
1,500 KHz/(Kc) Converter
(Qty: 1)

CHOKES:

Thordarson 20C50 (or equivalent)
350h, af-coupling
(Qty: 1)

Thordarson 20C53 (or equivalent)
12h, 80ma filter
(Qty: 1)

National R-100 (or equivalent)
2.5mh RFC
(Qty: 3)

Stancor C1001 (or equivalent)
10.5h, 110ma
(Qty: 1)

Stancor C2305 (or equivalent)
5h, 100ma
(Qty: 1)

COILS:

Barker & Williamson 40JEL (Plug-in end link set)
Barker & Williamson 80JEL (Plug-in end link set)
(Qty: 1 each)

Note: If anybody has suggestions on where to learn how to make the above coils, please let me know, ie books, or whatever.

Your help is indeed appreciated, and I will provide an update as to what has been found, etc.

73 de Robert/KJ7BO
rmwatson@eskimo.com

4151. Re: September 95 CD-ROM Released

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: k2ph@dxis.monroe.pa.us
Message-ID: <DEoy4v.BCK@dxis.monroe.pa.us>
Source record: 110810
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

From article <42t1q7$kr7@caesar.ultra.net>, by bob@ultranet.com (Bob Levine):
> In article <42o96k$3ka@newsbf02.news.aol.com>, headshrnkr@aol.com proclaims...
>>
>>May I ask why you needed to SPAM this ad across 4 boards? One posting
>>would have really been fine, ok?
>
> I dont consider this a spam at all. Actually they are all places
> where people who might get benefit from this fine product can be
> found and they might appreciate knowing where they can get this
> CDROM.

For sale posts belong in rec.radio.swap only. That is the charter of
the newsgroup. Buying, selling, and trading posts do NOT belong in any
other newsgroup in the rec.radio.amateur hierarchy.

This is all explained very nicely in the "Guide to the Personal Radio
Newsgroups," that Jay Maynard posts on the 15th of every month. One
begins to think maybe it should be posted daily. 8^{)

73,
Bob K2PH

--
+------------------ \-\-\-\ -----------------------------+
Bob Schreibmaier K2PH	INTERNET: k2ph@dxis.monroe.pa.us
(a.k.a. "The QRPer")	ICBM: 40o55'N 75o30'W
Kresgeville, PA	Euthanize the Limbaugh Loonies.
+---+

4152. PARTS is parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: kk5dr@bga.com
Message-ID: <42vb34$p83@giga.bga.com>
Source record: 110811

I've got amp building parts; plate transformers, electolitic caps. air vari.caps. plate choke, plate blocking
cap. cabinets, blowers etc etc let me know what you need , I'll see if I got it , and let you know how much I
need for it.
Matt/KK5DR

4153. PHONE TAP: YOU MEAN PHONE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: don.huff@intac.com
Message-ID: <8B0D03D.0028000941.uuout@intac.com>
Source record: 110812

From: Don Huff <donh@vcd.hp.com>
Subject: PHONE TAP: YOU MEAN PHONE PATCH!
Date: 8 Sep 1995 22:03:31 GMT
Message-ID: <42qejj$55i@news.vcd.hp.com>
misc:29162

JUST A HAM RADIO TERMINOLOGY CLARIFICATION: TELEPHONE INTERFACES TO
RIGS HAVE HISTORICALLY ALWAYS BEEN CALLED A "PHONE PATCH", NOT A "PHONE TAP".

"TAPPING" OF TELEPHONES HAS OFTEN BEEN DONE WITH A LINEMAN'S HANDSET,
CALLED A "BUTT-IN", WHICH CLIPS DIRECTLY ONTO THE LINE PAIR.

A TELEPHONE INTERFACE OR "PHONE PATCH" FOR A HAM RIG IS BEST DONE WITH A
TRANSFORMER -BASED HYBRID, WHICH IS EASILY HOMEBREWED. DESIGNS FOR THESE HAVE
BEEN AROUND SINCE THE 50'S IN NUMEROUS HAM RADIO ARTICLES, INCLUDING QST.

GL ES 73,
DON, W6JL

--- QScan/PCB v1.15b / 01-0228
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The Roy Hobbs BBS (201)-641-7307 Moonachie NJ.USENET
Internet:Fidonet:N2UTO'S BBS List:Telnet198.6.114.80
cono@hobbs.com // Running PCBoard 15.22
+---+

4154. Re: PHONE TAP: YOU MEAN P

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: evan.platt@intac.com
Message-ID: <8B0D03D.0028000942.uuout@intac.com>
Source record: 110813

From: eplatt@hooked.net (Evan Platt)
Subject: Re: PHONE TAP: YOU MEAN PHONE PATCH!
Date: Fri, 08 Sep 1995 22:57:39 GMT
Message-ID: <42qhgi$2rl@its.hooked.net>
misc:29169

Don Huff <donh@vcd.hp.com> wrote:

>JUST A HAM RADIO TERMINOLOGY CLARIFICATION: TELEPHONE INTERFACES TO
>RIGS HAVE HISTORICALLY ALWAYS BEEN CALLED A "PHONE PATCH", NOT A "PHONE TAP".

>"TAPPING" OF TELEPHONES HAS OFTEN BEEN DONE WITH A LINEMAN'S HANDSET,
>CALLED A "BUTT-IN", WHICH CLIPS DIRECTLY ONTO THE LINE PAIR.

>A TELEPHONE INTERFACE OR "PHONE PATCH" FOR A HAM RIG IS BEST DONE WITH A
>TRANSFORMER -BASED HYBRID, WHICH IS EASILY HOMEBREWED. DESIGNS FOR THESE
HAVE>BEEN AROUND SINCE THE 50'S IN NUMEROUS HAM RADIO ARTICLES, INCLUDING QST.

>GL ES 73,
> DON, W6JL

Uh... no, read the article... he means phone tap. autopatch (where one
can make phone calls from a HT) is something different..

==========
IncidentNet -- Fire, Police, and EMS Notification Network

Evan Platt, Dispatcher, Communicatoins Dep't.
eplatt@hooked.net
National ID: (Net/3501)
Standard Disclaimer
finger eplatt@hooked.net for FTP address and more information!
http://www.hooked.net/users/eplatt

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+----------+

4155. Re: DJ580T mod question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: amatuer.cross.link.repeat@intac.com
Message-ID: <8B0D03D.0028000943.uuout@intac.com>
Source record: 110814

From: aclr@ripco.com (Amatuer Cross Link Repeater Assoc.)
Subject: Re: DJ580T mod question
Message-ID: <DEM93v.1D9@rci.ripco.com>
Date: Sat, 9 Sep 1995 02:19:06 GMT
Greg Dolkas (greg@core.rose.hp.com) wrote:
: Gerald Phillips (travisp@ix.netcom.com) wrote:
: : I am atempting to do the extended receive mod. on my DJ580T. I know
: : that you are supposed to cut the red wire, but I want to make sure
: : which wire you cut. With the unit's display facing up and the bottom
: : removed you can see a "red" loop wire that is about the same size as
: : the blue one, and then there is a small "orange/red" wire at the top.
: : I believe I cut the larger loop which is red and not the smaller loop
: : that is orange/red. If anyone can clear this up for me I would greatly
: : appreciate it. Thanks and 73.
: :
: : KE4MBD - Travis

: Yes, the right wire is the thicker, red wire. The skinnier orange-ish wire
: loop goes to the microphone. Don't ask me how I know this... :-).

: Greg KO6TH

cut the blue wire and tx on those freqs

--
The Amateur Cross Link Repeater Association.
Post Office Box 34446
Chicago, IL 60634
312.714.5411
ACLR@ripco.com http://pages.ripco.com:8080/~aclr/aclr.html

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4156. Re: PHONE TAP: YOU MEAN P

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: gary.coffman@intac.com
Message-ID: <8B0D03D.0028000944.uuout@intac.com>
Source record: 110815

From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Re: PHONE TAP: YOU MEAN PHONE PATCH!
Message-ID: <1995Sep9.025850.19226@ke4zv.atl.ga.us>
Date: Sat, 9 Sep 1995 02:58:50 GMT
misc:29196

In article <42qhgi$2rl@its.hooked.net> eplatt@hooked.net writes:
>Don Huff <donh@vcd.hp.com> wrote:
>
>>JUST A HAM RADIO TERMINOLOGY CLARIFICATION: TELEPHONE INTERFACES TO
>>RIGS HAVE HISTORICALLY ALWAYS BEEN CALLED A "PHONE PATCH", NOT A "PHONE
TAP".>
>>"TAPPING" OF TELEPHONES HAS OFTEN BEEN DONE WITH A LINEMAN'S HANDSET,
>>CALLED A "BUTT-IN", WHICH CLIPS DIRECTLY ONTO THE LINE PAIR.
>
>>A TELEPHONE INTERFACE OR "PHONE PATCH" FOR A HAM RIG IS BEST DONE WITH A
>>TRANSFORMER -BASED HYBRID, WHICH IS EASILY HOMEBREWED. DESIGNS FOR THESE
HAVE
>>BEEN AROUND SINCE THE 50'S IN NUMEROUS HAM RADIO ARTICLES, INCLUDING QST.
>
>Uh... no, read the article... he means phone tap. autopatch (where one
>can make phone calls from a HT) is something different..

No, he's correct. Phone taps are what the FBI, spies, and other
scum do, broadcasters do phone interfaces, or patches, and so do
hams. A phone patch is a *two* way interface with the phone network
while a tap is a one way eavesdropping technique. You're thinking of
autopatching, which is a semi-automatic variation of phone patching
used by repeater stations. Phone patches pre-date repeaters and HTs,
and have traditionally been manually controlled by the local operator.

Patching terminology came from the broadcasting world where phone
lines are traditionally terminated in patch fields through two wire
to four wire hybrids, and the operator could patch the line into the
console at need. Prior to the Carterphone decision, the telco had
to supply the hybrid. Now, of course, we can supply our own.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

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+-------------------------------------------------------------------------+
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4157. Re: Anyone ever use that

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: gary.p..fiber@intac.com
Message-ID: <8B0D03D.0028000945.uuout@intac.com>
Source record: 110816

From: gfiber@halcyon.com (Gary P. Fiber)
Subject: Re: Anyone ever use that Mr. Beer thing?
Date: 9 Sep 1995 03:46:55 GMT
Message-ID: <42r2nf$c3l@news.halcyon.com>
In article <42dn2v$gr9@cc.iu.net>, wnewkirk@iu.net (Bill Newkirk) says:
>
>In <420ofn$63g@news4.digex.net>, fuzz@cnj.digex.net (Paul M. Zeller) writes:
>>I was browsing my television channels, as I tend to do from time to
>>time, and noticed a thing called Mr. Beer on QVC 2. Does anyone have
>>any experience with this and is this worth it? It appears to be
>>cheaply put together.
>
>zounds! sounds like a visit to alt.beer is in order...
>
Are all of to young to remember " 807s ". :)

Gary

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cono@hobbs.com // Running PCBoard 15.22
+---+

4158. Re: 900 MHz repeaters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: gary.coffman@intac.com
Message-ID: <8B0D03D.0028000946.uuout@intac.com>
Source record: 110817

.cc.duq.edu!news.duke.edu!agate!howland.reston.ans.net!swrinde!emory!cssun.mat
hcs.emory.edu!wa4mei!ke4zv!garyFrom: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Re: 900 MHz repeaters
Message-ID: <1995Sep9.035323.19679@ke4zv.atl.ga.us>
s>
Date: Sat, 9 Sep 1995 03:53:23 GMT
In article <42pt7o$7sc@acme.freenet.columbus.oh.us>
tswisher@freenet.columbus.oh.us (Tom Swisher) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: In article <420j0j$ufk@gandalf.compumedia.com> markm@compumedia.com (Mark
McDermott) writes:
>: >Has anyone built a 900 MHz repeater out there, if so what did you use
>: >for the RXTX sections?
>
>: Grainger Associates 6710 duplex radio. Rack mount, 15 watts, duplexer
>: included, 24 MHz split. Works good, costs little (surplus anyway).
>: These radios were originally intended to supply the equivalent of
>: a 4-wire leased line over radio in the spectrum immediately above
>: 928 MHz. A crystal change and a bit of tweaking brings them down
>: into the ham band. And a simple controller turns one into a repeater.
>: The harder part is finding mobile and HT rigs for the users.

>Where'd you get it???????? How much????? Enquiring minds want to know!!!!!

The local power company was using them to control their network before
they switched to fiber. I bought all they had at a surplus sale. They
were using GA 6710s as masters, GA Scancom 1200s in the switchyards,
and a bunch of Motorola MR9600s for trunks. I've been peddling the
excess units at hamfests for a couple of years now. I still have 5
of the MR9600s available, in 8 foot rack mounts. $150 each, you pay
truck freight.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

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4159. Re: 4CX1500B push-pull am

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: w8ji..tom@intac.com
Message-ID: <8B0D03D.0028000947.uuout@intac.com>
Source record: 110818

ws.aol.com!not-for-mail
From: w8jitom@aol.com (W8JI Tom)
Subject: Re: 4CX1500B push-pull amplifer.
Date: 9 Sep 1995 01:57:31 -0400
Message-ID: <42racb$p0h@newsbf02.news.aol.com>
In article <42o6ou$k1p@news.azstarnet.com>, Wes Stewart
<N7WS@azstarnet.com> writes:

>
>"Care and Feeding" does suggest, however, that below the
self-neutralizing
>frequency, normal cross-neutralizing circuits apply. (para 5.6.1) It
mentions
>the series capacitor method for use above the self-neutralizing frequency
>in paragraph 5.6.2. It goes on to say that if the tube is to be used
over
>a wide range of frequencies, then the capacitor should be user
adjustable.
>This reinforces my suggestion that this is a narrow-band solution. All of

>the above is in the case of tetrodes and pentodes, which I believe was
the
>subject of the discussion.
>
>

Hi Wes and Fred,

Not only does the amp have a restricted operating range, the designer has
to exceptionally careful that no spurious resonances occur. The screen
grid tuning circuits decrease isolation at other frequencies, and can
create problems with out of band stability.

All in all, I prefer conventional bridge or other broad band techniques,
and a tube that isn't operated near or above it's self neutralizing
frequency.

73 Tom

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cono@hobbs.com // Running PCBoard 15.22
+---+

4160. Re: Looking for Don Johns

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: john.h..ferguson@intac.com
Message-ID: <8B0D03D.0028000948.uuout@intac.com>
Source record: 110819

From: "John H. Ferguson" <JHFerg@tiac.net>
Subject: Re: Looking for Don Johnson book.....
Date: 9 Sep 1995 07:56:43 GMT
Message-ID: <42rhbr$afm@sundog.tiac.net>
The book '40 + 5 years of HF Mobileering' is available from Worldradio
Books, Sacramento, CA or Big DK Publishing Co. Esparto CA.

Hope this helps!

John (N1IPT)

--- QScan/PCB v1.15b / 01-0228
* Origin: _T_H_E__R_O_Y__H_O_B_B_S__B_B_S_ Moonachie NJ (1:2604/122)

+---+
The Roy Hobbs BBS (201)-641-7307 Moonachie NJ.USENET
Internet:Fidonet:N2UTO'S BBS List:Telnet198.6.114.80
cono@hobbs.com // Running PCBoard 15.22
+---+

4161. Re: Seeking Info on Short-Range (8-9 ft) RF Data Links

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: lekollar@nyx10.cs.du.edu
Message-ID: <43074t$6vq@nyx10.cs.du.edu>
Source record: 110820
Cross-posted to: comp.robotics.misc,sci.electronics,rec.radio.amateur.homebrew

Thus spake Jeff Rush:

>Can anyone direct me to an info source for short-range radio links used to
>keep several robots in constant contact with a central computer, in a
>constrained
>environment like a test maze? Must be low-power and light-weight.

[...]

>I'm looking for a very low-cost approach to have a 9600-baud serial link
>between
>non-line-of-sight but close-proximity points.

> I'm also thinking of pulsed, dispersed IR
>with many detectors mounted around the maze. I need bi-directional, so the
>maze would also have many ganged transmitters with a receiver on the robots.

IR is probably your best bet. I've seen point-to-point links over 1/4 mile
using IR... no licensing hassles, no interference from CBs or baby monitors,
etc.

By sheer coincidence, the October MacUser has a quick review of an
IR-based LocalTalk setup called GameNet. It's not cheap ($160 for a
pair, includes a two-person copy of Marathon), but it'll give you lots
more than 9600-baud and covers a room up to 25'x25'.

Given that your robots probably don't have Macs on board, this isn't
exactly what you're looking for... but the technology *IS* available at
the consumer level. You probably won't even need to mount detectors;
just paint the ceiling white & aim your transcivers straight up.

The company is Photonics, SanJose CA. 800-997-2326 or 408-955-7930.
Not that they're going to send you a schematic or anything, but you
might be able to get some leads on where to find the IR gadgets....

Hope this helps.
--
Larry Kollar, Dawsonville GA | *** Hatred is murder *** (1 Jn 3:15)
lekollar@nyx10.cs.du.edu | Crawling down the infobahn at 1200 baud...

4162. Info wanted on Heath HX-1681 transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-10 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <42tbrc$rus@tierra.santafe.edu>
Source record: 110821

I just purchased a shiny, new-looking Heath HX-1681 at an auction, cheap. It is a transmitter for 80 through 10. The final has a pair of tubes - looked like 6146's but could be sweep tubes. I didn't open it up that far. Can anyone tell me a bit more about it? specfications? vintage? I'd also be interested in locating a schematic and/or manual for a fair price. It's also missing the power cable, an 11 pin "octal type", male on one end, female on the other. (I don't know what else to call it, it looks like an octal tube base, but with 11 pins.)

73 de K9GXC (Jim), licensed since 1956.

--
==========

James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

4163. schemat

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: d013889c@dcfreenet.seflin.lib.fl.us
Message-ID: <4300n1$gvk@bcfreenet.seflin.lib.fl.us>
Source record: 110672

--

Al Goldberg
d013889c@dcfreenet.seflin.lib.fl.us

4164. Re: Seeking Info on Short-Range (8-9 ft) RF Data Links

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1995Sep11.015938.11445@grian.cps.altadena.ca.us>
Source record: 110673
Cross-posted to: comp.robotics.misc,sci.electronics,rec.radio.amateur.homebrew

rmore30042@aol.com (RMore30042) writes:

>In the 8 - 9 foot range you will find that infrared communications is far
>superior. It is a simple matter to use commonly available IR detectors
>(they cost around $2.50) and LEDs to transmit serial data. With checksums
>and an ACK NAK protocol this can be very reliable and really inexpensive.

Your robot could have a little whip "antenna" sticking up above hte maze
walls, with an omni directional emitter-sensor on it. The PC could have
a wide angle (120 degrees) mate to it.

--

Mike Morris morris@grian.cps.altadena.ca.us
#include <disclaimer.std.h> I have others, but this works the best.
This message assembled from 100% recycled electrons (and pixels).

4165. WTB: Moto RIB or Eq & Cables

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: vuckovic@interaccess
Message-ID: <430f8i$a8g@nntp.interaccess.com>
Source record: 110674
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I'm looking for a Motorola RIB box or equivilent, and am also searching
for information on where to purchase the equivilent of the Motorola RIB.

Also, if anyone has cables or information for GP-300, HT-600, MT-1000,
HT-1000 or any other motorola programming cables, I'd appreciate it!

Thanks alot!

--

Owner, Weniger Lighting Systems | George Vuckovic |
Director, Emergency Response & Medical Services | vuckovic@interaccess.com |
EMS, Security, Communications |__My_Opinions_Are_My_Own__|
Weniger Lighting Systems -- Emergency Lighting Sales, Service, Installation
----

4166. MRF138 spice model ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: back@ousw12.nmp.nokia.com
Message-ID: <431f3n$qnf@axl02it.ntc.nokia.com>
Source record: 110675

Hi, I havent found a source for power Vmosfet Spice
models, now I should find one for Motorola MRF138 ?

Can anyone help ?

rgds kari back

4167. Need help with Vladimirescu's "The Spice Book"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <431d7k$556@ixnews2.ix.netcom.com>
Source record: 110676

I picked up a copy of Vladimirescu's "The Spice Book" while visiting my old alma mater over the weekend. When I returned home I discovered that half of page 383/384 was missing. Because it's an hour drive each way to exchange the book, I was wondering if someone who has this book could copy these two pages for me? I'll gladly send you $1 in return.

Thanks,

- Jeff, WA6AHL

4168. Re: Solid state convesions.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <810835913.3009@pinetree.microserve.com>
Source record: 110677

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>Yes, sounds like you're trying to ruin a fairly good pair of old
>radios by turning them into poor clones of modern Japanese radios.
>The Japanese have more experience, and more engineers. You're
>unlikely to come up with anything that works as good as the B line
>does now, much less as good as a modern Japanese radio.

Geez Gary, you're making a lot of assumptions about Pat's technical ability aren't you? Most tube designs aren't that difficult to substitute with solid state, as long as the overall plan for devices and circuits is laid out from the beginning.

You know, as a fun project, this is sure a lot easier than starting from scratch. So what if the intrinsic value of the equipment is lost? These rigs aren't exactly rare, and besides, he didn't say he wanted to sell it when he was done.

Personally, I've always considered projects like the one he's describing to be an integral part of homebrew. Based on past modification articles in Amateur Radio magazines, I'd say other Hams do too.

73,

Jack WB3U

4169. Re: Seeking Info on Short-Range (8-9 ft) RF Data Links

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: <>
Message-ID: <4312iu$ca8@news.onramp.net>
Source record: 110678
Cross-posted to: comp.robotics.misc,sci.electronics,rec.radio.amateur.homebrew

In <42tfnn$ub@ixnews5.ix.netcom.com>, hulvey@ix.netcom.com (Robert Hulvey) writes:
>For simple commands that only go across the link in small bursts,
>Holtek makes some nice chips for remote control applications.

>For a continuous link, the XR-2206 and XR-2211 can be used to do simple
>FSK encoding and decoding. The chips are made by Exar, but can also be
>found from other suppliers. However, they only work up to a few 100
>kHz. You could chopper-modulate them up to the frequency of interest,
>though, and then filter it to the proper bandwidth. Then, just chpper
>modulate it back down before demodulating it at the receiver.

Exar I've heard of but not Holtek, although I had forgotten Exar until now.
Does anyone have contact info easily at hand for:
Holtek
Exar

Or if there are other outlets for hobbyists, I'd appreciate those. Some of the
parts houses here in Dallas are sticky about non-large corporate buyers of
prototype quantities. It didn't use to be that way, but it is getting harder.

Thanks for your response, and thanks to several other people. I'm seeing
several good responses outlining approaches I had not considered.

-Jeff

4170. B&W 850 Tank Coil

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: dsnowden@ccd.harris.com
Message-ID: <4322pr$1lch@rs2.ccd.harris.com>
Source record: 110679

Does anyone have one laying around or have the specs on one? Actually what I want to know is what the low frequency winding consists of. The one I have has a sagging coil (as most are that I see) and I'd like to replace the coil section. How many turns of what wire, or what coil stock is used for this???

Thanks, Doug, N4IJ dsnowden@ccd.harris.com

--
Doug Snowden
work: (407) 242-5542
dsnowden@ccd.harris.com

4171. Re: Ammeter shunt help needed...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DEr7FJ.4sx@hpcvsnz.cv.hp.com>
Source record: 110680

W8JI Tom (w8jitom@aol.com) wrote:
: Tom, Actually the way we made sure stray resistance didn't hurt was to tap
: the meter across an inner section of the shunt material, with the high
: current connections at the outside. We used low current meters. If the

(Standard Kelvin connection, and the only way to go for things like this!)

: meter is a full current meter with internal shunt (usually the case in
: cheap automotive or generator type moderate current applications) I can't
: think of any way to avoid contact resistance problems. Can you?

Welding?? ;-) (Or perhaps removing the internal shunt, if there really
is one. I think most of the OEM ones aren't moving-coil meters, but rather
wierd things like moving magnet, next to the bus carrying the current, or
thermal, working on expansion and contraction--though that doesn't work to
distinguish charging and discharging currents of the same magnitude.)

73, Tom (the K7ITM one)

4172. Rf link for Network

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: gumby@student.adelaide.edu.au
Message-ID: <199509120114.KAA26280@smug.student.adelaide.edu.au>
Source record: 110681

I am after a schematic diagram for a rf link to be put into a network.
Through put has to be over 1Mbaud and the output power has to be enough
to be able to link up over 5 km.
Any designs would nice .....

++++++++++++++++++++++++
gumby@smug.student.adelaide.edu.au
++++++++++++++++++++++++

4173. Re: Info wanted on Heath HX-1681 transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: jms@col.hp.com
Message-ID: <43270p$5v1@nonews.col.hp.com>
Source record: 110682

Jim Potter (jpotter@jpaw.com) wrote:
: I just purchased a shiny, new-looking Heath HX-1681 at an auction, cheap.
: It is a transmitter for 80 through 10. The final has a pair of tubes -
: looked like 6146's but could be sweep tubes. I didn't open it up that
: far. Can anyone tell me a bit more about it? specfications? vintage?
: I'd also be interested in locating a schematic and/or manual for a fair
: price. It's also missing the power cable, an 11 pin "octal type", male
: on one end, female on the other. (I don't know what else to call it, it
: looks like an octal tube base, but with 11 pins.)

It's a fairly good CW only transmitter. I got mine about 15 years ago.
I built the xmtr and my wife built the power supply for me. It DOES
need an external power supply. It uses 6146 tubes, and a tube driver
for the output stage. I've had trouble with the driver tube going
bad at a fairly regular interval. I can bring in the manual and
send you the specs, if you want.

Mike, K0TER

4174. Re: Rf link for Network

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: ssampson@icon.net
Message-ID: <ssampson.32.00162F1A@icon.net>
Source record: 110683

In article <199509120114.KAA26280@smug.student.adelaide.edu.au>
gumby@student.adelaide.edu.au (Myself) writes:

>I am after a schematic diagram for a rf link to be put into a network.
>Through put has to be over 1Mbaud and the output power has to be enough
>to be able to link up over 5 km.
>Any designs would nice .....

How much money are you willing to spend on building what's on the schematic?
I have an early 70's link design using a klystron at 40 Watts :-)

4175. KVG filters : where can I get them ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: pskh@aol.com
Message-ID: <432pg1$f45@newsbf02.news.aol.com>
Source record: 110684

hi guys,

Does any body know of a source of KVG filters for SSB receivers at a
reasonable price. This is the spec of the filter that I am looking for

center freq 9.0 Mhz
BW 2.4 khz
shape factor :1:1.5 @ 6:60db
stopband attentuation > 90 db
ripple < 3 db
cost < $150 @ 1 qty

The KVG filters XF9B abd XF9B-10 fit in very well but I dont seem to get
hold of these at a reasonable price.

4176. Re: Transformer help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-1109952243260001@brockway-d229.sierra.net>
Source record: 110685

In article <42pae6$4aa@ixnews6.ix.netcom.com>, antenna@ix.netcom.com (bob cocco) wrote:

> Hello,
>
> Are there any places that rewind transformers? Any info would be
> greatly appriciated. Thanks in advance.
>
> 73 de Bob N3LSS

You might check information for area code (818) El Monte, California, for a company that is named American Transformer (something like that). I have used them before. They do a decent job for a decent price, though you may balk at the price all the same...
Good luck

4177. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-1109952302560001@brockway-d229.sierra.net>
Source record: 110686

snip
snip
snip

Neutralization is not necessary if adequate output to input isolation is achieved, approximately 10 to 15 dB greater than the desired stage gain. Since triode have less gain, they are more tolerant of sloppy physical/electrical design.

ARRL Handbooks 1986 through 1989, maybe others, but I have those two years, cover a 4CX1000A/1500B grounded tetrode 2 meter amp requiring only 10 watts for 1500 watts output. Central to the design is physical isolation, *and* using a grounded screen rather than a bypassed screen for isolation within the tube itself. They measured the reverse isolation to be greater than 40 dB at 144 Mhz. No neutralization was necessary. The techniques are described.

There was also a 6 meter amp using the same tube but with a screen bypass socket rather than a grounded screen. It too required no neutralization.

Physically, the idea of a push-pull design would be daunting.

One is also tempted to ask: if a single tube can provide the legal limit at or exceeding 400 Mhz, what are you doing with two?

ex WB6BXU

4178. Beeper as Repeater monitor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: WONG_WAI@cronus.bentley.edu
Message-ID: <1995Sep11.131527@cronus.bentley.edu>
Source record: 110687

Hi:
My brother gave me the old beeper he used to use for his business. It
Uniden is a u. It's operation freq. is 152.480 Mhz. The crystal is changeable.
putIf I o, if I put a 144.xxx Mhz crystal in it can I use it to monitor a
repeater? Do I have to make nany other changes?

-WaiWong

4179. Re: Change WBFM to NBFM????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: cwixson@freenet1.scri.fsu.edu
Message-ID: <431r17$elv@freenet3.scri.fsu.edu>
Source record: 110688
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

I have a few of those RT-68's and have fun using them just the way they are. Talk lightly and the nbfm'ers can hear you, or talk loud to another rt-68 and its the only thing that will hear you. you'll get used to limiting the audio. Any-way , thats how i use mine. Also have a few rt-67's and rt.70's. Want to convert the 70's to cw.

See-Ya

Chuck, WD8DTH, MICHIGAN

4180. Re: HTX100 schem or transverter mods??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-11 00:00:00 UTC
From: n7tcf@primenet.com
Message-ID: <431b17$gql@nnrp1.primenet.com>
Source record: 110689
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <01HUZVWBH4GI00BLXV@uthscsa.edu>, MUENZLERK@uthscsa.edu (Muenzler, Kevin) writes:
> landisj@nad.com (Joe Landis - Systems & Network Mgr) writes:
>
> -Hi,
> -Does anyone have a schematic for the Radio Shack HTX100 10 meter rig,
> -or has anyone added seperate low-level transmit and recieve?
> -I'd like to use mine for a 28mhz tunable if for a DEM 432 mhz IF
>transverter.
> -
> -Thanks,
> -Joe - AA3GN

qrz.com has a large mods directory with text files, no schematics, that will
help. Check ftp.qrz.com or www.qrz.com. Or buy the cd-rom if all else fails.

Jim N7TCF

4181. Re: Anyone ever use that

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <432jgu$9qc@parsifal.nando.net>
Source record: 110690

gary.p..fiber@intac.com (GARY P FIBER) wrote:
>
> Are all of to young to remember " 807s ". :)
>
> Gary
>
>
Brings back fond memories - especially of Field Days when
there was a special bin for dead 807s. :>)

Tnx es 73,
Don W3FPR

4182. Re: Solid state convesions.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep12.125610.6672@ke4zv.atl.ga.us>
Source record: 110691

In article <810835913.3009@pinetree.microserve.com> jackl@pinetree.microserve.com (WB3U) writes:
> gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>
>>Yes, sounds like you're trying to ruin a fairly good pair of old
>>radios by turning them into poor clones of modern Japanese radios.
>>The Japanese have more experience, and more engineers. You're
>>unlikely to come up with anything that works as good as the B line
>>does now, much less as good as a modern Japanese radio.
>
>Geez Gary, you're making a lot of assumptions about Pat's technical
>ability aren't you? Most tube designs aren't that difficult to
>substitute with solid state, as long as the overall plan for devices
>and circuits is laid out from the beginning.

Sure, I remember tubesters, but I also remember that they offered
a lower intercept than the tubes that they replaced. To improve
on the radio's performance, you'd essentially have to redesign
it completely so as to be optimized to work with solid state
devices. That's a formidable challenge, and about all you'd have
left of the original when you were done is the case. If you want
to design and build a high performance transceiver, that's great,
I say go for it, but I don't think the way to do it is to try to
kludge a tube design to work solid state. You can make it *work*,
but I sincerely doubt the performance would be better.

>You know, as a fun project, this is sure a lot easier than starting
>from scratch. So what if the intrinsic value of the equipment is
>lost? These rigs aren't exactly rare, and besides, he didn't say he
>wanted to sell it when he was done.

Well, I agree that "collector value" isn't something I ever consider.
Drill the hole is my motto. But still, to get superior performance
you're talking about gutting and rebuilding. *I* think it's easier
to start with a clean sheet of paper than do that. Then you could
have a high intercept push-pull first stage, a DBM mixer, a termination
insensitive post amp, etc. That's a *major* rework. Now there are some
worthwhile modifications to the Drake line, primarily to the audio stages,
that would be worth doing, and there are better tubes that can be used
in the existing RF circuits, but I don't see converting the PA and RF
front end to solid state as a viable modification project. It's a full
redesign that's likely harder than starting over from scratch.

>Personally, I've always considered projects like the one he's
>describing to be an integral part of homebrew. Based on past

>modification articles in Amateur Radio magazines, I'd say other Hams
>do too.

I agree that *mods* can be good, but what he was talking about doing
goes far beyond a reasonable mod.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4183. RE: SEARCH SPARE PART FOR

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: michael.lodico@dreamers.groupnet.org
Message-ID: <9509120448131506@dreamers.groupnet.org>
Source record: 110692

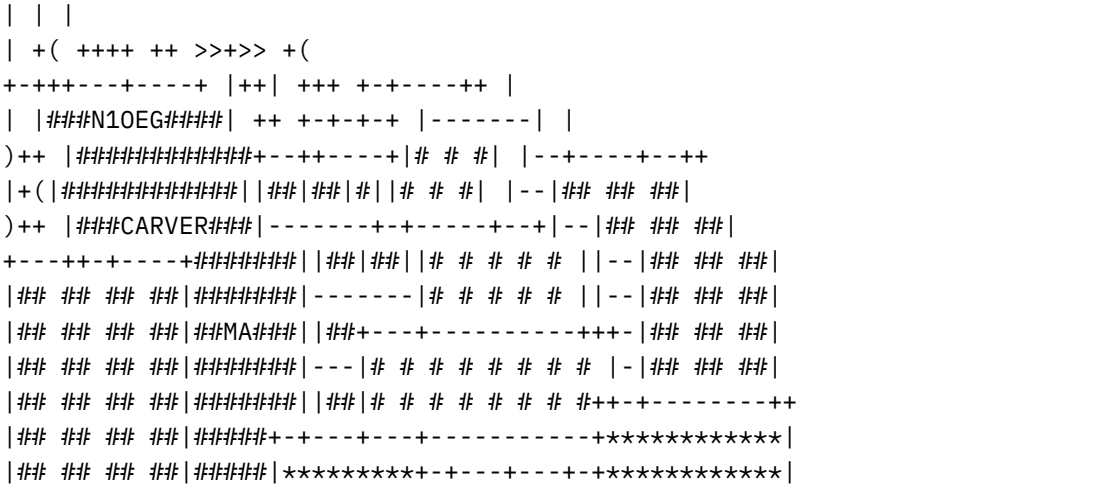
On 6 Sep 95 05:21am, THOMAS BOHL wrote to ALL:

TB> From: bohl@sp056.cern.ch (Thomas Bohl)
TB> Subject: Search spare part for wide band amplifier ZHL-1042J
TB>
TB>
TB> Dear colleagues,
TB>
TB> does anybody know what type of transistor is used in the final
TB> stage of the Mini Circuits wideband amplifier ZHL-1042-J ?
TB>
TB> Mini Circuits does not make spare parts available for this
TB> amplifier. A new amplifier costs about USD 500.
TB>
TB> Until now I just got one useful info. It was Mike, KD4QDM, who
TB> told me that the transistor is probably a GaAs FET from Avantek.
TB>
TB> Does anybody know more ?
TB>
TB> 73 de Thomas, F5SWE
TB> Th.Bohl@cern.ch

Thomas, KD4QDM is probably correct since Avantek makes a lot of GaAs FET's for different companies. If you check around you should be able to find an agent for them in France and if you contact them with the numbers from the part they should be able to match it up.

If this doesn't work please post the numbers on this echo and somebody may recognize them, also I can then check my Avantek book to check for a match.

73



```
+-+-+-+-+-+-+| | |+-+-+-+-+-+n|nnn|nnn|n|||||||||||||
+-+-+-+-+-+-++-+-++-+-+-+-+-+-+---+---+-+------------+
```
THE CRANBERRY CAPITAL OF THE WORLD AND THE WANT TO BE TOWN
Michael.Lodico@dreamers.groupnet.org

... I'd enjoy the day more if it started later.
* Evaluation copy of Silver Xpress. Day # 44
* Silver Xpress V4.01

4184. RE: WHAT TYPE OF CAPACITO

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: michael.lodico@dreamers.groupnet.org
Message-ID: <9509120448131507@dreamers.groupnet.org>
Source record: 110693

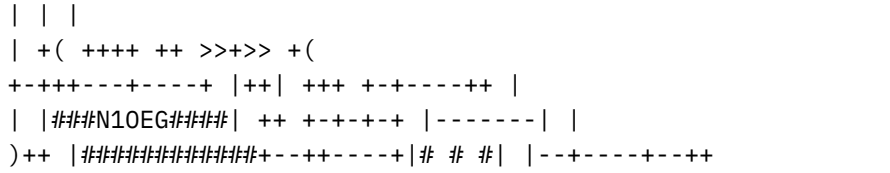
On 6 Sep 95 11:50am, ROY LEWALLEN wrote to ALL:

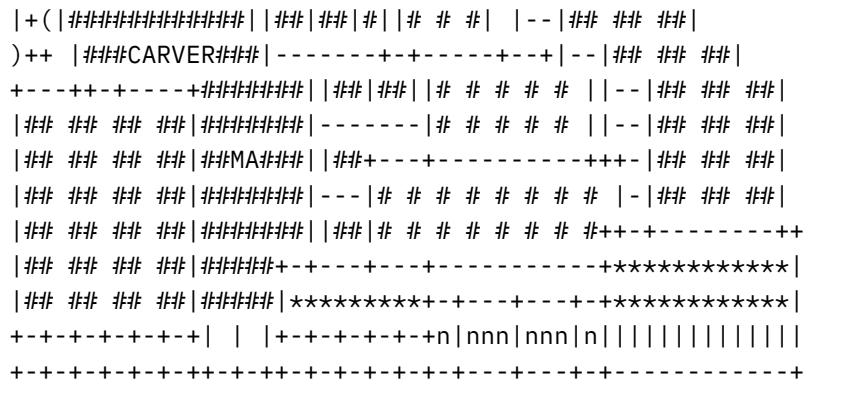
RL> Subject: Re: What type of capacitor is this ???????
RL>
RL> ; davek@medphys.ucl.ac.uk (Dave Kirkby) writes:
RL> ;
RL> ; I've a circuit diagram that specifies a type DM-15, 500pF, 500V
RL> silver-mica ; capacitor. Anyone know what a type DM-15 is ????? More
RL> to the point, where ; can I get them from - preferably in the UK, but
RL> a foreign source will do, ; if I cant get them here.
RL> ;
RL> ; The circuit specifies a lead length (1/4") to use on these caps to
RL> resonate at
RL> ; 144MHz, so substituting any old 500V, 500pF silver-mica cap may not
RL> be wise.
RL> ;
RL> ; davek G8WRB.
RL>
RL> As I recall (he said in a geezerly voice), the DM15 was one of the
RL> rectangular jobs with the dots for color code. There were several sizes
RL> of the things, and I suppose but don't know that the DM15 was one
RL> specific size. Haven't seen one in a coon's age, and would be surprised
RL> if you could still buy one.
RL> Should be pretty easy to set up a test fixture with an HT and diode
RL> detector to test for resonance. I'd guess you'd end up with leads just
RL> a bit longer than 1/4" on a more modern, physically smaller capacitor
RL> if 1/4" was right with the DM15.
RL>
RL> 73,
RL> Roy Lewallen, W7EL

Roy DM stands for dipped mica and the 15 stands for the voltage range.
These capitors are primarily used in oscilators and high freq. amps because
of their stability with temp. changes.

The DM15 is a modern cap and with the specified lead length they are probably
using it to make a series resonate circuit buy using the inductance of the
lead length.

73





THE CRANBERRY CAPITAL OF THE WORLD AND THE WANT TO BE TOWN
Michael.Lodico@dreamers.groupnet.org

... Press F1 to Reboot
* Evaluation copy of Silver Xpress. Day # 44
* Silver Xpress V4.01

4185. Re: WHAT TYPE OF CAPACITO

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <434d8v$j7g@newsbf02.news.aol.com>
Source record: 110694

In article <9509120448131507@dreamers.groupnet.org>,
michael.lodico@dreamers.groupnet.org (Michael Lodico) writes:

>Roy DM stands for dipped mica and the 15 stands for the voltage range.
>These capitors are primarily used in oscilators and high freq. amps
because
>of their stability with temp. changes.
>
>The DM15 is a modern cap and with the specified lead length they are
probably
>using it to make a series resonate circuit buy using the inductance of
the
>lead length.

Sorry, That's absolutely incorrect.

CM is millitary grade. DM is commercial grade. 15 is the case and lead style. Didn't my earlier post make it on?

The number following the DM or CM-xx is not necessairly the value with the last digit a multiplier. Let me post it one last time...

DM15 500 5% 500v is a commercial grade 500 pF 5% 500v part

CM10 would tell you it is the same physical size millitary grade part but with crimped leads. And it could be followed with a 500J03. In this instance it is a 50 PF (not 500) 5% -55 to 125 degree c, vibration grade tested between 10 and 2000 hZ.

If the three number value is followed by a tolerence code of D,K,J,G,F, or E the last digit is the multiplier. If it is NOT followed by one of those tolerance code letters the value is as printed. SO a cap marked 151 5% is a 151 pF. A cap marked 151G03 is a 150 pF.

The case size has NOTHING to do with any standard industry wide voltage or current rating.

There are more code letters also, but I think I've made the important points.

73 Tom

4186. Re: Coherent CW Library

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: JFM001@DENTAL3.AB.UMD.EDU
Message-ID: <9509121914.AA03511@comm1.ab.umd.edu>
Source record: 110695

To Ham Homebrew Recipients:

I am putting this information on here for any interested parties in building coherent CW equipment. I have a library in progress, currently consisting of about 200+ pages of information on building coherent CW items, schematics, etc. It will eventually contain over 400 pages of data. Most of the items are not spell checked or proof read as yet. I am looking other interested persons who would help in doing spell checks, grammatixs or callsign & name verification. Also the info is there for any interested parties to access.

The location of the library is Anonymous FTP at:
ftp.clark.net/pub/mcclun

You may leave me mail ONLY at mcclun@clark.net not via the .edu account. Those who are interested please take a look and let me know.
John <N3REY> If God's progression was from the least
of his creations to the highest of his
creations, why was Eve created last ? :-)

4187. Who was that masked man?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.4945.546@acenet.com>
Source record: 110696

A big thank you to whoever sent me the schematics in the mail for
doing a phone line "IN USE" LED circuit.
I really appreciate that. I'll have it working soon, thanks to you!
Sorry that I lost the envelope with your name and ham call on it,
and I hope that you read this note of thanks!
Best regards - Brian, AF4K

 SLMR 2.1a Is your computer too FAST? Type 'WIN' at the DOS prompt!

4188. MRF138 spice model ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.4946.546@acenet.com>
Source record: 110697

Kari? Spice models? Hmmmm...

SLMR 2.1a We landed on the moon while children starved.

4189. TIPS for Kraco CB to 10M Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: gene@eagle.csl.uiuc.edu
Message-ID: <gene.810918748@eagle.csl.uiuc.edu>
Source record: 110698

Someone ask about a schematic for a Kraco 4060 CB-unit. I don't have info on
that model, but I have some notes on Kraco KCB-4020 (AM 40-chan), and KCB-2320B
(AM 23-chan). Both use the same PLL-02A IC in the synthesizer system..... i.e.
divide-by-n (1 to 512). Exactly the same theory applies as was mentioned in the
earlier post (EASY CB-to 10M SSB). The same 10.695 MHz I.F. frequency is used..
the main difference is that the Midland used a reference of 40.210 MHz, while
the Kraco's use 40.960 MHz to down-mix the VCO frequency to the 2 or 3 MHz
range, suitable for div-by-n (512 to 1) to reach the phase-det ref of 10 KHz.
Again, on the PLL-02A, pins 7 thru 15 (activated when HI) yield divide-by:
512,256,128,64,32,16,8,2,1 in the same respective order. Dividing factor is
the sum of all the pin-values which are held HI (+5v).
The 23-chan Kraco only switches 5 lines. The 40-chan Kraco switches 7 lines,
while the Midland 40-chan switches 6 lines.
Incidentally, if you have schematics, you may not see those higher (40.210 or
40.960) indicated...they get their final "doubling" covertly in the VCO-Mixer
I.C. The 40.960 is four-times the 10.240 MHz Xtal, which conveniently mixes
with the upper I.F. freq of 10.695, to yield 455 KHz which is the 2nd I.F.
(used on RECEIVE ONLY). If you want to review the theory that was posted in
the earlier "EASY CB-to-10M SSB" post, I can E-mail you the files:
..... gene@uicsl.csl.uiuc.edu

--

Internet, BITNET: gene@csl.uiuc.edu

4190. WANTED TURNTABLE AND\OR AMP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: itd@saucer.cc.umr.edu
Message-ID: <43537i$a69@hptemp1.cc.umr.edu>
Source record: 110699

I need a belt-driven turntable with at least one weight control on the tonearm. Must have 33 and 45 RPM selector and would like to have 78 RPM selector if possible. Built in pre-amp or extrenal amp would be nice. If you have a only an amp or a truntable to sell, I still want to talk.

TRUNTABLE DOES NOT HAVE TO WORK!!! If there is a problem with the motor or needle, or something else easy to fix, I'll fix it.

I will pay shipping.

-itd@umr.edu
-Ian Downard

4191. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <433v38$et9@newsbf02.news.aol.com>
Source record: 110700

In article <tetrault-1109952302560001@brockway-d229.sierra.net>,
tetrault@sierra.net (Robert Tetrault) writes:

>Since triode have less gain, they are more tolerant of sloppy
>physical/electrical design.
>

Wait a minute. Triodes also have MORE feedback. I don't think that is a
valid general statement at all! Class A or AB triodes can have a BUNCH of
gain! Class C teterodes won't have nearly as much gain. There are dozens
of exceptions to that statement.

>One is also tempted to ask: if a single tube can provide the legal limit
>at or exceeding 400 Mhz, what are you doing with two?
>
Gee, wouldn't one 1500 be at the limit on 144 in class AB? They barely
make 1500 watts out on HF. I've never played with a 4CX1000 or 1500 on
144. Has anyone else?

Personally, I think a 4CX5000 is small. ;-)

73 Tom

4192. Re: KVG filters : where can I get them ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <43352a$pcg@news.azstarnet.com>
Source record: 110701

pskh@aol.com (PSKH) wrote:
>
>hi guys,
>
>
>Does any body know of a source of KVG filters for SSB receivers at a
>reasonable price. This is the spec of the filter that I am looking for
>
[snip]

>The KVG filters XF9B abd XF9B-10 fit in very well but I dont seem to get
>hold of these at a reasonable price.
>
>

I bought my XF9B a long time ago from Spectrum International. I don't know whether they still import them or not. You can try them at Box 1084, Concord, MA 01742 or (508) 263-2145.

Let us all know what you find out.

Regards,

Wes -- N7WS

4193. RF VTVM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: ultravis@ix.netcom.com
Message-ID: <4350n0$rdq@ixnews3.ix.netcom.com>
Source record: 110702

I've just been browsing the tuneup section of my ts52s manual and
noticed that it call for a RF VTVM for some calibration procedures and
was wondering if that was the same as reading on the ac scale or maybe
some sort of conveter can be made to simulate the same?
Thanks, Henry KE4WBW

4194. Re: Solid state convesions.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <4356cm$t24@newsbf02.news.aol.com>
Source record: 110703

In article <810835913.3009@pinetree.microserve.com>,
jackl@pinetree.microserve.com (WB3U) writes:

>Geez Gary, you're making a lot of assumptions about Pat's technical
>ability aren't you? Most tube designs aren't that difficult to

I'm probably OK in tech ability department. What I lack is endless hours,
and un interrupted weekends, nights, etc....

>substitute with solid state, as long as the overall plan for devices
>and circuits is laid out from the beginning.

My simplistic approach to designing the receivers (when I get the chance)
where I work is to start with a simple block diagram with gain / loss
numbers, power levels of noise in a given bandwidth and carrier levels at
each stage. I usally do the stages following the LN2 cooled optical
detector pre-amp. My part is making sure that the gain distribution looks
right, none of the mixers, limiters, or detectors are getting crunched at
high C/N ratios, and still have the discriminator be noise limited at low
C/N ratios, etc... These particular receivers don't have to deal with a
large dynamic range, only 60 dB max. Our particular application requires
very good C/N detector accuracy, and very low distortion FM detectors of
different bandwidths. RARELY use an AGC circuit. This is probably easier
that figuring out what stage gains are in the old 'B line.

>So what if the intrinsic value of the equipment is
>lost? These rigs aren't exactly rare, and besides, he didn't say he
>wanted to sell it when he was done.

I side with you on this point. The radio is a 1972 or so radio. All
things considered, I don't put a real high dollar value on it. Sell it?
I guess I'd sell anything if the price was right. Amost anything.

>Personally, I've always considered projects like the one he's
>describing to be an integral part of homebrew.

Gary and several others have pointed out that modifactions such as these,
and my particular approach is somewhat bass - acwards. Lower level,
oscillator, front end or mixer stages should be approached first. This is
good advice. If 6JB6 tubes ever become really extinct, and I don't know
that they're not now, then would be the time to solid state the final.
After re-thinking, I actually would hesitate to dig in and screw up what I
have now. If I should ever find another B-line at a good price (real
cheap or free) that is broken or in poor condition, I'd do that one first.
But for now, I think I'll stick to the first 37 projects on the list,
then, when one of them gets almost done, I'll dig into the B line.

Pat, KE1C

4195. Looking for PIN diode switching info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DErzI2.A71@sunsrvr6.cci.com>
Source record: 110704

I'd like to try pin diode switching in a homebrew 2-meter amp. Are there pin diodes that can handle 40 watts at that frequency? How about 150 watts? What are some part numbers used for higher power levels. The 95 ARRL Handbook shows an example of receive filter switching, but that's about it.

73...Jim N2VNO

4196. Preamps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: rod@border.com
Message-ID: <DEt8I1.u2@janus.border.com>
Source record: 110705

Help wanted - info on supply of designs/kits/parts for GaAsFET preamps.

Frequency range, 10m - 70cm.

Primary usage, amateur satellite reception (currently struggling
with 10m downlink - S3 best sigs to date on a hor. loop at 15 feet).

From what I have read, I ought to be able to build these
with relatively little degradation in noise factor from the
commercial jobs - but a lot less $$ (??)

Email response preferred - my NEWS server erases postings
very quickly.

Thanks, Rod Adkins, VE3INE

4197. Re: Rf link for Network

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <810946620snz@lfheller.demon.co.uk>
Source record: 110706

In article <199509120114.KAA26280@smug.student.adelaide.edu.au>
gumby@student.adelaide.edu.au "Myself" writes:

> I am after a schematic diagram for a rf link to be put into a network.
> Through put has to be over 1Mbaud and the output power has to be enough
> to be able to link up over 5 km.
> Any designs would nice .....

The 1993 ARRL Handbook has a high-speed microwave data link design.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

4198. Re: (HELP)CORE CHOICE FOR COIL DESIGN

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <432osg$cr@nnrp1.primenet.com>
Source record: 110707

Roy Lewallen (w7el@teleport.com) wrote:
: ; uid@ornl.gov writes:
: ; I am working on a radio design for thru the ground radio using coils as the
: ; receiver and transmitter antenna.
: ;
: ; I need a impedance matching transformer between the coil and the receiver. The
: ; problem is that I need a very high al value (Large amount of inductance).
: ;
: ; Powder Iron toroids are out of the question because of size. My other choice
: ; is a ferrite pot core made by Amidon which is type material 77. It is of the
: ; right size and will accommadate the windings. This material is primarally used
: ; at higher frequencies than the 31 KHZ I wish to use.
: ;
: ; Will this type of core material (type 77) cause excessive core loss (poor
: ; sensitivity due to core loss at receiver impedance match) at the frequency I
: ; wish to use on receive (31KHZ).
: ;
: ; If so, Then can you suggest another core manufactor and type material.
: ;
: ; Danny Britton
: ; QB7@ORNL.GOV

: The type 77 pot core is a good choice for this application. Use one which does
: not have a gap.

: Roy Lewallen, W7EL
: w7el@teleport.com

I would like to suggest that you use Litz wire to improve the Q of the coil.
Litz wire is composed of a number of single strands of enamled magnet wire,
covered usually with a cotton or silk sheath. It can be somewhat expensive,
but it is well worth the effort and cost.

Chris Trask / N7ZWY

--

Chris Trask / N7ZWY
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo--

4199. Radio for 9600 baud@UHF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-12 00:00:00 UTC
From: pbutlalj@ia.net
Message-ID: <4332ef$m0j@hera.ia.net>
Source record: 110708
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Hello Everyone,

I was wondering if there are any suggestions out there for which radios are easiest to convert to UHF 9600 baud packet radios. There are several people in the area that would like to get on the air and it has been a while since anyone purchased any commercial radios that got converted to this mode. Of course we are looking at inexpensive and reliable radios.

Thanks for any information that would be available out there.

--
Allan Butler KA0IES
ajbutler@ia.net

4200. urgent: need semiconductor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: Adnan Smajlovic <asmaj@gatewest.net>
Message-ID: <435nli$969@kynes.gatewest.net>
Source record: 110622

Please,
if anyone knows where to find 2SK291 write to me (asmaj@gatewest.net) or
directly to presstwra_zg@zamir-zg.ztn.apc.org.

Thanks.

Badly need this.

4201. turnstile antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: electron@rs6a.wln.com
Message-ID: <435kf3$efi@calliope.wln.com>
Source record: 110623

I'm interested in listening to the satelites with my scanner. The small whip on my scanner has a hard time picking up the birds. In an old issue of Science Probe (premier issure, Nov. 1990), An artical written by David A. Wolf mentions building a "turnstile antenna" using copper wire and pvc pipe. Complete construction details appeared in the next issue. The problem is, I don't have this issue!

Can anyone help me out?

Email to electron@wln.com or post here

Thanks in advance, Mike

4202. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: cunliffe@mail.eznet.net
Message-ID: <435liq$fp4@roch3.eznet.net>
Source record: 110624

w8jitom@aol.com (W8JI Tom) wrote:

>In article <tetrault-1109952302560001@brockway-d229.sierra.net>,
>tetrault@sierra.net (Robert Tetrault) writes:

>
>>Since triode have less gain, they are more tolerant of sloppy
>>physical/electrical design.
>>

>Wait a minute. Triodes also have MORE feedback. I don't think that is a
>valid general statement at all! Class A or AB triodes can have a BUNCH of
>gain! Class C teterodes won't have nearly as much gain. There are dozens
>of exceptions to that statement.

>>One is also tempted to ask: if a single tube can provide the legal limit
>>at or exceeding 400 Mhz, what are you doing with two?
>>
Where did you get that info from??
I have the EIMAC book in front of me and this tube is rated
for a maximum frequenzy of 110 Mhz at the max output.
Above that this tube has to be serverly derated and whoever
wants to run it will have quite a time with exessive heating
on 2m. The rated output power up to 110Mhz in class AB
RF linear amplifier is 1100 watts.
reference: EIMAC power grid tubes reference cataloge 489.
The only tube of this type to reach 450 Mhz is the 4cx1500BC
with coaxial socket.But even this tube has only a usefull power output
of 1100 watts .

>Gee, wouldn't one 1500 be at the limit on 144 in class AB? They barely
>make 1500 watts out on HF. I've never played with a 4CX1000 or 1500 on
>144. Has anyone else?

>Personally, I think a 4CX5000 is small. ;-)

>73 Tom
>

4203. vintage schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: dcadd@luc.ac.BE
Message-ID: <9509130851.AA05733@alpha.luc.ac.be>
Source record: 110625

Greetings, Robert, from a dry and cool Diepenbeek in N.E. Belgium!

I've just this last week had the 'Official 1934 Short Wave Manual' reprinted by Lindsay Publications, tel. 815/935-5353 (before 2pm central time) fax 815/935-5477. It's brilliant, and I think you'd appreciate their catalogue. That particular book is cat no. 4643 $15-95 and worth every penny. Don't know the shipping cost in the US, but Lindsay's service is first rate - I faxed my order with Visa number, and in four days INCLUSIVE the parcel was here in Belgium. Now that's service. They do books (old titles reprinted) on crystal sets, valve sets, Tesla stuff and a pile more. If you want to re-create radios from the 20s and 30s, Lindsay is the place to go.

Snail mail:

Lindsay Publications Inc.,
PO Box 538,
Bradley,
IL 60915-0538

73,

Duncan ON9CHU / G0UTY G-QRP 8117

4204. Vacuum Tube Specifications

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <43808s$36h@newsbf02.news.aol.com>
Source record: 110626

I have specifications sheets for tubes made by RCA, Tung-sol, and Sylvania tubes.

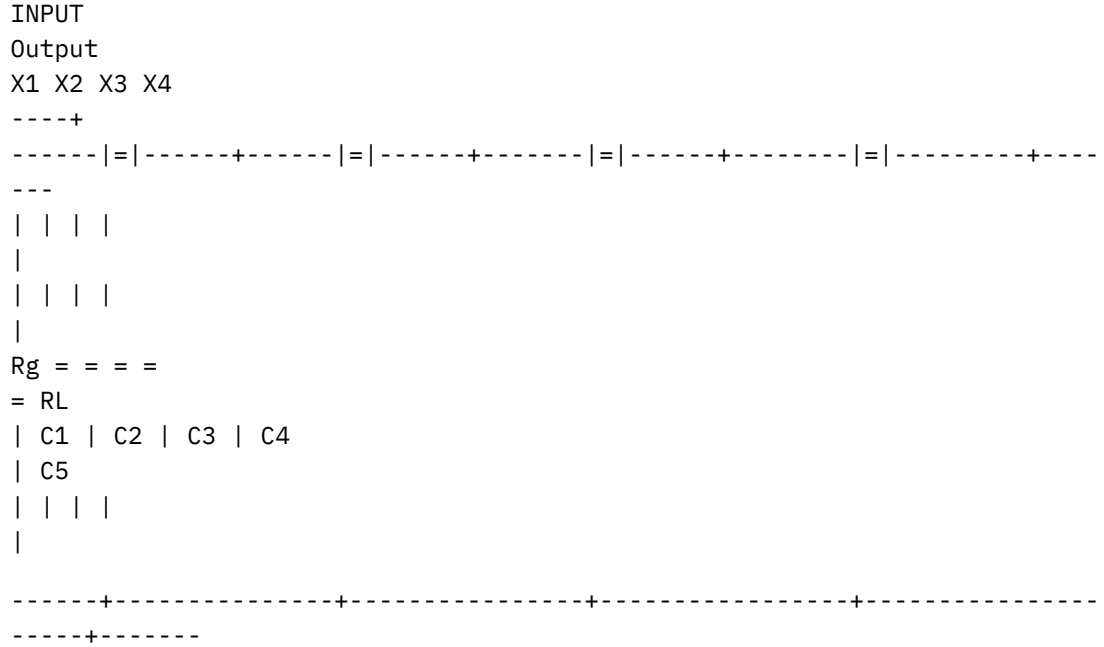
If you have a requirement let me know.

PDRUNEN@AOL.COM

4205. Homemade crystal filters for SSB ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: pskh@aol.com
Message-ID: <43828v$4at@newsbf02.news.aol.com>
Source record: 110627

Has anybody practical experience with home made 4 crystal ladder filters
for SSB ? This is what I am talking about:-



Let us assume the following :-

X1 to X4 are typical microprocessor crystals with a series resonant freq
of 8 Mhz
that have been matched to with 200 Hz of resonant freq

C1 to C5 are 100 pf each.

(I am fully willing to try different capacitor values, which will
probably change the
coupling and thus the filter bandwidths .)

My question is , is it possible to get a fairly decent SSB performace
from the above filter ?

Numerically
shape factor of better than 1:2.4
BW of around 2 .5 khz + - 400 hz
stopband attenuation of 40 to 50 db
passband attenuation of < 6 db or so

Qualitatively, Is it going to an usable and pratical SBB filter or is it
just another useless circuit used to clutter the radio handbooks etc.

I would appreciate any thoughts on the above

cheers

4206. Re: Rf link for Network

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: peter.presti@oip.gatech.edu
Message-ID: <peter.presti-1309951519270001@mac9.oip.gatech.edu>
Source record: 110628

gumby@student.adelaide.edu.au (Myself) wrote:

> I am after a schematic diagram for a rf link to be put into a network.
> Through put has to be over 1Mbaud and the output power has to be enough
> to be able to link up over 5 km.
> Any designs would nice .....

The 1994 ARRL Handbook describes a 4mbit link that uses Gunn diode microwave tranceiver. An ethernet card is used as the modem; the device plugs into the 15-pin media access connector. If anyone out there has more information on this, please post it. I'm very interested myself.

-Pete, n2oma

4207. Re: Help with new Pirate Radio in S. FL.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <438321$4k4@newsbf02.news.aol.com>
Source record: 110629

In article <437r7s$aa6@bud.shadow.net>, Victor DeVore <VictorD@Shadow.net>
writes:

>
>A friend of mine and I are going to start a radio station. We
>want to pump out about 15-20 Watts, or at least enough to get
>me 6-12 miles, VERY CLEARLY, and in Stereo. I will need an
>antenna too, and a power supply. As of now, Im looking at a
>new 15 watt stereo transmitter. It costs $469.00, but than I
>need to get a good antenna for $70.00, and then I need the
>power supply, for $60.00 (according to a buddy). Thats quite a
>bit of cash for a 15 watt signal. If someone has any help and
>suggestions, and especialy equipment, I would appreciate it.
>Please... no kits, Im not too good with that kind of stuff.
>
>--
>Victor DeVore

Victor,

I can give you the address of a place that sells equipment very cheap.
Write to my friend Bill English at Equipment Authorizations, Box 429,
Columbia, MD. 21045.

Be sure to put attn Bill English on the envelope, and enclose an SASE.
Just tell him what you want to do and that you are looking for some cheap
surplus equipment. They work out of a post office but you can trust them.
Their company has been dealing with radios for 60 or 70 years now. He'll
either handle your request or put you in contact with someone that can
take care of you.

Tom

Tom

4208. WTB: New or Used 6550/KT88's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: beard@acca.nmsu.edu
Message-ID: <437lsb$egt@bubba.NMSU.Edu>
Source record: 110630

I am looking for some used or new 6550's or KT88's for my stereo
amplifier. If you have any and are willing to sell or trade them
let me know and maybe we can work something out.
Thanks in advance...
David Beard
WA4QGA
(915)566-3525

4209. Re: turnstile antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep13.170449.12520@ke4zv.atl.ga.us>
Source record: 110631

In article <435kf3$efi@calliope.wln.com> electron@rs6a.wln.com (Mike Brothers) writes:
>I'm interested in listening to the satelites with my scanner. The small
>whip on my scanner has a hard time picking up the birds. In an old
>issue of Science Probe (premier issure, Nov. 1990), An artical written
>by David A. Wolf mentions building a "turnstile antenna" using copper
>wire and pvc pipe. Complete construction details appeared in the next
>issue. The problem is, I don't have this issue!
>
>Can anyone help me out?

A turnstile is a simple antenna, just two crossed dipoles mounted
a quarterwave above a groundplane (usually made from window screen
wire stretched on a frame). Two 1/4-wave sections of 75 ohm coax,
one to each dipole and joined by a coax Tee to a 50 ohm cable to the
receiver is how you feed it.

There are much better antennas. The popular eggbeater style is
better, a Lindenblad or a quadrafilar helix are better still
while still being omni-directional (and circularly polarized).
Steerable yagis are better yet. Cost and complexity rise with
performance, however, and the turnstile is one of the cheapest
and easiest antennas that will offer improvement over the scanner's
whip.

(All these antennas are described in "The Satellite Experimenter's
Handbook, available from the ARRL.)

For passes below 30 degrees above your local horizon, however,
a gain vertical antenna will outperform the turnstile. That's
because the turnstile has maximum gain straight up, where you
need it least because the satellite is closest to you at that
time. The vertical offers gain toward the horizon, where you
need it most because the satellite is furtherest from you at
that time.

Using both, and a coax switch to choose between them, is a
viable alternative for a manned receive site, or an automated
site with the coax switch driven by a timer. This type of
antenna arrangement is only suitable for the LEO birds. For
those in higher orbits, you need the extra gain of a steered
yagi or helix. Hand steering is viable in a manned station,
but automatic rotators are needed for an automated setup.

Your scanner's IF filters are too broad for best results,
but should suffice for most of the LEO birds. For the higher
orbit birds, you need a filter response tailored to the

power spectrum of the satellite's signals in order to have a good SNR. And an antenna mounted preamp will be a major boost if you have a long lossy feedline run. The preamp won't be a great help with an omni antenna that has Earth in it's main lobe, however, because the Earth's noise temperature will set a floor to the achievable SNR. An antenna with its main lobe excluding Earth can benefit much more from a low noise preamp.

Gary

--

Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4210. Re: 455KHz IF amp ICs: Any Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: "rocci@netaxs.com" <"Joe Rocci">
Message-ID: <436b1l$f1e@netaxs.com>
Source record: 110632

Just about any modern transistor or IC is going to have frequency response several orders of magnitude greater than 455 KHz.

Not to worry!

Take a hard look at the Motorole MC1350...it will give you just about 50 dB of gain with an untuned input and a single tuned output...very easy to handle, even without UHF construction techniques.

Joe
WA3CMQ

4211. 455KHz IF amp ICs: Any Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <435955$83a@nntp.Stanford.EDU>
Source record: 110709

I am looking for IF amp ICs for use at 455KHz which include gain control for AGC. Looking through the usual data books: Moto, Philips and the like, I have found lots of gain controlled amplifiers but they all have response from DC to daylight. I would rather not have to worry about UHF and microwave construction issues for a circuit at 455KHz!

Any ideas would help. I am looking for about 50dB of gain or so. More than one device is OK.

Thanks

Steve Muther WF6R

4212. ** FLEA at MIT ** Sunday 17 September Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: w1gsl@ATHENA.MIT.EDU
Message-ID: <436ipl$rrg@senator-bedfellow.MIT.EDU>
Source record: 110710
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics,ne.forsale,ne.general,rec.radio.amateur.homebrew

This comming Sunday ...

********* $1 buyers discount with hardcopy of this notice ********

COMPUTERS - ELECTRONICS - HAM RADIO - COMPUTERS - ELECTRONICS - HAM RADIO

FLEA all SUMMER at MIT
September 17th, 1995
9AM-2PM

Come to the city for a great flea - plenty of free parking.

MIT's electronics and ham radio flea will take
place on the third Sunday of each month this summer,
April thru October.

There is tailgate space for over 600 sellers and
free, off-street parking for >1000 cars!

Buyers admission is $2 (you get $1 off if
you're lucky enough to have a copy of our ad)
and sellers spaces are $10.00-each at the gate.

The flea will be held at the corner of Albany and
Main streets in Cambridge; right in the Kendall
Square area from 9AM to 2PM, with sellers set-up
time starting at 7AM.

!! RAIN or SHINE !! Have no fear of rain, a covered
tailgate area is available for all sellers (6'8" clearance).

Talk-in: 146.52 and W1XM/R-449.725/444.725 (PL 114.8/2A).

Sponsors: MIT Electronics Research Society
MIT UHF Repeater Association (W1XM)
MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

********** $1 buyers discount with hard copy of this notice ************

****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

4213. Re: Seeking Info on Short-Range (8-9 ft) RF Data Links

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: sarness@ibm.net
Message-ID: <4365pp$43qt@news-s01.ca.us.ibm.net>
Source record: 110711
Cross-posted to: comp.robotics.misc,sci.electronics,rec.radio.amateur.homebrew

>Exar I've heard of but not Holtek, although I had forgotten Exar until now.
>Does anyone have contact info easily at hand for:
> Holtek
> Exar
>
>Or if there are other outlets for hobbyists, I'd appreciate those. Some of the
>parts houses here in Dallas are sticky about non-large corporate buyers of
>prototype quantities. It didn't use to be that way, but it is getting harder.
>
>Thanks for your response, and thanks to several other people. I'm seeing
>several good responses outlining approaches I had not considered.

A good source for some inexpensive RF is Electronics 123, there number is
818-913-6735. They have a real inexpensive RF transmitter and reciever
boards, they also handle all of Holteks chips.

If anyone has a short range RF transmitter, (1-2ft), I would like to imbed a
coax wire in the ground for a vehicle to track. I have found 50Mhz on foil
shield wire make a good antena but range is to far, (30+ft).

Any help would be appreciated, must be within FCC guidlines.

Mail at sarness@ibm.net

4214. Beeper as Repeater monito

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.4955.546@acenet.com>
Source record: 110712

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

WO> My brother gave me the old beeper he used to use for his business. It
WO>Uniden is a u. It's operation freq. is 152.480 Mhz. The crystal is changeabl
WO>putIf I o, if I put a 144.xxx Mhz crystal in it can I use it to monitor a
WO>repeater? Do I have to make nany other changes?
WO>-WaiWong

Contact a crystal supplier and give them the make and model number.
They can MAYBE help you. You will also need to remove the "tone guard"
circuitry so that it can monitor regular transmissions. I think you
have a MAJOR project on your hands! In case you need the list, here is
where to buy crystals and call for such advice:

Sources for crystals used in amateur radio:
List by AF4K, Updated May 21, 1995

Antique Radio Classified 508-371-0512 Write for free sample.
P.O. Box 802 Magazine. You'll find almost ANYTHING here
Carlisle, MA 01741 for older radios, obscure parts, tubes etc.

Cal Crystal Waiting for more information
Buena Park or Anaheim (not sure which)
California
They will MAKE rocks for almost anything.

Cathodeon Crystals, Need phone number
A PYE Group Company
Linton,
Cambridgeshire
England (Need postal code) Crystals

Crystek Crystals 800-237-3061
2351/2371 Crystal Drive
Ft. Myers, FL 33907 Quartz Crystals

CW Crystals Inexpensive, but SLOW to respond.
570 N. Buffalo Street
Marshfield, MO 65706 (Crystals, $1.00 catalog)

Debco Electronics 800-423-4499
Address needed Crystals for $1.25 and up - catalog.

International Crystal Mfg Co. 405-236-3741
10 North Lee Street Crystals!
Oklahoma City, OK 73102

ICM (International Crystal Manufacturing Co., Inc.) 800-426-9825
P.O. Box 26330: 701 W. Sheridan
Oklahoma City OK 73126-0330

JAN Crystals 800-526-9825: 813-936-2397
P.O. Box 06017: 2341 Crystal Drive: Crystals
Ft. Myers, FL 33906-6017

LESMITH CRYSTALS (905) 844-4505
54 Shepherd Rd, Fax = (905) 844-2274
Oakville, ON
L6K 2G5
CANADA Crystals for amateur radio. VISA & MC OK.

MDM radio (708) 848-4210
Address needed FAX = (708) 848-0230.
Channel Elements for commercial 2-way radios.

Petersen Radio Co. (712) 323-7539
2735 Avenue "A"
Council Bluffs, IA 51501 Crystals

Ryan Communications 412-368-3859
BOX 111E Camelot Road (QRP CW transmitter, ready made,)
Portersville, PA 16051 (and transmitter kits, crystals)

Velco Electronics (716) 924-2073
Address needed (716) 924-2136 = FAX
Crystals

C. W. Wolf Communications (406) 252-9220
Address needed FAX = (406) 252-9617
Channel elements for commercial 2-way radios.

I hope this helps you!

This list was prepared by AF4K, Brian Carling - Updated May 21, 1995
Please send additional sources for inclusion in this list.
If you go to a hamfest and see someone selling crystals, please
get a card and send me their name, address and phone number.

#####
#########
@)(@ CQ CQ CQ, from Radio AF4K in Gaithersburg, MD
#C# _> brian.carling@acenet.com
\ ___/ /
| / __/
/ \ / //
/ \/ //

• SLMR 2.1a • I'm donating my body to science fiction!

4215. Re: 455KHz IF amp ICs: Any Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <436ndg$s5q@news.azstarnet.com>
Source record: 110713

stevem@w6yx.stanford.edu (Steve Muther) wrote:
>
>I am looking for IF amp ICs for use at 455KHz
>which include gain control for AGC. Looking through
>the usual data books: Moto, Philips and the like, I
>have found lots of gain controlled amplifiers but
>they all have response from DC to daylight. I would
>rather not have to worry about UHF and microwave
>construction issues for a circuit at 455KHz!

snip

Steve,

I think you will be hardpressed to find a device with
low bandwidth these days. There would be a rather limited
market for such a device. I have had good luck with MC1590s
at 9 MHz and I don't see a reason to expect otherwise at 455 KHz.
Regardless of the device type, if you are going to have >50 dB
gain in an amplifier, you must be concerned with following
good design and layout practice. This is particularly the case
if you are including crystal or mechanical filtering and expect
to realize the ultimate stopband attenuation these filters can
provide.

Regards,

Wes -- N7WS

4216. WTB RDF/direction finding equip/parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: fishern3485@cobra.uni.edu
Message-ID: <1995Sep13.125210.48793@cobra.uni.edu>
Source record: 110714

I'm trying some new ideas in RFD and need some difficult-to-find
electronics...

selsyn/synchro pair, 60 cycle, 120vac.

sin/cos potentiometers, or sin/cos rom or eprom

A/D and D/A converter ICs, at least 7 lines of binary (128 count)

360deg (no stops) potentiometers, with tapering in at least 350deg
of the rotation

Also interested in used/broken/other misc direction-finding gear
you might have laying around the shack... (L-pers, SuperDFs, etc)
Any freq range OK, I'm trying to learn more than apply.
(although would like to see something for 10m OTHER THAN a loop)

THANKS!

--
Nathan Fisher
N0ZYC
FISHERN3485@COBRA.UNI.EDU

4217. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <4379a5$epb@news.iadfw.net>
Source record: 110715

Geez. This whole thing is getting away from Dave's original question: Can he use a pair of 1500B's in push pull. I still maintain that push pull is a good way to build a diathermy machine or a RF induction heater. But not a good way to build an amplifier for amateur radio service.

4218. Looking for Novell trade!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: darryl.linkow@ledge.com
Message-ID: <8B10231.01B5001557.uuout@ledge.com>
Source record: 110716

Hello all and thanks for reading this. A couple of weeks ago I was negotiating a trade for an Icom 2 Meter All-Mode rig. The person who had the rig was interested in the Novell NetWare 4.02 that I have in trade for his radio and we are amidst negotiating when I didn't hear back from him. If you are that person, please Email me and let's put together a trade.
Regards,
Darryl Linkow KE6IHA
Email: darryl.linkow@grinder.com
OR
darryl.linkow@ledge.com

---
* OLX 2.2 * Darryl Linkow (818)346-5278 9 am - 5 pm PDT

4219. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <437i3q$p3g@newsbf02.news.aol.com>
Source record: 110717

In article <4379a5$epb@news.iadfw.net>, jfriley@iadfw.net (J. Fred Riley) writes:

>
>Geez. This whole thing is getting away from Dave's original question:
>Can he use a pair of 1500B's in push pull. I still maintain that push
>pull is a good way to build a diathermy machine or a RF induction
>heater. But not a good way to build an amplifier for amateur radio
>service.

Gosh Fred. Why not? I think it would be fine in a single band amp. Why would it be better for diathermy or induction heating? 73 Tom

4220. Re: Looking for PIN diode switching info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: cunliffe@mail.eznet.net
Message-ID: <436uvs$mpc@roch3.eznet.net>
Source record: 110718

jdc@cci.com (James D. Cronin) wrote:

>I'd like to try pin diode switching in a homebrew 2-meter amp. Are there
>pin diodes that can handle 40 watts at that frequency? How about 150 watts?
>What are some part numbers used for higher power levels. The 95 ARRL
>Handbook shows an example of receive filter switching, but that's about it.

>73...Jim N2VNO

Try a UA 4001 this one can handle around 1kw on 2m with cooling and is
available from Unitrode
Aslo macom has some nice PIN diodes that can do everything from 1mw to
3 Kw on 2m

4221. TV Converter Schematic for Spectrum Anal.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: Mark Hillier <Mark@HVWTech.com>
Message-ID: <437mtp$fm@stills.pubnix.net>
Source record: 110719

I am in need of a schematic for a cable TV converter. Any make, any model. I need this for a project which involves using one of these in a spectrum analyzer.

Any help appreciated. I will, of course, be more than happy to cover anyone's costs involved in helping out.

Thanks,

Mark
VE2HVW
Mark@HVWTech.com

4222. Help with new Pirate Radio in S. FL.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: Victor DeVore <VictorD@Shadow.net>
Message-ID: <437r7s$aa6@bud.shadow.net>
Source record: 110720

A friend of mine and I are going to start a radio station. We want to pump out about 15-20 Watts, or at least enough to get me 6-12 miles, VERY CLEARLY, and in Stereo. I will need an antenna too, and a power supply. As of now, Im looking at a new 15 watt stereo transmitter. It costs $469.00, but than I need to get a good antenna for $70.00, and then I need the power supply, for $60.00 (according to a buddy). Thats quite a bit of cash for a 15 watt signal. If someone has any help and suggestions, and especialy equipment, I would appreciate it. Please... no kits, Im not too good with that kind of stuff.

--
Victor DeVore

DeVore Consulting

VictorD@Shadow.net
VictorD@Megaweb.com
VicDeVore@Aol.com

http://www.shadow.net/~victord/devore1.htm

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4223. urgent: need semiconductor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-13 00:00:00 UTC
From: Adnan Smajlovic <asmaj@gatewest.net>
Message-ID: <435nkc$969@kynes.gatewest.net>
Source record: 110721

Please,
if anyone knows where to find 2SK291 write to me (asmaj@gatewest.net) or
directly to presstwra_zg@zamir-zg.ztn.apc.org.

Thanks.

Badly need this.

4224. Re: September 95 CD-ROM Released

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: brian@synapse.net
Message-ID: <437s2l$cca@sentinel.synapse.net>
Source record: 110633
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

bob@ultranet.com (Bob Levine) wrote:
>In article <42o96k$3ka@newsbf02.news.aol.com>, headshrnkr@aol.com proclaims...
>>
>>May I ask why you needed to SPAM this ad across 4 boards? One posting
>>would have really been fine, ok?
>>
[lengthy sig deleted]
>>Bruce J. Howes
>>HeadShrnkr@aol.com
>
>I dont consider this a spam at all. Actually they are all places
>where people who might get benefit from this fine product can be
>found and they might appreciate knowing where they can get this
>CDROM.
>

I agree. On the other hand, replying in *10* newsgroups to a post on 4 does
strike me as spamming.

Brian VE3BGB

4225. SSB Power control for the Kenwood TS 440S

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: "Gary KF9CM"
Message-ID: <437rgi$sck@sake.wwa.com>
Source record: 110634

AS AN OPERATOR OF THE KENWOOD TS440S HF TRANSCEIVER, I HAVE FOUND
THAT CONTROL OF THE SSB POWER FROM THE FRONT PANEL WOULD
SIMPLIFY THE OPERATION OF THE TRANSCEIVER. THEREFORE, I HAVE
DESIGNED AND INSTALLED A MODIFICATION ON MY RIG AND WOULD LIKE TO
SHARE THIS IMPROVEMENT WITH OTHER OWNERS OF THIS PIECE OF
GEAR. ON THE FOLLOWING IS A DETAILED DESCRIPTION OF THAT
MODIFICATION.
----------CUT----------

KENWOOD TS-440S SSB CONTROL

WITH THE FRONT PANEL CARRIER CONTROL KNOB

THE KENWOOD TS440S HF TRANSCEIVER IS PROBABLY ONE
OF THE BEST ALL AROUND RIGS FOR MOBILE OR PORTABLE
OPERATION, AS WELL AS A GREAT BASE RIG. WHILE THE
KENWOOD TS 440S IS A GREAT LITTLE RIG, IT DOES LACK
A FEW OF THE IMPROVEMENTS THAT THE ARE STANDARD IN
THE OTHER RIGS. ONE SUCH IMPROVEMENT IS CONTROL OF
THE SSB OUTPUT FROM THE FRONT PANEL. BEFORE THIS
MODIFICATION THE ONLY WAY TO ADJUST THE SSB OUTPUT
WITH OUT AN EXTERNAL CIRCUIT WAS TO DISASSEMBLE
THE BOTTOM HALF OF THE CASE AND ADJUST VR1 (ALC).

ALTHOUGH THIS IS A VERY SIMPLE MODIFICATION IF YOU ARE
NOT COMFORTABLE AT WORKING ON ELECTRONIC CIRCUITS DO
NOT ATTEMPT THIS MODIFICATION.

THIS MODIFICATION INVOLVES JUMPERING THE CATHODE OF D48
TO THE ANODE OF D51 ON THE IF BOARD.

1. REMOVE TOP COVER EXPOSING THE I.F. BOARD

2. LOCATE J28. IT IS A TWO (2) PRONG PLUG VECTORED
APPROXIMATELY 2 INCHES FROM THE BACK OF THE I.F.
BOARD AND IN THE CENTER OF THE BOARD. D48 IS
LOCATED JUST TO THE RIGHT OF PLUG J28.

3. NOW LOCATE J19. IT IS VECTORED APPROXIMATELY TWO (2)
INCHES FROM THE FRONT AND IN THE CENTER OF THE BOARD.
D51 IS LOCATED IN BACK OF PIN #8 COUNTING FROM THE LEFT.

4. PREPARE A FIVE INCH PIECE OF #22 HOOKUP WIRE BY STRIPPING
AND TINNING THE ENDS OF THE WIRE APPROXIMATELY ONE FORTH
OF AN INCH ON ONE END, ONE EIGHT OF INCH ON THE OTHER.

5. CAREFULLY APPLY SOLDER TO THE TOP OF D51.

6. CAREFULLY SOLDER THE ONE EIGHTH INCH END OF THE PREPARED WIRE TO TOP OF D51.

7. GENTLY FORCE THE OTHER END OF THE WIRE INTO THE TOP OF PIN #1 OF J28. PIN #1 IS THE ONE ON THE LEFT OF THE PLUG.

8. REASSEMBLE THE COVER.

WITH THIS MODIFICATION YOU CAN SOLDER THE WIRE TO THE FOILS ON THE BOTTOM OF THE I.F. BOARD, BUT IT REQUIRES UNPLUGING ALLOT OF PLUGS FROM THE I.F. BOARD.

WARNING: ALTHOUGH THE SWR PROTECTION CIRCUIT IS STILL IN PLACE, THIS MODIFICATION CAN PRODUCE POWER OUTPUTS THAT CAN EXCEED 180 WATTS AND DAMAGE THE FINAL TRANSISTORS SO BE CAREFUL!

"73" FROM KF9CM
GARY L. GILES

P.S. You can direct your questions to
turtle@wwa.com

4226. Re: 455KHz IF amp ICs: Any Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <437sdt$jjq@hg.oro.net>
Source record: 110635

stevem@w6yx.stanford.edu (Steve Muther) wrote:

>I am looking for IF amp ICs for use at 455KHz
>which include gain control for AGC.

There is this wonderful device called a bipolar transistor...and you ought to be able to get a stable 50 dB with two devices. Try the 2N5770 (dime substitute for the 2N918). The GB product peaks at about a mil or so, and forward AGC bias is usually a good thing with either of these puppies.

Mouser Electronics (Santee CA) sells 455 kc IF transformers for a buck or so in onsie-twosies.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net ARS WB6BHI CFI A&G / Comml Inst A&G / A&P / C-182A N73CQ

4227. Re: Seeking Info on Short-Range (8-9 ft) RF Data Links

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <437s46$jjq@hg.oro.net>
Source record: 110636

rmore30042@aol.com (RMore30042) wrote:

>In the 8 - 9 foot range you will find that infrared communications is far
>superior. It is a simple matter to use commonly available IR detectors
>(they cost around $2.50) and LEDs to transmit serial data. With checksums
>and an ACK NAK protocol this can be very reliable and really inexpensive.

I've been playing around with this concept to transmit voice (POV)
between two headsets or between a headset and the instrument panel for
a few months now with mixed results. The problem stems from the fact
that She built the human head with such amazing rotational and
translational versatility, that when the pilot turns around to look at
who urped up on the back seat, (s)he loses all contact with the IR
detector. Multiple IR detectors are OK, but not many people want to
rip the airplane headliner apart to put them hither and yon about the
aircraft. Phasing them also becomes an interesting task. And, of
course, the folks with canopies open to full sunlight present just a
bit of a more challenging problem.

I've also tried radio links (remembering that the whole headset-link
has to sell for under $100) and unless one uses rather sophisticated
RF filtering techniques, harmonics from the 10 watt 118-137 MHz.
aircraft com transmitter on chosen frequencies blow the link away --
not good when the link is also the modulation for the com transmitter!
If it isn't a direct harmonic, crossmod and desense will play games
too.

All in all, it is one of the more challenging tasks I've undertaken in
the last 30 years at this game. Any observations?

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net ARS WB6BHI CFI A&G / Comml Inst A&G / A&P / C-182A N73CQ

4228. Re: Homemade crystal filters for SSB ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4387fv$d96@news.azstarnet.com>
Source record: 110637

pskh@aol.com (PSKH) wrote:
>
>
>Has anybody practical experience with home made 4 crystal ladder filters
>for SSB ? This is what I am talking about:-
[unreadable stuff deleted]

[other parameters deleted too]

>Numerically
>shape factor of better than 1:2.4
>BW of around 2 .5 khz + - 400 hz
>stopband attenuation of 40 to 50 db
>passband attenuation of < 6 db or so
>
This should be possible. There have been several articles in QST over the
years on ladder filters. Try researching them. I have dabbled with some
designs a 9 MHz. As I see it, the major problems with the ladder configuration
are lack of symmetry and the fact that the impedance is not an independant
variable.

>Qualitatively, Is it going to an usable and pratical SBB filter or is it
>just another useless circuit used to clutter the radio handbooks etc.
>
One could argue that with your minimal requirements, it tends toward the
useless at least in a receiving application <g>. Fine for transmitting tho...

>I would appreciate any thoughts on the above
>
>
>cheers

Likewise

4229. Re: Ramsey Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: tom_maszerowski@mc.xerox.com
Message-ID: <NEWTNews.811037843.31957.tom_masz@agi1.mc.xerox.com>
Source record: 110638

In article <1995Sep8.180429.17006@ke4zv.atl.ga.us>, <gary@ke4zv.atl.ga.us>
writes:

> Folks, if you're going to build transmitters, look at the kit
> suppliers as convienent one stop purchasing agents, but know
> enough about design and testing to correct their errors and
> tune up their designs properly, just as if you were working
> from scratch. If all you know is how to follow directions in
> a manual, you'll likely end up in deep doo.
>
> Gary
> --
> Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
> Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
> 534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
> Lawrenceville, GA 30244 | |
>

But the Ramsey kit _seems_ to offer a functional 2M transceiver for MUCH less
money than even a cheap HT, this makes it very attractive to folks without a
lot of money to spend! I might build one but I have ready access to the test
equipment to make sure it's legal though I would probably do so even if I did.
I'm currently studying for the license exams and when I look at the prices for
some of the 2M equipment I have to admit I'm a little put off. Is there a
low-buck alternative (after all 50% off an expensive radio still may not be a
bargain for some) ?

Tom

4230. fm am transmiter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: scott@ascot14.ho.att.com
Message-ID: <DEvMKo.497@nntpa.cb.att.com>
Source record: 110639

could someone please send me plans or where i could get plans for
a small fm or am transmiter

thanks
--
<---- ----_---- ----=---- ----+---- ----=---- -----^---- ----\\|//---->
Scott o + + o
scott@ascot14.ho.att.com \ ! /
\=/

NEVER TRY TO TEACH A PIG TO SING, IT WAISTS YOUR TIME AND ANNOYS THE PIG

4231. Re: Simplex Repeater -- Questionnaire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: gamma7@ix.netcom.com
Message-ID: <4399u3$4nv@ixnews7.ix.netcom.com>
Source record: 110640
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <43864a$o90@hg.oro.net> rst-engr@oro.net (Jim Weir) writes:
>
>RST Engineering has been producing aircraft electronic kits (avionics)
>for about twenty years. So far as I know, with the one abortive
>attempt by Heathkit to market a strobe light, we are the only maker of
>avionics kits in the world.
>
>We have just completed design, test, and final test of our first
>amateur radio product -- a digital voice simplex repeater. The device
>is simple in concept but took about three months of design and
>"tweaking" to get it just right. It is small, just about the size of
>a typical mobile 2-meter rig and will make ANY transceiver with
>microphone input and headphone/speaker output into a repeater.
>Amateur radio, aircraft radio, public service radio all make no
>neverminds to us -- all we care about is audio in and audio out.
>
>Since a lot of the amateur transceivers bring out 5 volts at 50 mA or
>so to the microphone connector to run a DTMF (Touchtone) pad, we can
>steal enough power from the transceiver to run the simplex repeater.
>And a few of the transceivers (at least the Kenwoods) bring headphone
>audio to the microphone connector so that a single cable from the
>simplex repeater to the transceiver is all that is necessary for
>complete operation. Well, an antenna and a power source for the
>transceiver would help.
>
>The basic operation is an audio (voice) detector that turns on a
>digital voice storage chip when audio from the headphone line is
>present. When the audio goes away, the detector turns on the repeat
>function of the storage chip and keys the transmitter until the voice
>chip has repeated back into the transceiver's microphone input all the
>voice (up to sixteen seconds) that it heard. The storage chip then
>resets itself and waits for the next voice detect.
>
>By using the CTCSS function of your transceiver, if it has one, you
>can privatize the thing most any way you wish. There is an optional
>added board (for money, of course) that will not only repeat the
>voice, but store it in an electronic "voice mailbox" that can be
>replayed any time you wish by the use of DTMF (Touchtone) tones as
>well as DTMF control of the basic repeater.
>
>We had originally thought to market the thing in prewired format, but
>a couple of folks asked me why we didn't do it in kit. I didn't have
>an answer, as the thing is only a few ICs and a half-hundred discrete

>parts -- all through-hole, no surface mount. Calibration is nothing
>more than setting the microphone level.
>
>If you wouldn't mind, email (or answer in a reply post) the answers to
>some questions. If you answer the last question "no" I assure you
>that you will not become part of some monster mailing list somewhere.
>All you get for a "yes" is to be put on our mailing list and sent one
>of our brochures. (Yes, yes, we are working on a home page so that
>you can download all this stuff and pretty colored GIF files too, but
>patience, brother, patience.)
>
>1. Does a simplex repeater interest you for a basic price of
>somewhere around $100?

Sure Does
>
>2. Does the addition of a "mailbox" and DTMF control of the basic
>repeater and mailbox interest you at a price of $200?

Maybe $150
>
>3. Considering that we are estimating our cost of assembling the unit
>at $25 each, does offering a KIT of the basic repeater at a price of
>$75 or the upgrade machine at $150 interest you? (Each one of the
>boards plus any chassis wiring is about 8 hours per board. Our
>instructions are excellent.)
>

Yes
>4. This design is pretty well "frozen". However, are there any
>features you might like to see added to future generations of this
>design?

Sounds like you have it covered
>
>5. When you buy stuff mail-order do you usually use email, phone, or
>snailmail (no 800 number, sorry)?

Phone
>
>6. Same question, but do you usually pay by check or plastic?
>
Plastic - Always!

>7. If email and plastic, does the perceived "intercept" of your
>credit card number bother you? How do you deal with it?

Yes, I never order anything over the net with a credit card.
>
>8. Would you like to be placed on the RST Engineering mailing list
>(no, we don't give our list to anybody else)?

Sure - WB8NUT - Callbook address
>
>Jim
>
>
>
>Jim Weir VP Engineering | "We seem to be standing on
>RST Engineering | the foreskin of technology."
>Grass Valley CA 95945 | (Gen Chuck Yeager)
>voice/fax 916/272-1432 |
>rst-engr@oro.net ARS WB6BHI CFI A&G / Comml Inst A&G / A&P / C-182A
N73CQ
>

4232. High current PSU's - for free.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Sep14.125823.110266@ucl.ac.uk>
Source record: 110641

I have sitting by my desk a 5V, 220A PSU. It's switched-mode, regulated, with an adjustment to set the voltage. 230V AC in gives 5V DC out. It's designed to fit in a piece of equipment, so has no meters, but has logic outputs for over-voltage etc. There is also a 5V, 150A PSU and a 5 & 12V PSU of unknown current rating, but as it draws a maximum of 250VA from the mains, that should give some idea.

I acquired these with the intension of using as a heater supply on some valves, but deceided perhaps a 40A heater (5.5 ~ 6.3V) transformer would be better - if I could find one. Any offers most welcolm!

If anyone wants the power supply(ies), please let me know. Otherwise they will be thrown in a skip. I dont want anything for them. They are ex-equipment, and I have no idea if they work, but all look fine, except the 5V, 150A unit which shows a sign of over-heating at some time.

I've tried to dispose of these through the University. If anyone there wants em, they will get first choice, but otherwise first come, first served - although anyone offering a heater transformer might just jump the queue!

They will have to be picked up in person. I've no intension of shipping them anywhere.

Dave Kirkby G8WRB,
Dept. of Medical Physics,
Univesity College London,
11-20 Capper St,
London WC1E 6JA.
Tel (until 18th Sept) 0171-380-9700 Fax 0171-380-9577
Tel (after 18th Sept) 0171-209-6262 Fax 0171-209-6269

4233. Re: RF VTVM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: gc@universe.digex.net
Message-ID: <439eim$obc@universe.digex.net>
Source record: 110642

In article <4350n0$rdq@ixnews3.ix.netcom.com>,
Guy Scott <ultravis@ix.netcom.com> wrote:
>
> I've just been browsing the tuneup section of my ts52s manual and
>noticed that it call for a RF VTVM for some calibration procedures and
>was wondering if that was the same as reading on the ac scale or maybe
>some sort of conveter can be made to simulate the same?

You need to know the specifications of the meter you are using.

Some meters have good RF specifications. For example, an HP-410
is rated for measuring AC voltages up to 700MHz. If you have
one of them, just read from the AC scale. Most meters don't go
anywhere near that high a frequency. Upper limit of frequency
response may be 10's of kHz or MHz.

For some meters you can buy an RF probe. For example, Fluke
sells an RF probe accessory to use with their DMMs. Off hand, I don't
remember the frequency response.

gc

4234. Re: WTB RDF/direction finding equip/parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Sep14.105517.371@nad.com>
Source record: 110643

In article <1995Sep13.125210.48793@cobra.uni.edu>, fishern3485@cobra.uni.edu (Nathan Fisher) writes:
> I'm trying some new ideas in RFD and need some difficult-to-find
> electronics...
>
> selsyn/synchro pair, 60 cycle, 120vac.
>
> sin/cos potentiometers, or sin/cos rom or eprom
>
> A/D and D/A converter ICs, at least 7 lines of binary (128 count)
>
> 360deg (no stops) potentiometers, with tapering in at least 350deg
> of the rotation
>
Instead of going the analog route, why not try to get your hands on an optical incremental shaft encoder. The quadrature TTL outputs are easily decoded with a shift register and a few gates or a prom. Or you can use a processor. Syncro's, Selsyns, resolvers and pots are all analog systems which are heavy, and noise and drift prone.

Many rotary incr encoders have 1 sync mark per rev to allow you to initially set 0 degrees. A common 200 count/rev encoder will yield 1/800 rev in resolution. We used to use these for absolute position sensing of Bridgeport CNC milling machines X/Y/Z axis position. Shaft encoders wer mounted on DC servo moters which drove recirculating ball-nuts thru a zero backlash toothed belt drive. System position resolution was about .00039" as I recall.

I can probably dig up some of the info for the quadrature decoder and position loop that I designed if you're interested, although it's been almost 20 years.

Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

4235. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: sherwood@oribi.cig.mot.com
Message-ID: <439n0m$qp3@newdelph.cig.mot.com>
Source record: 110644

I read in the VHF/UHF Manual that push pull is the prefered way to build a vhf amp. Push pull is limited to single band but for vhf that is usually all you can do anyway. Its been a while since I read this, but I remember the primary reason for using a push pull configuration is because the tube capacitance in divided in half, making it easier to make a vhf amp. I think this affects circuit Q. I think the push pull also has lower harmonics.

my two cents worth.
chuck sherwood
sherwood@cig.mot.com

In article <4379a5$epb@news.iadfw.net> jfriley@iadfw.net (J. Fred Riley) writes:
>Geez. This whole thing is getting away from Dave's original question:
>Can he use a pair of 1500B's in push pull. I still maintain that push
>pull is a good way to build a diathermy machine or a RF induction
>heater. But not a good way to build an amplifier for amateur radio
>service.
>

--
Chuck Sherwood
sherwood@cig.mot.com
708-632-7078

4236. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: tetrault@sierra.net
Message-ID: <tetrault-1409951102530001@brockway-d228.sierra.net>
Source record: 110645

In article <435liq$fp4@roch3.eznet.net>, cunliffe@mail.eznet.net (John R. Cunliffe) wrote:

> >In article <tetrault-1109952302560001@brockway-d229.sierra.net>,
> >tetrault@sierra.net (Robert Tetrault) writes:
>
> >
> >>Since triode have less gain, they are more tolerant of sloppy
> >>physical/electrical design.
> >>
>
> >Wait a minute. Triodes also have MORE feedback. I don't think that is a
> >valid general statement at all! Class A or AB triodes can have a BUNCH of
> >gain! Class C teterodes won't have nearly as much gain. There are dozens
> >of exceptions to that statement.

Historically, judging from innumerable ARRL Handbook examples, particularly those having to do with linear amplification, triodes do not exhibit the power gain that tetrodes do, witness their (triodes) application with grounded grid design, cathode driven, that typically end up requiring 65 to 120 watts drive for 1000 to 1500 out.
The example cited in my original posting bears scrutiny before the rebuttals fly. The tube data is admittedly not from EIMAC, but that self-same Handbook, whose tube data has not changed for nearly a generation (probably not a typo, but they could be wrong...).
The amplifiers described are functioning units...at 144.

> >Gee, wouldn't one 1500 be at the limit on 144 in class AB? They barely
> >make 1500 watts out on HF. I've never played with a 4CX1000 or 1500 on
> >144. Has anyone else?

Again, check the Handbooks cited.

4237. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43a3st$mjt@newsbf02.news.aol.com>
Source record: 110646

In article <tetrault-1409951102530001@brockway-d228.sierra.net>,
tetrault@sierra.net (Robert Tetrault) writes:

Hi Bob,
I understand what you are saying and what caused your opinions. Let me point out what is missing from the information you are relying on. You certainly put the data together in a logical way, so it noone can question or critique your logic. But I do think you were misled by the source you depended on.

>Historically, judging from innumerable ARRL Handbook examples,
>particularly those having to do with linear amplification, triodes do not
>exhibit the power gain that tetrodes do, witness their (triodes)
>application with grounded grid design, cathode driven, that typically end
>up requiring 65 to 120 watts drive for 1000 to 1500 out.

Sure, but that is incomplete amplifier data. For example is the amp grounded grid? If so gain has nothing to do specifically with the tube being a triode or tetrode. In that case gain is determined by the ratio of cathode driving impedance to the anode operating load impedance. In other examples:

A non-grid current producing grid driven linear triode (or tetrode) amplifier has a control grid drive power requirement of zero watts! The only power required is to overcome small dielectric and resistive losses in the tube and associated external grid circuitry.

But a triode has much more grid to anode coupling. So if the gain in class A or AB1 is even close to the same, and the feedback in the tube is not properly compensated for, the triode will be less stable than the tetrode. Not only that, but the compensation is much more subject to error if the initial internal feedback is large, as it is with a triode!

A triode is much more critical to neutralize than a tetrode. Since all class AB2 amplifiers become class A when the drive power is reduced, this stability problem can be evident in class AB2 and other class amplifiers (even when they are on the border of class B, or in class C amplifiers that use grid leak bias). The amplifier has to be stable under zero drive conditions (where any operating class may change to class A). As a matter of fact the gain increases in a grounded grid amplifier when drive is reduced because of the increased anode operating impedance!

In other class of amplifier examples (now drawing grid current), the drive power requirements of a class AB2 triode are usually larger than requirements of an AB2 tetrode or pentode. Yet the unwanted feedback is MUCH higher in the triode. The result is added feedback from lack of

internal tube shielding generally makes triodes much less stable than a tetrode or pentode in the same circuit, even though the teterodes have much more gain.

>The example cited in my original posting bears scrutiny before the
>rebuttals fly. The tube data is admittedly not from EIMAC, but that
>self-same Handbook, whose tube data has not changed for nearly a
>generation (probably not a typo, but they could be wrong...).
>The amplifiers described are functioning units...at 144.
>

I sighted specific examples either way, and that's where generalized statements like "triodes are less critical for circuit layout than tetrodes because they have less gain" become problems. To be true, that general statement would require so many qualifications it would fill several pages.

Another problem is evident when I looked in the ARRL Handbook. The data is corrupt.
For example, they show a 8875 as having a 27 watt drive power requirement at 550 watts output at 2000 volts in AB2. If you look at the Key to Class of Service, this is listed as class AB2 push pull modulator service, yet that data is close to typical AB2 grounded grid specs and miles from the push pull AB2 audio data!

Briefly glancing at one page of the Handbook, I found errors in 811A., 8873, 8874, 8875, 3-500Z, and 8877 data. That's in six out of 21 tubes on one page, and I didn't even look closely!

>> >Gee, wou

4238. Re: Homemade crystal filters for SSB ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <811109587snz@lfheller.demon.co.uk>
Source record: 110647

In article <43828v$4at@newsbf02.news.aol.com> pskh@aol.com "PSKH" writes:

> Has anybody practical experience with home made 4 crystal ladder filters
> for SSB ? This is what I am talking about:-

I've built a couple of ladder filters for SSB Rxs and they seem to work quite well. A good source of information is "W1FB's Design Notebook" published by the ARRL. The last two chaps. are reprints from QST. You will get *much* better results with 6 or 8 xtals, although the filter I built with 4 was quite usable. I used a different design technique, which was published in the RSGB's RadCom a few years ago, which uses different C values, rather than having them all the same. This design lets you trade off bandwidth and I/O impedance. I've just found the details in my notebook:

```
----- X ------ X ------ X ------- X ------
| | | | |
C0 C1 C2 C1 C0
| | | | |
----------------------------------------
```

Cap. coefficients are:

C0 = 0.4142 C1 = 1.82 C2 = 2.828

For SSB X should be between 8 and 10 MHz (Z = 800R - 1K).

To calculate the caps. multiply the coefficients by 1/(2*PI*f*R) where f = xtal. freq. in Hz, R = I/O impedance in ohms. I keep meaning to do some experiments with some of the test equipment we've got at work, to see which is best. The above circuit needs good matching for the I/O impedances, I think ladder filters are much more critical than lattice filters in this respect.

73, Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

4239. Request for Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: kuehn@hera.cc.bellcore.com
Message-ID: <43a7sd$rj4@hera.cc.bellcore.com>
Source record: 110648

I want to build a varacter tripler to triple a 5 watt.
signal from 2M to 70cm. Any help on locating suitable
varacter diode and the supplier for it ?

- thanks in advance.

4240. Re: 4CX1500B push-pull amplifer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-1409951514260001@204.94.234.244>
Source record: 110649

In article <439n0m$qp3@newdelph.cig.mot.com>, sherwood@oribi.cig.mot.com
(Charles A. Sherwood) wrote:

> I read in the VHF/UHF Manual that push pull is the prefered way to build a
> vhf amp. Push pull is limited to single band but for vhf that is usually
> all you can do anyway. Its been a while since I read this, but I remember
> the primary reason for using a push pull configuration is because the
> tube capacitance in divided in half, making it easier to make a vhf amp.
> I think this affects circuit Q. I think the push pull also has lower
> harmonics.
>
> my two cents worth.
> chuck sherwood
> sherwood@cig.mot.com

Yes, it is the preferred way in some applications to build a vhf amp
because it tends to halve the tube capacitances. There are other ways to
deal with the C, which the referenced Handbook amp used, though I can't
recall what it was, and if I go look it up, I'll lose my connection...
And the push-pull also cancels even order harmonics, which may be academic
if the single ended design is done right, though I note your orgs hybrid
amps for CATV and cellular are universally push-pull for those reasons.
Push-pulls can be built for multiband, classically (at HF) using plug-in
coils, perhaps you could build one using some humongous double pole switch
to bring in the inductors (don't key it while switching...).
The complexities of the mechanical design requirements make me prefer to
build two in parallel; a rigorous parallel design can make the even order
harmonic advantage that push-pull designs have an academic point.

rst, ex WB6BXU

4241. custom crystal suppliers besides ICM, JAN?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-1409951613000001@burdick.interval.com>
Source record: 110650

I heard there may be less expensive alternatives to ICM and JAN for custom crystals. There was mention of a manufacturer in San Diego. Any infomation would be appreciated.

Wayne,
N6KR

burdick@interval.com

4242. help with DTMF reciever project

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: mattcrw17@aol.com
Message-ID: <43ab9a$p6o@newsbf02.news.aol.com>
Source record: 110651

I would really appreciate any help or info on this project. Maybe somebody here has built something similar to this, and could E-mail me tips or schematics but do not post for my benefit because I do not frequent this group.

Okay, I need a DTMF pad hooked up to a inexpensize short range transmitter walkie-talkey, homebrew,or somthing like that. I need to have my reciever fire a relay or solenoid or something when the proper 4 digit code is entered. P.S. must be portable (DC) My problem is I have little expertise, but I could have somebody build it properly if it is too involved. Tips on where to salvage circuts from for this are also appreciated.

Thanx. E-mail me

4243. Re: building basic SWR meter with coax strip, diode, etc ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: keithm@happy.dca.gov.au
Message-ID: <keithm.69.3058B541@happy.dca.gov.au>
Source record: 110652

In article <1995Sep8.181450.17115@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>From: gary@ke4zv.atl.ga.us (Gary Coffman)
>Subject: Re: building basic SWR meter with coax strip, diode, etc ?
>Date: Fri, 8 Sep 1995 18:14:50 GMT

>In article <810508544.27683@pinetree.microserve.com>
>jackl@pinetree.microserve.com (WB3U) writes:
>> VE4KLM <slmusr03@MBnet.MB.CA> wrote:
>>
>>>Can some one give me a basic schematic or details on how to make
>>>a basic SWR meter that I can use for 2 meters and 30 meters ?
>>>
>>>The one I am looking for is made using a strip of coax, diodes, and
>>>a few other miscellaneous parts. I heard about this on a local net,
>>>but the details were not given, and no one seems to know who brought
>>>it up in the first place.
>>
stuff clipped...

late 60's etc editions of ARRL VHF Handbook
include a description of a VHF version of the
Monimatch called (I think) Minimatch.

Difference being length of the piece of coax.

As noted in a previous post, VSWR is a relative
measurement, so it seems to work.

Regards

Keith G Malcolm
VK1ZKM

4244. Need advice on amp building

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: sherwood@oribi.cig.mot.com
Message-ID: <sherwood.811087229@oribi>
Source record: 110653

People,
I need some help. I have always wanted to build an amp. I have ran
across a supply of tubes and would like some opinions.

One is the 4-1000. This seems like an old reliable tube. There are many
articles to copy. However it is 30 year old technology(I have a construction
article for a 3-1000 in a 1964 handbook), so I'm wondering if I should
consider the ceramic tubes.

I can also obtain 4cx3000As. All the information I have is 10 pages from
the data book. Can this tube be ran grounded grid and grounded screen
like the 4-1000? The application notes only talk about grid driven.

I can deal with solid state supplies, but I'm pretty lost trying to build
a 500 volt regulated supply for the screen. Can anyone help me out here?
Seems to me that a grid bias supply is also required.
How about overcurrent sensors? Are they also required for grid and screen?

Assuming that this tube must be used grid driven, how critical is the layout?
Will it be a power oscillator without super critical shielding?

It appears to me that the 4cx3000 will be a lot more work. Since it would
be ran at considerably less than it capable of, maybe its not worth all
the extra work. Opinions please?

chuck sherwood
sherwood@cig.mot.com
--
Chuck Sherwood
sherwood@cig.mot.com
708-632-7078

4245. Re: Seeking Info on Short-Range (8-9 ft) RF Data Links

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: raest@lys.vnet.net
Message-ID: <43amus$l6m@lys.vnet.net>
Source record: 110654
Cross-posted to: comp.robotics.misc,sci.electronics,rec.radio.amateur.homebrew

You could use an IR arrangement, just use a white ceiling to bounce the light off. It works with my remote. You might have to increase the IR leds a bit, but it should work.

Digikey sells some 300 MHZ transmitters/receivers. They seem intended for remote unlocking of things, but you can use them as a regular serial stuff.

I have a set that I am trying to use to sned data on my hot tub to my PC, I haven't gotten far with it though...

MArk

4246. Military receivers and trans for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: kevindeal@aol.com
Message-ID: <43anr5$1b0@newsbf02.news.aol.com>
Source record: 110655

The following is a list of military transimitting equipment. The BC
191's of course have 4 211/VT4C
each. Three of the four in each one look new, and I had planned to take
them all out. So bid without those
tubes included. If you want tomake an offer with the tubes left in,
include that as well as a bid without
them.

BC191E with TU-6B which tunes from 3000-4000 KC (hard to find)

BC191F with TU5N which tunes from 1500-3000KC (also hard to find)

T-20 in black tunes from 3-4

T-20 in silver tunes from 5.3-7

The next three are in a single rack. They have transformers on the rear of
each that unplug leaving the
original socket.

R-24 marked MT-7 tunes from .52-1.5 three antenae jacks black in color.

R-24 marked Western Electric BC-455B tunes 6-9.1 silver in color.

R-24 marked Western Electric BC-453B tunes 190-550 KC silver in color.

R-24 black tunes .52-1.5 this one is in it's own single rack. Has a
removable transformer on the back
which would leave it with the original socket

Radio receiver BC966A

Radar unit SN36A (I know nothing about this thing)

Wireless set No 19 MK II supply unit No 1

e-mail private or call (909) 982-2386

4247. Re: Need advice on amp building

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <439ihn$hgo@newsbf02.news.aol.com>
Source record: 110656

In article <sherwood.811087229@oribi>, sherwood@oribi.cig.mot.com (Charles A. Sherwood) writes:

>
>People,
>I need some help. I have always wanted to build an amp. I have ran
>across a supply of tubes and would like some opinions.
>
>One is the 4-1000. This seems like an old reliable tube. There are many
>articles to copy. However it is 30 year old technology(I have a
construction
>article for a 3-1000 in a 1964 handbook), so I'm wondering if I should
>consider the ceramic tubes.

The 3-1000 and 4-1000 are reliable tubes but are a tad unstable unless you are careful. The self neutralizing frequency is pretty low in both tubes because of the long grid leads and grid structure. The 811A, 572B, 3CX1200A7 and D7 fall in this class also.

>I can also obtain 4cx3000As. All the information I have is 10 pages from
>the data book. Can this tube be ran grounded grid and grounded screen
>like the 4-1000? The application notes only talk about grid driven.
>
That isn't a good choice for grounded grid. The control grid will likely "hog current". Adding grid and screen voltage will help, even if the tube is still cathode driven. A much cleaner and nicer grounded grid tube of that general dissipation is the 3CX3000A7 or F7.

>I can deal with solid state supplies, but I'm pretty lost trying to build
>a 500 volt regulated supply for the screen. Can anyone help me out here?

They are a pain at times. I use a shunt regulator with HV transistors and operate the source from two times the desired voltage (or more) through a series resistor. That limits the dissipation to the standing dissipation of the regulator.

>Seems to me that a grid bias supply is also required.
>How about overcurrent sensors? Are they also required for grid and
screen?
>

Some dissiaption limiting method is ALWAYS required, unless you are a fool. Stiff voltage regulation is also required, except for the CB band ;-) where splatter doesn't matter.

>Assuming that this tube must be used grid driven, how critical is the
layout?

>Will it be a power oscillator without super critical shielding?
>

You can use a parallel NON-INDUCTIVE grid swamping resistor and drive the grid. The value of the resistor for a class AB1 amp is given by the formula (Eg sqrd) over 2Pd. Where Eg is the bias voltage and Pd is the drive power available. So with 300 volts of bias and 100 watts of drive the grid resistor should be...(300x300) over (2x100) or 450 ohms.

This stabilizes the circuit, but you should still use good techniques like grounding the tuning and loading caps to common sheet metal with the socket (do not ground to front panel), keeping leads short, and grounding the screen well for RF. If you don'r swamp the grid heavily you need to neutralize the PA.

>It appears to me that the 4cx3000 will be a lot more work. Since it would
>be ran at considerably less than it capable of, maybe its not worth all
>the extra work. Opinions please?
>
By the time you are done with the screen supply, the bias supply, the expensive socket, and the rest of the messing around it is generally cheaper to buy a new 3CX1200Z7 or 3CX3000F or H7. If the grids are directly grounded in these tubes (zero lead length to chassis) they are totally stable without no external supression in good layouts. They require no expensive sockets or collets, they drive with 100 watt exciters, and provide excellent IMD performance.

>chuck sherwood

73 Tom

4248. Bugs & Transmitters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-14 00:00:00 UTC
From: Mark@netman2.csd.plym.ac.uk
Message-ID: <Mark-1409951116300001@arc.csd.plym.ac.uk>
Source record: 110657

Can anyone out there supply me with / point me in the direction of microtransmitter plans available over the net. Any help greatly appreciated.

EMail me: martins@netman2.csd.plym.ac.uk

4249. Re: Radio for 9600 baud@UHF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep15.164541.22032@ke4zv.atl.ga.us>
Source record: 110572
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In article <4332ef$m0j@hera.ia.net> ajbutler@ia.net writes:
> I was wondering if there are any suggestions out there for which
>radios are easiest to convert to UHF 9600 baud packet radios. There are
>several people in the area that would like to get on the air and it has
>been a while since anyone purchased any commercial radios that got
>converted to this mode. Of course we are looking at inexpensive and
>reliable radios.

You want the Tekk KS-900. It's designed for 9600 baud data, and it's cheap.
Or you can use the Kantronics D4-10. It's also designed for 9600 baud data,
but not quite so cheap. Or you can butcher an old Micor or Mitrek, though
opening up the IF bandwidth is not trivial if you want good performance.

QST says that of the Japanese radios you want an all-mode since
they usually avoid the synthesizer loop bandpass problem by
modulating an IF stage. They also raved about a new, and expensive,
Azden that's designed for 9600 baud data and FM voice.

Most of the Japanese radios advertised as "9600 baud ready", aren't.
That's just advertising copy, not engineering. It usually means they
put a jack on the back labeled "data", but didn't do any of the
bandpass modifications necessary to properly handle 9600 baud, IE
phase linearity sucks. A case in point is the Kenwood 733. While many
have tried to use them at 9600 baud, the BER is disappointing. And QST
gagged over a couple of Icom models too.

You want a direct FM radio, preferably crystal controlled or IF
modulated, with a receiver IF filter that's gentle and fairly
broad in order to have a reasonable phase response. IF filters
generally suffer severe phase linearity problems near their edges,
so you need a filter that's broader than the modulation would indicate
in order to stay near the filter center and avoid the phase errors
out at the edges. A 30 kHz bandpass seems to work well for 9600 baud.

Unfortunately, SNR and adjacent channel rejection suffer with the broad
gently sloped filters, so you'll need more than expected signal strength,
and a greater guard band, in order to get through with a low BER. This
is a result of the decisions made for the modulating signal in order
to use it through voice grade FM radios. There are much better modulation
forms that could be used with purpose built radios. An example is the
MSK used with the 56kb RF modem. More nearly ideal filters can be used
with this modulation than with the K9NG/G3RUH modulation, but voice
grade FM radios can't be used with MSK so you need purpose built
data radios.

Interestingly, QST found that *overdeviating* the voice grade radios often resulted in lower BER at 9600 baud. This is contrary to the experience with 1200 baud where low deviations generally work best, IE 3 kHz instead of 5 kHz works better for 1200 baud. It may be that a form of limiting occurs in the non-linear IF filters of voice grade radios with hot 9600 baud modulation which sidesteps some of the phase linearity problem. If you try this, watch total occupied spectrum, however, to make sure you stay within the limits for the band you are using, IE don't try this at 2 meters.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4250. Re: Ramsey Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: Mike.Czuhajewski@bbs.abs.net
Message-ID: <1995Sep14.222146.5646@abs.net>
Source record: 110573

Ramsey and spurs and harmonics? A friend once built one of their 40 meter QRP transmitters. I tested it on a $5,000 communications monitor and it showed that the second harmonic was 20 dB down from the fundamental, clearly contrary to FCC rules. I later verified that figure with a $10K comm monitor, and later with a $25K Hewlett-Packard spectrum analyzer. The pi net filter was a simple 3 element design, with odd component values to boot. (All component values were correct, ie, they had the proper parts in the kit--I verified actual values.) Instead of letting him put the rig on the air as-is, I tacked on an additional filter in series with the existing one, and the output is now much cleaner, with the second harmonic about 51 dB below the fundamental at a very small cost in added insertion loss. Moral--if you build a Ramsey QRP transmitter, you might want to have someone check the spectrum if they have the equipment. I don't know if this problem appears in other bands, but it certainly exists in the 40M version unless they made design changes in the last 2 years.

4251. Re: 455KHz IF amp ICs: Any Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: augxt01@nt.com
Message-ID: <augxt01-150995115530@47.226.128.146>
Source record: 110658

In article <43a505$dn8@mksrv1.dseg.ti.com>, bdbh@mimi.itg.ti.com (Geoff Schecht) wrote:

> In article <435955$83a@nntp.Stanford.EDU>,
> stevem@w6yx.stanford.edu says...
>
> The MC1590 and its cheaper cousin, the MC1350 from
> Motorola have been around about 25 years and will do
> what you want to do very nicely at 455kHz. Philips and
> Plessey have some newer, lower power/noise parts but
> the Motorola IF amps are cheap and available.
>
> 73's
>
> Geoff NQ7A

Available from where, one would ask? Not only are they 25 years old, they haven't been manufactured for years either.

_____
| Garry Taylor Nortel Aust. Pty. Ltd. |
| 5/380 St Kilda Rd. |
| EMAIL:augxt01@nt.com Melbourne 3004 |
|_____|

4252. Re: Looking for old QST articles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: Mike.Czuhajewski@bbs.abs.net
Message-ID: <1995Sep14.222710.5646@abs.net>
Source record: 110659

Someone recently recommended the ham library room at Maryland Radio Center in Laurel, MD as a good source for checking out old QSTs, etc. Sadly, the libary is toast--the store will be moving to a nearby building in the next many months, and there will be no room for the library. The owner has made arrangements to give it to a ham club in Baltimore, BARC I believe, which will eventually make it available to the ham general public. It is slated to be removed from the MRC premises on the 16th of Sept.

4253. Was Re: Ramsey Kits, now modified commercial gear

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: faunt@netcom18.netcom.com
Message-ID: <FAUNT.95Sep14204258@netcom18.netcom.com>
Source record: 110660

While I think modified commercial gear is probably a good thing, it's somewhat less accessible to most of us, because we have no history with it. For instance, I have no idea which GE radios are easy to convert, and which aren't. Same goes for Motorola. I mean, Micor, Motran, Mitrek, etc. mean nothing in themselves, and even less when I'm looking at a radio at a swap meet. In some cases, I can't even tell if I've got all the pieces.

There's been lots of good information put forth here, and on the land-mobile mailing list, but you people who know the details need to put together a FAQ about all of this. The information is out there, and it dribbles in from time to time, but it needs to be put together.
Thanks and 73,
doug

4254. FT-2200

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: wa5dxp@mail.sstar.com
Message-ID: <43ausc$8p9@tetsuo.communique.net>
Source record: 110661

Anyone out there know the mod to open the Yaesu FT-2200 up?

Thanks

4255. Re: Seeking Info on Short-Range (8-9 ft) RF Data Links

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: <>
Message-ID: <43bkqu$mnk@news.onramp.net>
Source record: 110662
Cross-posted to: comp.robotics.misc,sci.electronics,rec.radio.amateur.homebrew

In <30574c4e.0@news.palm.cri.nz>, pharris@hort.cri.nz (Phil Harris) writes:

>There is a company called RF Monolithics in Dallas, Texas

Sounds perfect for what I want... will check them out. They are just
down the street from me.

-Jeff

4256. Re: Need advice on amp building

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Sep15.104321.89183@ucl.ac.uk>
Source record: 110663

In article 811087229@oribi, sherwood@oribi.cig.mot.com (Charles A. Sherwood) writes:
>
> People,
> I need some help. I have always wanted to build an amp. I have ran
> across a supply of tubes and would like some opinions.

You lucky fella!! Want to share em???

> One is the 4-1000. This seems like an old reliable tube. There are many
> articles to copy. However it is 30 year old technology(I have a construction
> article for a 3-1000 in a 1964 handbook), so I'm wondering if I should
> consider the ceramic tubes.

> I can also obtain 4cx3000As. All the information I have is 10 pages from
> the data book. Can this tube be ran grounded grid and grounded screen
> like the 4-1000? The application notes only talk about grid driven.

I've no idea, but the data sheet would surely say? If not, I assume its not
reccomended. The 'typical operation' section usually tells you this.

> I can deal with solid state supplies, but I'm pretty lost trying to build
> a 500 volt regulated supply for the screen. Can anyone help me out here?
> Seems to me that a grid bias supply is also required.
> How about overcurrent sensors? Are they also required for grid and screen?

You need to be able to sink and source current on the screen supply. John Nelson
GW4FRX shouws in the VHF/UHF DX book (DIR Publishing), how to do it for
4CX250/350 screen supplies
of either 300 or 350V. I've built a shunt stabilier using a rather expensive
high voltage/high-pwer FET. It works, but it not quite good enough yet for me to
be willing to advise you copy it exactly. That provided -325V, for a grounded screen
amp, to put -325V on the cathode, with the screen earhted.

> Assuming that this tube must be used grid driven, how critical is the layout?
> Will it be a power oscillator without super critical shielding?
Assuming you take reasonable precautions - ie put the grid and anode in different
compartments, I doubt you should have any problems, but I've never used the 4CX3000.
I've no idea of your frequency of interest, so cant comment much.

> It appears to me that the 4cx3000 will be a lot more work. Since it would
> be ran at considerably less than it capable of, maybe its not worth all
> the extra work. Opinions please?

Does the 4CX3000 need a special base ? If it does, and you dont have it, that might
be a deceiding factor. Bases usually cost much more than the valves, and are
much less easily available on the surplus market.

There was a circuit in some earlier (1991 for sure, probably others too) ARRL handbooks for a grounded screen, signle 4CX1000A. That might be worth looking at, since it does not require an expensive socket with a built-in screen decoupling capacitor, it can save a lot of money. I've tried to build an amp with a pair of 4CX1000A's in push-pull, grounded screen, using home-made bases. However, making bases is not easy! Its very time consuming, unless you happen to be an expert on a lathe and milling machine - which I'm not. However, it can be done, and can save you a small fortune.

dave kirkby G8WRB.

4257. Re: Ramsey Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: gamma7@ix.netcom.com
Message-ID: <43c0s1$ja3@ixnews3.ix.netcom.com>
Source record: 110664

In <NEWTNews.811037843.31957.tom_masz@agi1.mc.xerox.com>
tom_maszerowski@mc.xerox.com writes:
>
>
>In article <1995Sep8.180429.17006@ke4zv.atl.ga.us>,
<gary@ke4zv.atl.ga.us>
>writes:
>
>> Folks, if you're going to build transmitters, look at the kit
>> suppliers as convienent one stop purchasing agents, but know
>> enough about design and testing to correct their errors and
>> tune up their designs properly, just as if you were working
>> from scratch. If all you know is how to follow directions in
>> a manual, you'll likely end up in deep doo.
>>
>> Gary
>> --
>> Gary Coffman KE4ZV | You make it, |
gatech!wa4mei!ke4zv!gary
>> Destructive Testing Systems | we break it. |
emory!kd4nc!ke4zv!gary
>> 534 Shannon Way | Guaranteed! |
gary@ke4zv.atl.ga.us
>> Lawrenceville, GA 30244 | |
>>
>
>But the Ramsey kit _seems_ to offer a functional 2M transceiver for
MUCH less
>money than even a cheap HT, this makes it very attractive to folks
without a
>lot of money to spend! I might build one but I have ready access to
the test
>equipment to make sure it's legal though I would probably do so even
if I did.
>I'm currently studying for the license exams and when I look at the
prices for
>some of the 2M equipment I have to admit I'm a little put off. Is
there a
>low-buck alternative (after all 50% off an expensive radio still may
not be a
>bargain for some) ?
>
>Tom
>

>

Yes there is! Ten-Tec has a real nice 2 meter transceiver kit for just a few bucks more. Digital read out, nice case, and complete and ready to go. Call Ten-Tec for their catalog.

Regards,

Duffy - WB8NUT

4258. Re: turnstile antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: Collier_Chun@ccm.hf.intel.com
Message-ID: <43c2lb$h4b@ornews.intel.com>
Source record: 110665

In article <1995Sep13.170449.12520@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us says...
>In article <435kf3$efi@calliope.wln.com> electron@rs6a.wln.com (Mike Brothers) writes:
>>by David A. Wolf mentions building a "turnstile antenna" using copper
>>wire and pvc pipe. Complete construction details appeared in the next
>>issue. The problem is, I don't have this issue!
>A turnstile is a simple antenna, just two crossed dipoles mounted
>a quarterwave above a groundplane (usually made from window screen
>wire stretched on a frame). Two 1/4-wave sections of 75 ohm coax,
>one to each dipole and joined by a coax Tee to a 50 ohm cable to the
>receiver is how you feed it.

One additional note: the two dipoles are fed out of phase to induce circular polarization. The rotational polarization can be switched by determining which antenna has the longer feedline to the tee.

>There are much better antennas. The popular eggbeater style is
>better, a Lindenblad or a quadrafilar helix are better still
>while still being omni-directional (and circularly polarized).
>Steerable yagis are better yet. Cost and complexity rise with
>performance, however, and the turnstile is one of the cheapest
>and easiest antennas that will offer improvement over the scanner's
>whip.

My observations verify this; the turnstile worked much better than the terrestial whip. Another possibility is the egg beater antenna, which is (I think) vertically polarized on the horizon, and circular in the vertical direction. Lindenblads, like the turnstile, are easy to build as "PVC specials". I build a 300-ohm TV twinlead-based turnstile for the whopping cost of about $10. Quadrafilars are more difficult to build.

>For passes below 30 degrees above your local horizon, however,
>a gain vertical antenna will outperform the turnstile. That's
>because the turnstile has maximum gain straight up, where you
>need it least because the satellite is closest to you at that
>time. The vertical offers gain toward the horizon, where you
>need it most because the satellite is furtherest from you at
>that time.

This is true. The biggest improvement I noticed was the elimination of cross-polarization fading while the satellite was well-above the horizon. Fading, of course, led to fading ripples in my imaging. I figured that for the interim, I was interested in seeing images of myself, so horizon fading was acceptable.

4259. Re: Need advice on amp building

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <818821495wnr@ifwtech.demon.co.uk>
Source record: 110666

In article: <1995Sep15.104321.89183@ucl.ac.uk> davek@medphys.ucl.ac.uk (Dave Kirkby) writes:

: You need to be able to sink and source current on the screen supply. John Nelson
: GW4FRX shouws in the VHF/UHF DX book (DIR Publishing), how to do it for
: 4CX250/350 screen supplies
: of either 300 or 350V. I've built a shunt stabilier using a rather expensive
: high voltage/high-pwer FET. It works, but it not quite good enough yet for me to
: be willing to advise you copy it exactly. That provided -325V, for a grounded screen
: amp, to put -325V on the cathode, with the screen earhted.

The active shunt regualtor design shown in Figure 11.2 of the book is "plug and play" for either + or - output, because the whole thing is powered from the HV supply itself. The two power FETs are IRF840P and cost about $5 each.

One FET is the shunt stablilizing element, while the other is a constant-current source from the unstablilized HV supply. The constant-current FET requires very little "headroom" voltage, improves the regulation and makes the whole unit virtually short-circuit-proof.

I do strongly recommend an active screen stablizer such as this. Instead of struggling to make the regulation good enough using VR tubes or zeners, an active regulator actually gives far better regulation than the tube needs. You can then afford to add series resistances like meter shunts, parasitic stopper chokes etc, and still have good-enough regulation at the screen terminal where it matters.

Some time ago I modified the Fig 11.2 circuit to incorporate an opto-coupled screen current trip circuit inside the voltage feedback loop. It's helped keep the pair of 4CX250BMs running at 1kW out on 432 for several years with no signs of distress. The screen current trip is very valuable because it protects against almost anything that can go wrong with a tetrode.

"In beta" is a new version configurable for + or - 250 to 600V stabilized output. It also includes the opto-coupled current trip protection. I'd like to write it up for a magazine, but am waiting until I've had some feedback from real users. There are several copies of the board masks and alignment notes already out there, but up to now all the prospective testers have got diverted to other projects.

If anybody is *definitely* going to be building a screen regulator
right now, and would like to field-test this circuit, please
let me know.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

4260. Re: 455KHz IF amp ICs: Any Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: kirkland@bnr.ca
Message-ID: <43c7cs$fde@bcarh8ab.bnr.ca>
Source record: 110667

The MC1350 is readily available, Electrosonic, Active Electronics (both in Canada) and any of the main electronic stores in the states, e.g. Jameco and DigiKey to name two. Although the MC1590 is still in Motorla data books it seems to not be readily available as is the surface mount version of the 1350.

>> The MC1590 and its cheaper cousin, the MC1350 from
>> Motorola have been around about 25 years ....
.
.
>
>Available from where, one would ask? Not only are they 25 years old,
>they haven't been manufactured for years either.

4261. Re: Looking for old QST articles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: faunt@netcom15.netcom.com
Message-ID: <FAUNT.95Sep15105614@netcom15.netcom.com>
Source record: 110668

In that area, there's an Antique Electronics Museum next to the BWI Marriot in Linthicum(sp) that has a very good library, incuding QST and other ham mags. One of the local clubs meets there, also.
73, doug

4262. *SPAM APOLOGY*

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: cleopatra@cyberden.com
Message-ID: <166977501.11567001@cyberden.com>
Source record: 110669

Cleopatra records would like to express a public apology for the "SPAHN RANCH" Spam sent out over various newgroups. It was a misguided but well intentioned effort of a new and over zealous intern, who now has had his/her access to the companies email account revoked. We are sorry for the disruption to the newsgroups and Cleopatra wishes to be a responsible participant on the net.

Thank You - Cleopatra Records

4263. Transvertor for 6 Mtr. from 27Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: erwin Cremers <erwin.cremers@ingram.com>
Message-ID: <DExrxC.6n3@inter.NL.net>
Source record: 110670

I'm looking for a transvertor for 6 Mtr. with a input from a old CB rig.

Is there any body who has any experience doing this and are there schematics
available or compleet manufactured transverters to do this ??

Erwin Cremers
PE1MGR
Dutch HAM radio amateur.

4264. Help me build 80m helical vertical

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-15 00:00:00 UTC
From: VE4KLM <slmusr03@MBnet.MB.CA>
Message-ID: <Pine.SUN.3.91.950915154538.4946A-100000@access.mbnet.mb.ca>
Source record: 110671

Due to limited space on my city propery, I have considered building a helical vertical for 80 m. I have seen a similar design for 160 meters but there are a few things that confuse me. I hope you can help me...

They say for 160 m, to get a 20-25 ft length of PVC pipe and wrap HALF a wavelength of wire on the full length of the pipe. They then say that this will give you a QUARTER WAVE resonant vertical. Does that mean if I use a FULL wavelength on a 50 ft length of PVC pipe, that I can have a HALF WAVE resonant vertical ? If so, does this mean I will not need the ground radials for the HALF WAVE version. Naturally both versions are end fend and tuned at the bottom for the best SWR. A capacitive hat is placed on top to prevent the 'tesla' affect, so to speak.

I have no experience at all with helicals so ANY useful info would be nice. By the way, if there is a way for me to avoid use of ground radials with a vertical helical, then please tell me how to do this. I do not have the room either for spreading wires all over my yard, and using the water or sewer lines may or may not work. I need something dependable and efficient, since I am running QRP (in the 1/4 watt region).

Regards,

Mike
VE4KLM
Winnipeg ARES Group

| SLM Software Inc. |
| slmusr03@SLMSoft.CA |

4265. Using HT mic on Alinco DR610T

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: mconner@monarch.papillion.ne.us
Message-ID: <43db8i$7hu@nlcnews.nlc.state.ne.us>
Source record: 110574
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I recently bought an Alinco DR610T and would like to use my headset microphone designed to be used with an Alinco/Yaesu/Icom HT. I've been told it's possible to make a circuit that will let it work with a mobile rig without completely tearing apart the mike. Has anyone built such a thing?

E-mail responses/copies appreciated, and I'll summarize responses if desired.

73 de Mark N9XTN

Mark D. Conner
Internet: mconner@monarch.papillion.ne.us
AMPRnet: N9XTN@WB0BLR.IA.USA.NA
"Paradigm shifting without a clutch" - Dogbert

4266. Re: Transvertor for 6 Mtr. from 27Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: cunliffe@mail.eznet.net
Message-ID: <43ddih$reo@roch3.eznet.net>
Source record: 110575

erwin Cremers <erwin.cremers@ingram.com> wrote:

>I'm looking for a transvertor for 6 Mtr. with a input from a old CB rig.

>Is there any body who has any experience doing this and are there schematics
>available or compleet manufactured transverters to do this ??
Look for a used or new 10m-->50Mhz transverter. Exchange the xtal
from a 22Mhz to a 23Mhz xtal. You may have to tweak the oszillator
circuit a little but it should work fine. Dont forget,that this
transverters mostly have 10dBm (10 mW) input. You may want to build a
attenuator or reduce your drive with other means.

>Erwin Cremers
>PE1MGR
>Dutch HAM radio amateur.

4267. WTB: Transformer for Linear Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: geotek@netropolis.net
Message-ID: <NEWTNews.811278754.28155.geotek@geotek.netroplis.net>
Source record: 110576
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

A friend of mine is building a 3-500Z linear and needs a transformer.
Dual primaries are desirable. The secondary should be 1100 VAC @ 800mA.
If you have something that may work, contact Curtis Shoemaker at
clshoemaker1@mmm.com or call (512) 255-0117 or (512) 984-5167.

4268. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_811233929@rtfm.mit.edu>
Source record: 110577
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

```
Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb,
rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet
mailing list counterparts and complements. It is intended to serve as a
guide for the new reader on what to find where. Questions and comments may
be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at
jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October
1994 to add the discussion of non-Usenet mailing lists and streamline most
of the history discussion, and to change the moderator information for
rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list
for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions
were held on the mailing list, and sent to the mailboxes of those who had
signed up for it. When the Usenet software was created, and net news as we
now know it was developed, a newsgroup was created for hams: net.ham-radio.
The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became
progressively higher. First one by one, and then as part of two
reorganizations, what was once one group became many. In the process,
developments elsewhere on the net were reflected in the groups as they were
created, most notably the change to place all of the ham radio groups in one
hierarchy.

The collection of newsgroups continues to grow as more people join the net,
and as more topics of discussion gain volume, I expect to see more groups be
created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the
notable exception being rec.radio.swap. There are also a few mailing lists
that don't have newsgroups.

The Current Groups
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It's important to post messages to the group that's appropriate for them,
and not to the groups that aren't. The whole idea of having different
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newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

4269. crystal drive specs How to measure?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <43evsb$8jh@newsbf02.news.aol.com>
Source record: 110578

Here we go with project #12554. I have built several crystal oscillators mostly of the colpitts and pierce variety. One spec that I never complety understood is Drive power to the crystal. My usual approach to setting "drive" is to adjust feedback by whatever means that seems to work to a point where the oscillator doesn't start some times, and then back up. I can measure ESR in a roundabout fasion using a signal genertor, a resistor, and a FET probe. I no longer have access to a vector voltmeter or crystal impedance meter. I can and have measured crystal current using a Tektronix current probe. I am just not sure how to go about calculating the crystal drive to make sure it's within acceptable limits. Is it as simple as I^2 * esr? Nahh, couldn't be. Unless I am mis-using the current probe, the current and voltage are nearly 180 deg out of phase. If one applies ac power triangle formulas, then the TRUE power is much much less than the apparent power, with reactive power being almost equal to apparent power. Any help?

Thanks, Pat - KE1C

4270. Re: Was Re: Ramsey Kits, now modified commercial gear

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep16.082310.24857@ke4zv.atl.ga.us>
Source record: 110579

In article <FAUNT.95Sep14204258@netcom18.netcom.com> faunt@netcom18.netcom.com (Doug Faunt N6TQS +1-510-655-8604) writes:
>While I think modified commercial gear is probably a good thing, it's
>somewhat less accessible to most of us, because we have no history
>with it. For instance, I have no idea which GE radios are easy to
>convert, and which aren't. Same goes for Motorola. I mean, Micor,
>Motran, Mitrek, etc. mean nothing in themselves, and even less when
>I'm looking at a radio at a swap meet. In some cases, I can't even
>tell if I've got all the pieces.
>
>There's been lots of good information put forth here, and on the
>land-mobile mailing list, but you people who know the details need to
>put together a FAQ about all of this. The information is out there,
>and it dribbles in from time to time, but it needs to be put together.
>Thanks and 73,
>doug

While a FAQ is a good idea, the best thing you can do is to buy service manuals for several of these radios and study them. All the information you need is in there, and you can learn a good bit about radio design from studying those manuals too. You'll often find someone with a pile of manuals for sale at hamfests, or you can order manual copies from Hi-Manuals, or even the manufacturers. When these radios were current production, the manufacturers still had some respect for the service tech, and they did an often splendid job of explaining the circuit theory of the units. Today, manuals often just have a fault tree offered without underlying explanation.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4271. 4CX1500 redux

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-1609951145080001@squaw-d116.sierra.net>
Source record: 110580

Nolo Contendere,
my generalizations did not include several qualifications made by the citation; that power gain of most grounded grid amplifiers is not as great as tetrode amps.

In any event, it was prompted by the series screen neutralization thread. My example cited used a directly grounded screen and a cathode floating for DC. The argument being that with the "high power gain" of a tetrode, and with the significant dimensions of the screen at 144, it was highly probable that the screen could not be "grounded" capacitively at that frequency. Having to AC bypass the cathode is not as problemmatic as for the screen, as any "floating" of the cathode would only add degenerative feedback and subsequently raise the required drive power. The example mentioned a very expensive version of the tube and socket that was designed for grounded screen, they deigned to fashion a reasonable substitute.

The example also used a pair of quarter wave lines at both grid and plate, arguing that the impedance would drop towards zero as the frequency changed, preventing the grid from floating off to some undefined impedance for frequencies off resonance.

These were all details of a design that displayed 40 dB reverse isolation while generating 25 dB of forward gain, with no neutralization. That is a significant achievement, and my earlier postings intended only to make note of this amp example.

Frankly, the thread for screen neutralization went on so long (IMHO) that I was prompted to propose an alternative. Albeit that the Handbook data is wrong, the example cited frankly states they got 1400 out for 10 watts in regardless of 4CX1000 or 4CX1500.

I have seen many older Class C amplifiers, push-pull triodes, say 833's, that gave an easy kilowatt for ten watts of drive, but they were swamped *and* neutralized. There were paralled 813 tetrodes or single 4-400's giving the same output/drive performance, showing the essentially moot choice one could have if the triodes were not GG.

I wonder what the state of kilowatt level tube development would be like if we had not had the plethora of 100 watt output rigs, but instead only 10 watts. The ease of GG application and broadbanding of the input circuit allowed many amps out on the market and probably made a lot of people happy, and raised the intermod level, that drove people to better receivers, and so on.

It still bears a review by the poor guy who originally asked the question about PP 4CX1500's...I have frequently referred to the amp as a motivator for when I finish my 20 watt HF transceiver.

Regards

4272. Re: KVG filters : where can I get them ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: kchen@apple.com
Message-ID: <43f57g$2qo@apple.com>
Source record: 110581

Wes Stewart <N7WS@azstarnet.com> writes:

>pskh@aol.com (PSKH) wrote:

>>The KVG filters XF9B abd XF9B-10 fit in very well but I dont seem to get
>>hold of these at a reasonable price.
>>
>>
>I bought my XF9B a long time ago from Spectrum International. I don't know
>whether they still import them or not. You can try them at Box 1084, Concord,
>MA 01742 or (508) 263-2145.

Spectrum International still advertises the KVG filters in
Communications Quarterly.

73

Kok Chen, AA6TY kchen@apple.com
Apple Computer, Inc.

4273. AM-1178/GRC manual/schematic wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: garym@racalrecord.com
Message-ID: <43fdm7$g1b@news.cais.com>
Source record: 110582

I am looking for a manual or schematic for a AM-1178/GRC 400-600 Mhz Amplifier/Multiplier.

Or does anyone have any info on converting this over to 432 mhz SSB amp? It has a nice pair or 4X-150's in nice tuned cavities that should work great.

Any info would be appreciated.

Gary
N3JPU

4274. Re: 50 to 300 Ohm converter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: raver909@telerama.lm.com
Message-ID: <43frhr$7u6@asia.lm.com>
Source record: 110583
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Ok, I need to buid a 50 to 300 Ohm converter and I was curious as to how to go about it. If anyone has any ideas could you post them here or email me at raver909@telerama.lm.com

Thanks much in advance.
Joe

--

--

4275. Re: 50 to 300 Ohm converter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: ssampson@icon.net
Message-ID: <ssampson.45.0015C146@icon.net>
Source record: 110584
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <43frhr$7u6@asia.lm.com> raver909@telerama.lm.com (Joe LeSesne) writes:

> Ok, I need to buid a 50 to 300 Ohm converter and I was curious as to how
> to go about it. If anyone has any ideas could you post them here or email
> me at raver909@telerama.lm.com

Since you mention the numbers 50 and 300, I assume you are talking about
transmission lines? That you wish to match a 300 Ohm transmission line
to a 50 Ohm transmission line?

Is this for transmitting or receiving?

How much power?

--
Steve

4276. 10A 13.8V Power Supply For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: andreas@karlsberg.usask.ca
Message-ID: <43dspf$mee@tribune.usask.ca>
Source record: 110585

NPC 10 A cont. 13.8 V power supply for sale, only $100. For more info e-mail to ab403@sfn.saskatoon.sk.ca or call Sasa @ (306)477-5939.
73's Sasa

4277. Re: Homemade crystal filters for SSB ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-16 00:00:00 UTC
From: "rocci@netaxs.com" <"Joe Rocci">
Message-ID: <43efa6$sip@netaxs.com>
Source record: 110586

I've built several ladder filters in 4,6 and 8 pole configurations. My experience is that the 4 pole configuration comes out decidedly non-symetrical, but that shape improves as you add sections. The 6 pole configuration was good, and the 8 pole configuration was near perfect. Shape factor of 1.2:1 is achievable.

Problem with large filters like this is that there is a lot of interaction between variables, and its hard to optimize without a good spectrum analyzer/tracking generator setup.

Joe Rocci
WA3CMQ

4278. HamView Products on the WWW

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-17 00:00:00 UTC
From: Paul Keezer <logview@keez.tiac.net>
Message-ID: <43ftt9$qn3@sundog.tiac.net>
Source record: 110587

Finally a WWW page has been set up for HamView products, a
Windows based Ham Radio program. This page can now be located
at http://www.tiac.net/users/pkeezer/hamview.htm
There is an upgrade file right now for Win95, but the bug has
only been corrected in Logview 5.0 Come and check us out.

Paul Keezer, President of PDK Inc.

4279. Quasi-sync detector in the new Handbook?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-17 00:00:00 UTC
From: russ@gslink.net
Message-ID: <43i94a$aoo@ddi2.digital.net>
Source record: 110588

I heard some talk over in Fidonet about plans for a "quasi"-synchronous detector in the new Radio Amateurs Handbook, anybody know how it compares to a regular sync detector or ECSSB tuning?

Russ

4280. Re: crystal drive specs How to measure?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-17 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <43hics$tb8@hg.oro.net>
Source record: 110589

ptracy@aol.com (PTracy) wrote:

>Here we go with project #12554. I have built several crystal oscillators
>mostly of the colpitts and pierce variety. One spec that I never complety
>understood is Drive power to the crystal. My usual approach to setting
>"drive" is to adjust feedback by whatever means that seems to work to a
>point where the oscillator doesn't start some times, and then back up. I
>can measure ESR in a roundabout fasion using a signal genertor, a
>resistor, and a FET probe. I no longer have access to a vector voltmeter
>or crystal impedance meter. I can and have measured crystal current using
>a Tektronix current probe. I am just not sure how to go about calculating
>the crystal drive to make sure it's within acceptable limits. Is it as
>simple as I^2 * esr? Nahh, couldn't be. Unless I am mis-using the
>current probe, the current and voltage are nearly 180 deg out of phase.
>If one applies ac power triangle formulas, then the TRUE power is much
>much less than the apparent power, with reactive power being almost equal
>to apparent power. Any help?

>Thanks, Pat - KE1C

One quick and dirty way I've done it is to measure the output power of
the oscillator into its design load (milliwattmeter or e^2/r).
Measure or calculate or estimate (SEWAG) the power gain of your device
as published by the mfg. at your freq., voltage, and current level.
The power drive to the crystal is the output power reduced by the
power gain of the circuit. It seems like going to CHicago by way of
FOrt Worth to do it this way, but it is a pretty foolproof method of
approximating.

If you aren't at least 10 dB below the max drive limits of the rock,
you are going to get aging and drift problems. I usually shoot for 20
dB below max limits.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net ARS WB6BHI CFI A&G / Comml Inst A&G / A&P / C-182A N73CQ

4281. Friend needs TS140 service man.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-17 00:00:00 UTC
From: bcdlr@aol.com
Message-ID: <43il6h$dop@newsbf02.news.aol.com>
Source record: 110590

A friend of mine needs a service manual for a Kenwood TS140. Anybody have one or know where to get one reasonable?
Dan Reynolds, bcdlr@aol.com, KB9JLO

4282. Motorola Director voice pager...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: toyo@bu.edu
Message-ID: <43iq42$qgc@news.bu.edu>
Source record: 110591

Hi!

Could anyone tell me how to modify Motorola 'Director' voice pager?
It's frequency is tuned to 462.825MHz and it has 18.49480Mhz X'tal.
It seems it's IF is 450KHz. Local OSC seems like 462.375MHz(?) generated
by 18.4948Mhz X'tal... 462.825MHz-462.375MHz=450Khz??

If anyone know how to calculate the X'tal frequency in order to bring
down to hamradio band, please let me know!

It has two mechanical resonace to open or turn on the voice. (533.9 hz &
600.9 hz) (two-sequence-tone-decoder.) I felt the age of the receiver, it
only contains two ICs and a lot of transistors. Anyone know what is
M6778 and 79G08 ICs for?

Or, if you have any information regarding to the voice pager, please let
me know!!

Thanks in advance.

Toyo
toyo@acs.bu.edu

4283. Homemade TNC schematics avaiable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: jesus@simu1.ele.cie.uva.es
Message-ID: <43k9sd$6a5@simancas.cpd.uva.es>
Source record: 110592
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Hi,

Some months ago i posted an article looking for info & suggestions about how to build a homemade KISS TNC. Time has passed and the TNC is now built and running. I want to thanks to all the people that replied my post. The preliminary schematics and some info about the TNC are avaiable by ftp at:

simu1.ele.cie.uva.es:/pub/ham-radio/packet/esquemas/dixtnc.zip

73 by Jesus, EB1DIX.

--
$$
$ Jes&#65533;s Arias (jesus@simu1.ele.cie.uva.es) $
$$

4284. Modiying an old tube AM radio with pencil tubes, results

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDF2wnl.1Br@netcom.com>
Source record: 110593

I have a few "pencil" tubes, or "sub-mini's" as they are called.
Mostly from mil surplus stuff. These are about a 1/3 inch diameter
and about 1 1/2 to 2 inches tall, one style has 8 pins in a circle,
another style is 5 or 7 pins in a straight row.

I've thought of using some of these sub-mini tubes in an AM BC band
radio, like the old AC/DC "AA5" tube radios. So I took an
otherwise ordinary AA5 tube radio (AA5 = "All American 5 tube")
and decided to modify it to use some pencil tubes. First mod was
to change the IF amp tube (12BA6) to a 5840, which came out of
a mil IF strip, guessing it would work in the AM radio. And it
actually did work, though I found I needed a tube shield to keep it
from oscillating. Worked well, actually, maybe a bit better than
the 12BA6 did. I measured the heater current with a DVM and a 6.3
volt supply, and it was close to the 150mA of the AA5 heater string.
Checked it in the radio, voltage a bit high, so I paralleled a 330
resistor to get the voltage and current to spec.

A few days later...:

The AA5 tube radio I modified with a 5840 sub-mini tube in the IF stage
recieved some more sub-mini tubes today. This time I replaced the
12AV6 det and 1st audio tube. With two triodes, 5703's. I also
had some twin triode sub-minis, but a restriction I had to adhere to
is that the heater current should be around the 150 ma of the AA5
string. One of the triodes became the 1st audio stage (50C5 driver),
with a grounded cathode and self-biasing grid. It draws a bit more
b+ current than a 12AV6 does, as the voltage on the plate measured
about 18V, but it sounds fine. And enough gain. The other triode
became the diode detector. Cathode grounded, plate grounded, grid
tied to the IF transformer. A tube knowlegdable friend suggested the
grounded plate, to act as an RF shield to keep the harmonics of the
rectified 455KHz IF signal from causing tweets at 910Khz radio stations.
Couldn't find any tweets there yet tonight, tommrow I'll try a daytimer
station at 910. I used a wire wrap socket, and needed to spread the
leads on the 5703's a bit (didn't have any proper in line tube sockets).
Bent the wire wrap posts to reach the tube socket holes on the AA5's
circuit board.

Radio is working well, here in northern NJ, I'm listening to "84 WHAS"
which I think is in the South somewheres, near an Interstate 65 or such.
Propagation must be pretty good tonight.

The AA5 design must have been an excellent design job, to take the above
"crude" mods, and still work well.

4285. Re: (HELP)CORE CHOICE FOR COIL DESIGN

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1995Sep18.141117.6027@schbbs.mot.com>
Source record: 110594

: ; I am working on a radio design for thru the ground radio using coils as the
: ; receiver and transmitter antenna.
: ;
: ; I need a impedance matching transformer between the coil and the receiver. The
: ; problem is that I need a very high al value (Large amount of inductance).
: ;
: ; Powder Iron toroids are out of the question because of size. My other choice
: ; is a ferrite pot core made by Amidon which is type material 77. It is of the
: ; right size and will accommadate the windings. This material is primarally used
: ; at higher frequencies than the 31 KHZ I wish to use.
: ;
: ; Will this type of core material (type 77) cause excessive core loss (poor
: ; sensitivity due to core loss at receiver impedance match) at the frequency I
: ; wish to use on receive (31KHZ).
: ;
: ; If so, Then can you suggest another core manufactor and type material.
: ;
: ; Danny Britton
: ; QB7@ORNL.GOV

: The type 77 pot core is a good choice for this application. Use one which does
: not have a gap.

You might just use a FET buffer to perform the impedance transformation. Since the gate input impedance is very high, just hang a resistor to ground from the gate to set the termination reistance. The impedance at the drain can be much lower, or you can use the FET as a source follower and have the source resistor match the receiver input impedance.

- Dan WB0NVB

4286. cell-phone parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: "James P. Meyer" <jimbob@acpub.duke.edu>
Message-ID: <Pine.SOL.3.91.950918161818.13822B-100000@godzilla.acpub.duke.edu>
Source record: 110595

I picked up the RF section of an Audiovox CMT-1000 cell-phone at
the thrift shoppe today. It's full of neat parts. I'm going to strip it
eventually, but if I had schematics for it, I might find a use for things
like the receiver strip.

Are schematics available?

Anybody want this device before I start taking parts out of it?

Jim "no sig" Meyer

4287. Need Info on Singer Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <43if0o$41s@buffnet2.buffnet.net>
Source record: 110596

I have an uncooperative Singer MF100/RF3000/SPA3000 spectrum analyzer.
Would gladly pay costs of copying operation/service manuals. Any info would
be appreciated.

Thanks

daveb

4288. Re: Beeper as Repeater monitor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: vaillan@ireq.hydro.qc.ca
Message-ID: <DF3pyt.4F@ireq.hydro.qc.ca>
Source record: 110597

In article <1995Sep11.131527@cronus.bentley.edu>, WONG_WAI@cronus.bentley.edu writes:
>Hi:
> My brother gave me the old beeper he used to use for his business. It
>Uniden is a u. It's operation freq. is 152.480 Mhz. The crystal is changeable.
>putIf I o, if I put a 144.xxx Mhz crystal in it can I use it to monitor a
>repeater? Do I have to make nany other changes?
>
>-WaiWong
>

Any tone and voice beeper can be put on an amateur frequency if they are
not too far away; in your case it might be easier with a beeper already
in the 141-143 MHx region; 152.480 is a bit high and you may have to
change a few caps and coils...

We have 28 beepers in service on our vhf and uhf repeaters; our controllers
are Scom 6K and they support 5/6 tones code required by the
Motorola BPR2000 beepers we have and 2 tones for the NEC beepers.
It is easy to reach any Ham equiped with a beeper in our Club;
we just send a 4 digits DTMF code to the repeater's controller and
it send the proper codes to the beeper we want.

The only problem with listening only, is that most of these beepers don't
have a squelch circuit and you are going to hear a "hiss" all time the
repeater is not transmitting.

73 de Clem. VE2HQJ

4289. Re: Request for Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Sep18.082233.58321@ucl.ac.uk>
Source record: 110598

In article rj4@hera.cc.bellcore.com, kuehn@hera.cc.bellcore.com (bandyopadhyay,asismoy) writes:
>
>
> I want to build a varacter tripler to triple a 5 watt.
> signal from 2M to 70cm. Any help on locating suitable
> varacter diode and the supplier for it ?
>
> - thanks in advance.
>

HP and Macom both sell varactor diodes. One of the RSGB publications has a circuit for a trippler (maybe 2m - > 70cm, or possibly 70cm -> 23cm) that used IN914 diodes - lots of em.

davek G8WRB.

4290. Ten Tec T-Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: ke4iof@aol.com
Message-ID: <43ldv3$als@newsbf02.news.aol.com>
Source record: 110599

I talked today to someone at Ten Tec about their T-Kit line. Actually I placed an order. Anyway, Ten Tec is still firmly behind their kit line even though they never advertise, and the latest catalog I have is over a year old.

I guess we've all heard about the impressive 2meter radio kit Ten Tec was to release over a year ago. Believe it or not, it has still not been released. The gentleman on the phone said they were still trying to work some problems, but were hoping to release it soon.

Has anyone built any of their kits before?

Mark, KE4IOF

4291. Re: crystal drive specs How to measure?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <43iuuv$rl8@hpscit.sc.hp.com>
Source record: 110600

In article <43evsb$8jh@newsbf02.news.aol.com>, PTracy <ptracy@aol.com> wrote:
>Here we go with project #12554. I have built several crystal oscillators
>mostly of the colpitts and pierce variety. One spec that I never complety
>understood is Drive power to the crystal. My usual approach to setting
>"drive" is to adjust feedback by whatever means that seems to work to a
>point where the oscillator doesn't start some times, and then back up. I
>can measure ESR in a roundabout fasion using a signal genertor, a
>resistor, and a FET probe. I no longer have access to a vector voltmeter
>or crystal impedance meter. I can and have measured crystal current using
>a Tektronix current probe. I am just not sure how to go about calculating
>the crystal drive to make sure it's within acceptable limits. Is it as
>simple as I^2 * esr? Nahh, couldn't be. Unless I am mis-using the

Yes it is that simple. Be sure to excite the crystal at the specified
drive power when characterizing its ESR, because ESR is itself affected
to some extent by drive power.

>current probe, the current and voltage are nearly 180 deg out of phase.

If the crystal is being operated in "parallel" resonant mode, it will
look mostly inductive, so the current and voltage are 90 degrees out of
phase. The thing to do is measure current and ESR and forget about
voltage.

>If one applies ac power triangle formulas, then the TRUE power is much
>much less than the apparent power, with reactive power being almost equal
>to apparent power. Any help?
>
>Thanks, Pat - KE1C

Most oscillator designs subject the crystal to rather high drive levels
(several mW.). The easiest way to avoid this problem is to either run
the oscillator on a very low voltage supply, such as 3 volts or put
clamping diodes on the collector to limit the voltage swing. Otherwise,
you're stuck with using small capacitors in the circuit which decreases
the stability. In the high precision oscillators we make here at
the Hewlett Packard Santa Clara division, we run the crystals at 40
microwatts to minimize phase noise, but the crystal people tell us
they consider that an astronomical amount of power and wish we could
hold it down to 1 microwatt! In the high precision oscillators, we
use an AGC circuit to precisely set the drive power.

Rick Karlquist, N6RK
rkarlqu@scd.hp.com

4292. Re: Looking for PIN diode switching info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: kogletre@kings.k12.CA.US
Message-ID: <Pine.3.89.9509181102.A18566-0100000@kings>
Source record: 110601

> I'd like to try pin diode switching in a homebrew 2-meter amp. Are there
> pin diodes that can handle 40 watts at that frequency? How about 150
watts?
> What are some part numbers used for higher power levels. The 95 ARRL
> Handbook shows an example of receive filter switching, but that's about it.
>
> 73...Jim N2VNO

Hi, Jim

Call micro-semi Corp. and ask for publication PD-600. It is the PIN Diode
Designers Handbook and is VERY handy. And yes PIN diodes can work in
Power Amps up to 1K Watt!

-- 73 --
Kent
KD6NHP

4293. AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <43kbvd$s0d@news1.inlink.com>
Source record: 110602

AMATEUR RADIO GONE COMMERCIAL!!!

I recently picked up a new study guide for the Advanced Class test
to prepare myself for taking the upgrade examination.

While reviewing the question pool, as I neared the end of the list,
I found two very disheartening questions, both of which the answers
were related directly to proprietary data and information.

I was so mad that I tore the book in half and threw it in the trash.

As I no longer have the book, I can't put the two questions here, but
the questions were related to antennas and the method of moments, which
is definately proprietary information and has no place on the exam.

How can such proprietary questions be put in the question pool and can
I request a test that does not contain either of these two questions?

After 36 years as a ham, I am seriously considering leaving the hobby
before it becomes totally commercialized. Many 2-meter repeater sysops
are already allowing so much foul language and grossness to pass through
their repeaters that they are degredating the amateur image beyond repair.

VECs have incorporated as "Corporation of Volunteer Examiner Coordinators"
and are trying to copyright the question pools, the ARRL sent a petition
to the FCC to have all expired amateur licenses reinstated with no
penalties and no retesting. What will the ARRL pull next, crossband
repeaters between the CB and Amateur services?

How much will your license cost when it is turned over to the private
sector for testing and licensing? How much will your yearly dues be to
maintain the one or two bands that we have left after commercialization?

At least the FCC had enough incite to delete a few blatantly proprietary
questions from the last exam pool, but as usual, they didn't complete
their job and allowed the ARRL to squeeze in a few more advertisements
into the question pool.

Gary

4294. HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-18 00:00:00 UTC
From: Michael@diamonds.batnet.com
Message-ID: <Michael-1809951037450001@diamonds.batnet.com>
Source record: 110603

I'm building an HV supply for a microwave source. I need a vendor for filter chokes with at least 5Hy inductance, at a maximum current of about 800 mA. Winding-to-case breakdown isn't too critical, as I can mount the choke on
a dielectric support. Can anyone recommend a source of chokes (and HV transformers as well)? Thanks for your help.

Michael Pinneo

4295. Cleaning Hamshack Sale..

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-19 00:00:00 UTC
From: Old Man <70401.134@CompuServe.COM>
Message-ID: <43l9it$ko4$1@mhade.production.compuserve.com>
Source record: 110604
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Shack cleaning sale again revised! Gotta make room for more stuff
coming in.

FOR SALE or TRADE: Stoddard AN/PRM-1 Radio Test Set. With
storage trunk for receiver, adaptors. Also have Remote indicator assy
and AC power supply, but NO storage trunk for them. This is an RFI
(Or in modern language "EMI") receiver. It has the capability of
measuring Field Intensity in microvolts per meter via a whip antenna
or a loop antenna. VERY handy for finding interference sources,
measuring field strength etc. in the range 150 khz to 25 Mhz in 7
bands. I also have the original Technical manual/Depot manual.
These are fairly rare, I have only heard of one other one in the
last 25 years. They have been largely superceded by the more modern
Stoddart solid state version. (Tucker had them for around $5000!!!)
Will sell for $250 plus packing/shipping

GENERAL RADIO Model 650 'Antique' Impedance bridge, Cosmetically fair
to good. Works! Measure L/C/R. Sell for $50 plus shipping/packing.

GENERAL RADIO Model 1330A Bridge Oscillator. 15 Khz. thru 50 mhz
in 8 bands. Working OK, cosmetically good. Sell for $60 plus
shipping/packing.

GENERAL RADIO Megohmmeter model 1862C in excellent condition and
working. Missing only two small 'latches' in lid locking system
which does not affect operation. $75 plus shipping/packing.

GENERAL RADIO 722-MD Precision Variable Capacitor, absolutely in
mint condition with fitted wood carrying case. $100 plus packing/
shipping.

Heathkit IT-2250 Autoranging capacitance meter, excellent condition,
$50 with manual plus shipping/packing.

Heathkit QM-1 "Q" meter, works OK, well worn condition, $30 with
manual plus packing/shipping.

Heathkit IG-42 Laboratory Generator, covers 100 khz-30 Mhz., With cable
works fine, good cosmetic condition. $30 plus shipping/packing.

Heathkit IB-2 Impedance Bridge. Measures L/C/R. Well worn
condition, works OK, with manual. $30 plus shipping/packing.

ICOM IC-R1 pocket receiver. Covers .1-1300 mhz., AM/FM/wideband FM,
have original box, carrying cases, rubber duck and additionally BP-83
NiCad battery, BP-90 dry battery box, BC-72 desktop charger, and R1

service manual. Have about $800 invested. Will sell for $400 plus shipping/packing. THIS IS NOT THE "BLOCKED" MODEL, it covers all the cellular channels!

Trade? I am looking for the following: Hallicrafters SX-88 receiver, Hallicrafters SX-100 (late Mark), Hallicrafters SR-75 Transceiver, Heathkit IP-17, SP-17A or IP-32 power supply all in good condition or better.

Sandy, W5TVW Internet:70401.134@compuserve.com

4296. Need your input for Surplus Land Mobile Radio FAQ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-19 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <43n25h$g8u@mrnews.mro.dec.com>
Source record: 110605
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

What the heck, let's make it official:
I'm willing to compile a FAQ, all about those surplus police and taxicab radios and converting them for ham-band use... you know, the ones you always hear on the air 'cuz somebody converted one: Motorola Mitrek, GE Master II, Phoenix, Delta, blah, blah, blah. There's dozens of these things available for cheap money, and I'm sure a lot of us would like to know which ones to look for, and which to skip over, as their performance often beats the imported synthesized rigs!

In particular, what I want to get is information on how to identify the particular models, what band they're on, crystal or synth, whether they're an easy conversion, need a fair amount of work and skill, or are impossible, and how to tell all of this by looking at them and reading the model/serial numbers. Also, it'd be good to know if a full manual with schematics and tune-up procedure is available, from either the manufacturer or a Sam's photofact type publication.

I don't really want to start a database of HOW to do the mods. That would be difficult without graphics, and would occupy megabytes! This should be fairly easy to deduce from the tune-up procedure and other details in the manual.

WHY do this?
1) I'm interested - I've passed over a lot of these at fleas, for lack of any information about what I was looking at.
2) It doesn't seem to exist anywhere else. A lot of hams have some knowledge about some radios, no one has written it all up.
3) Put these radios back to work, and save them from the scrapyards!

So there it is... all info, pointers, literature references appreciated! Send to me at: randolph@est.enet.dec.com

-Tom R. N1OOQ randolph@est.enet.dec.com

4297. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43mij4$hnk@newsbf02.news.aol.com>
Source record: 110606

In article <43kbvd$s0d@news1.inlink.com>, raiar@inlink.com (Gary V. Deutschmann, Sr.) writes:

>
>AMATEUR RADIO GONE COMMERCIAL!!!
>
>I recently picked up a new study guide for the Advanced Class test
>to prepare myself for taking the upgrade examination.
>
>While reviewing the question pool, as I neared the end of the list,
>I found two very disheartening questions, both of which the answers
>were related directly to proprietary data and information.
>
>I was so mad that I tore the book in half and threw it in the trash.
>
>As I no longer have the book, I can't put the two questions here, but
>the questions were related to antennas and the method of moments, which
>is definately proprietary information and has no place on the exam.

Hi Gary,
That's too bad. I don't understand what you mean by "proprietary data". The exact questions may have helped me.
>
>After 36 years as a ham, I am seriously considering leaving the hobby
>before it becomes totally commercialized. Many 2-meter repeater sysops
>are already allowing so much foul language and grossness to pass through
>their repeaters that they are degredating the amateur image beyond
repair.
>
Well the trend of the United States is to do that in everything. For whatever social reasoning, all requirements are being reduced because the latest morality is that everybody deserves everything with moderate effort. No one is allowed to be unsucessful or even average anymore. And when there is no work there is no value to the achievement.

Do you need examples?

The deletion of 1st class license for working on broadcast and special radio services. I watched many less than competent technicians jump from CB into commercial two way and BC markets where their lack of skill and knowlege can cause huge problems.
The relaxation of amateur exams from essay and schematic drawing to multiple choice. The code dropped from one minute solid error free to a few multiple choice questions. And if that isn't bad enough a few *volunteer examiners* will help you out a bit.

Grades in school. In a local school here kids work in teams and are graded against curves. I've seen tests come home with 50% correct and "A's" at the top. They even have forums and question samples to prepare for achievement level tests! We had to take the things out of the blue, but now they rehearse!

Drivers license tests. No road test in this state. Just drive around the parking lot once and that's it!

And the list goes on. We've deceided failure is bad, and so reduced the requirements needed to meet the goals.

>VECs have incorporated as "Corporation of Volunteer Examiner
Coordinators"
>and are trying to copyright the question pools, the ARRL sent a petition
>to the FCC to have all expired amateur licenses reinstated with no
>penalties and no retesting. What will the ARRL pull next, crossband
>repeaters between the CB and Amateur services?
>

Probably the idea is to get as many Hams as they can. There is power and money in it. Look at the money (and mess) that CB brought to some manufacturers. We all have opinions on this, and mine is that there should be a very restricted privilege easy class
for casual users and begginers, but why destroy the entire structure? If the lowest class is made easier, make the highest class more difficult. At least that way people have incentives that remain in place.

An example is a car show I attended. The lowest award was a Bronze, middle a Silver, the highest a Gold. In keeping with this new way of thinking the cars in my class all received Gold's, with one silver. No Bronze awards were given. Some of the Gold's had rust and many incorrect or bad details and missing parts. The Silver award car had holes in the floors. So what is the incentive for anyone to do better? A lot of effort is rewarded the same as a sloppy half-assed effort, so why go the extra mile? That's what it's all coming to Gary, not just in Ham radio.

73 Tom

4298. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-19 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <43mnvv$i0b@unisql.unisql.com>
Source record: 110607

Peter Dahl is a good source for HV transformers and chokes.

Things to consider:
additional filter caps may be cheaper than a filter choke, and will definitely weigh less
if you put the filter choke in the negative leg, you remove the requirement for HV protection and reduce/eliminate the need for a dielectric standoff
you may be able to find a big filament transformer whose primary winding provides sufficient inductance for your application.

Jim N6OTQ

4299. Re: Homemade TNC schematics avaiable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-19 00:00:00 UTC
From: peter@lsis.st.3com.com
Message-ID: <3857@bridge2.NSD.3Com.COM>
Source record: 110608
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Thank you, Jesus! I just downloaded the stuff, and will start
trying to build my own TNC.

73,
Peter

--
--

Peter Simpson, KA1AXY Linux! Peter_Simpson@3mail.3com.com
3Com Corporation The free Unix (508) 836-1719 voice
Northborough, MA 01532 for the 386 (508) 393-6934 fax

4300. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-19 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <43n9g9$bsb@news.vcd.hp.com>
Source record: 110609

Hi Gary OM,

Hear hear! I could not agree more, with your concerns about commercialization of ham radio. Also, the posts you have received so far regarding the Dumbing Down of Ham Radio, QST, and our American culture in general.
I am almost at the point of canning my ARRL membership after 40 years. QST now has "construction" articles in which all parts are listed as supplied by the author, no theory of operation, no details of the software/firmware, etc. Then it is nothing more than an advertisement, instead of an article. Plus, now
we are seeing many "articles" that are nothing more than advertisements for ARRL
products like the "Radio Designer" software. When I go back and browse through
my QST collection, and review what QST was like 10, 20, 30, and more years ago, it is readily apparent what has happened to QST in recent years.
Remember, the ARRL is really a PUBLISHING house, and they will do whatever the market demands to maximize their success in the PUBLISHING business, and to attract advertisers. That is why the "Equipment Reviews" have always been a joke; they are often very incomplete and almost never say anything "bad" about the equipment being reviewed, when in fact I have used the equipment and noted many glaring design errors and performance or cost-effectiveness deficiencies which were never mentioned in their equipment reviews.

4301. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-19 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <43mgmg$phu@crl8.crl.com>
Source record: 110610

Gary V. Deutschmann, Sr. (raiar@inlink.com) wrote:

: AMATEUR RADIO GONE COMMERCIAL!!!

: While reviewing the question pool, as I neared the end of the list,
: I found two very disheartening questions, both of which the answers
: were related directly to proprietary data and information.

: As I no longer have the book, I can't put the two questions here, but
: the questions were related to antennas and the method of moments, which
: is definately proprietary information and has no place on the exam.

What?

Are you saying that anything dealing with the method of moments is
proprietary information? NEC and miniNEC use method of moments, don't
they? NEC was govt. funded and MiniNEC is in the public domain.
HP, Sonnet, and Compact all have method-of-moment products. If more
than one vendor is using the method, how can it be proprietary? These
folks are vicious competitors --- they aren't licensing it from each
other!

Please elaborate on your objections...

--

Don Miller My opinions are my own!
dmiller@crl.com

4302. Composite-->RGB schems?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-19 00:00:00 UTC
From: jdubin@american.edu
Message-ID: <43ltmr$2n9@paladin.american.edu>
Source record: 110611

Looking to convert a composite signal to an RGB (ie: video out -> VGA monitor, w/o PC intervention). If you know where I can find a schem, could you email jdubin@american.edu? Thanks!

Jeff

4303. Re: 6mtr to 27MHz transverter!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-19 00:00:00 UTC
From: vk3jma@ozemail.COM.AU
Message-ID: <199509192343.JAA26337@oznet02.ozemail.com.au>
Source record: 110612

Hi Erwin,

You should be able to use any transverter and drive it from 27MHz.

Yoou would have to replace the main xtals in the transverter to those that suite an IF of 27MHz and then just retune the transverter.

Not a great seperation between 28.000 and 27.000 so there should be little hassles.

Best of luck.

Mark

Mark Aitken - Amateur Radio Operator VK3JMA

AX25net : VK3JMA @ VK3BLW.#MEL.VIC.AUS.OC
AX25IP : vk3jma@44.136.73.96
Fidonet : Mark Aitken @ 3:635/502
Internet: vk3jma@ozemail.com.au

4304. Re: Spice Simulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-19 00:00:00 UTC
From: "rocci@netaxs.com" <"Joe Rocci">
Message-ID: <43nglm$gb2@netaxs.com>
Source record: 110613

Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
>
>I've seen several requests on this group for information about free
>or inexpensive Spice simulator programs. I just came across a
>notice of an evaluation copy of spice, including schematic entry,
>and graphics post processor from Intusoft. These are evaluation
>copies for PC/Windows based computers.
>
>Can be downloaded via ftp from "ftp.iee.ufrgs.br", which I believe
>is a site in Brazil.
>
>There is also mention of a compuserve forum that may also include
>the software: Go CADDVEN .. Library 21
>
>I haven't checked either site to confirm, but good luck....
>
>73 de KI7RH (Jay)
>
>

There's also an evaluation version of MicroSim's Spice suite available
from :
ftp://ftp.ksu.ksu.edu/ieee/pspice/

This package includes schematic editor, spice analyzer, and plotting
programs.

Joe
WA3CMQ

4305. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43p5do$e8i@newsbf02.news.aol.com>
Source record: 110522

In article <ssampson.50.000CA6FD@icon.net>, ssampson@icon.net (Steve Sampson) writes:

>You don't need a 1st Class License issued in 1970 to work on anything made
>in the 80's and 90's. It's a waste of time, a waste of study.
>
>--
>Steve
>
>

Hi Steve.

Obviously eliminating the license was the correct way to go.

The FCC just forgot to pass a rule reqiring all equipment to be designed to give repair codes. The FCC also forgot to pass a rule requiring directional arrays to give codes if something is out of wack, or codes if equipment was installed haywire or in a manner prone to encourage lightning damage or ground loops. ;-)

Seriously, that example doesn't apply at all to normal First Class employment situations like BC and two way radio.

73 Tom

4306. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43p5e8$e8p@newsbf02.news.aol.com>
Source record: 110523

In article <ddiamond.209.000B77E0@TRL.OZ.AU>, ddiamond@TRL.OZ.AU (Drew Diamond) writes:

>However, the voltage breakdown
>requirement is considerably reduced by placing the choke in the negative
>supply lead rather than the usual method where it is wired in the positive
>side. Achieves the same thing.

AND IS MUCH SAFER than mounting a choke on insulators!

4307. Blown diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: sjhawk2@srv.PacBell.COM
Message-ID: <43p6s0$k2d@gw.PacBell.COM>
Source record: 110524

I loaned an old dual meter Swan swr/watt meter to some friends for
an outing and they put a little too much power to it and blew
the diodes. I can't make out any markings on the diodes. Does
anyone have any suggestions for replacements. Thanks
Full scale on the meter is 100 watts.
de Steve WV6U sjhawk2@srv.pacbell.com

4308. Re: Composite-->RGB schems?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep20.152713.14228@ke4zv.atl.ga.us>
Source record: 110525

In article <43ltmr$2n9@paladin.american.edu> jdubin@american.edu writes:
>Looking to convert a composite signal to an RGB (ie: video out -> VGA
>monitor, w/o PC intervention). If you know where I can find a schem,
>could you email jdubin@american.edu? Thanks!

What you need is the video subsystem of a TV to do this. That's usually a single chip in modern TVs. Motorola and others make these chips, and have application notes for how to use them, or you can just buy a SAMS for a TV using one of these chips and copy their circuitry.

The basic problem is that composite video (we assume NTSC) is a complex waveform encoding luminance information in a baseband analog fashion while encoding hue information in the phase of a 3.58 MHz subcarrier and color saturation information in the amplitude of that subcarrier. You have to recover the phase and amplitude information from the subcarrier, and combine that with the luminance information in a decoder matrix to get RGB. Every TV ultimately has to do this in order to drive the RGB guns of the CRT, so every set has the proper decoding matrix implemented. The only difference for your application is in how you apply sync, and in the levels you apply to the VGA monitor (again we assume a multisync monitor capable of supporting TV sync rates). Those issues are easily addressed via simple resistor networks once you've broken the composite signal down into H sync, V sync, R, G, and B with the TV video subsystem chip.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4309. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep20.153855.14332@ke4zv.atl.ga.us>
Source record: 110526

In article <43kbvd$s0d@news1.inlink.com> raiar@inlink.com (Gary V. Deutschmann, Sr.) writes:
>AMATEUR RADIO GONE COMMERCIAL!!!
>
>I recently picked up a new study guide for the Advanced Class test
>to prepare myself for taking the upgrade examination.
>
>While reviewing the question pool, as I neared the end of the list,
>I found two very disheartening questions, both of which the answers
>were related directly to proprietary data and information.
>
>I was so mad that I tore the book in half and threw it in the trash.
>
>As I no longer have the book, I can't put the two questions here, but
>the questions were related to antennas and the method of moments, which
>is definately proprietary information and has no place on the exam.
>
>How can such proprietary questions be put in the question pool and can
>I request a test that does not contain either of these two questions?

As far as I know, the method of moments is not a patented algorithm, though of course many programs which use it are copyrighted works of their authors. So I don't understand your beef. You could always calculate using it by hand, or write your own program, if you don't want to buy a commercial version. You'd expect to pay for a pen wouldn't you? Why should you not expect to pay for a more complex computational tool? Of course you *could* kill your own fowl for a quill, and dip it in your own blood to write the exam, but I hardly think that reasonable. As technology has advanced, so has the sophistication of the tools we use to work with it. You don't want the exam *dumbed down* to the level where only hand calculation is convienent do you?

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4310. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DF7uF1.EMn@hpcvsnz.cv.hp.com>
Source record: 110527

Gary V. Deutschmann, Sr. (raiar@inlink.com) wrote:

..

: While reviewing the question pool, as I neared the end of the list,
: I found two very disheartening questions, both of which the answers
: were related directly to proprietary data and information.

: I was so mad that I tore the book in half and threw it in the trash.

: As I no longer have the book, I can't put the two questions here, but
: the questions were related to antennas and the method of moments, which
: is definately proprietary information and has no place on the exam.

: How can such proprietary questions be put in the question pool and can
: I request a test that does not contain either of these two questions?

Maybe I'm being too damned analytical here, but how can I hope to carry on a meaningful discussion about this if I don't know what the questions were? How do I know what you consider to be "proprietary"? Do you consider explanations about how electromagnetic radiation propagates to be "proprietary"? Do you consider discussions about how semiconductor devices operate to be "proprietary"? I believe that anything published in a journal, book or dissertation is not "proprietary", and I also believe that anything which is patented is not "proprietary" ... it is _protected_ but not proprietary. Part of the purpose of a patent is to disclose the invention to the public.

de K7ITM

4311. Re: 455KHz IF amp ICs: Any Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: kogletre@kings.k12.CA.US
Message-ID: <Pine.3.89.9509201159.A6912-0100000@kings>
Source record: 110528

In article <43a505$dn8@mksrv1.dseg.ti.com>, bdbh@mimi.itg.ti.com (Geoff Schecht) wrote:

> > In article <435955$83a@nntp.Stanford.EDU>,
> > stevem@w6yx.stanford.edu says...
> >
> > The MC1590 and its cheaper cousin, the MC1350 from
> > Motorola have been around about 25 years and will do
> > what you want to do very nicely at 455kHz. Philips and
> > Plessey have some newer, lower power/noise parts but
> > the Motorola IF amps are cheap and available.
> >
> > 73's
> >
> Geoff NQ7A

> Available from where, one would ask? Not only are they 25 years old,
> they haven't been manufactured for years either.

The MC1350 is certianly still in production and is available from DC Electronics 1 (800) 467-7736. Their latest calalog list them at $1.95 each.The Motorola Selector Guide lists DC to 45 MHz however I have seen them used suitably in the 6-Meter range.

-- 73 --
Kent

4312. Re: Homemade TNC schematics avaiable

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.950920135007.20864A-100000@biggulp.callamer.com>
Source record: 110529
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Peter.....Just about all the TNC's that ever were producted by TAPR are also discribed in QEX magazine. Indeed determining that might be hard, but they are there! 73 de Cliff W6HDO

4313. Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <43pmqe$qme@news1.inlink.com>
Source record: 110530

I have read each of your replies and enclosed my comments below.

To clarify my original post and present my beef more clearly, perhaps the following will suffice.

The two questions in the Advanced Question Pool, as many of you figured out are, A9B09 and A9B10. The first asks "What type of computer program is commonly used for modeling antennas?" and the second "What is the principle of a "Method of Moments" analysis?"

As an antenna designer myself, I was surprised that the question first indicated that the program in question was a "commonly used computer program", so common I never heard of it. From the posts I have read thus far, apparently our Tax Dollars paid for it's inception and private companies are offering it for sale, making it even more proprietary than I originally suspected.

In my course of study to upgrade to Advanced Class, I try to find out everything I can about the questions posed in the exam. When I tried to find out about the "Method of Moments" I initially found nothing about it. I purchased "The ARRL ANTENNA Book" along with a disk containing the computer programs they offer. After reading the book cover to cover and finding nothing mentioned about the "Method of Moments Computer Program", I contacted the ARRL about this supposedly "commonly used computer program" and was informed that I would have to order it for a specific price. Until today, I just figured it was the property of the ARRL, now I find many different private enterprises have claimed something our tax dollars already paid for.

In any case, both of the questions presented in the current question pool are directly contrary to the FCCs goal of giving the public the best possible service at minimal cost.

There are currently 582 questions in the Advanced question pool. Hypothetically, if 1 out of every 10 questions consisted of proprietary type information and this information cost you $29.95 to obtain, it would cost you well over $1,500.00 just to study for your upgrade.

I hope this clarifies my point before the abuse becomes non-hypothetical.

Commentary about replies to my original post:
Donald J. Miller - They don't give it away free either!
Roy Lewallen W7EL - Your two key words were "Brief Description" and "Purchased"...Brief Description is not a computer program and purchased means to me, proprietary.
W8JI Tom - I'm Glad your Eyes are OPEN to the degredation sweeping the nation.

Steve Sampson - Unfortunately, the error codes are sometimes in error themselves and don't apply to every component or problem!
Don Huff - Well put Don, I dropped my ARRL membership back in the '70s for reasons I won't get into here. I will say, they don't even excel in the publishing business. Most of their books are innundated with gross errors.
Gary Coffman - I could buy Kalkwasser at Albert's prices, But I choose pickling lime from Ball, But what does that have to do with the question pool?

TTUL - 73+ de Gary - N0ZOI

4314. Trade UNIXWARE 2.0 AS for all band rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: dedelvis01@aol.com
Message-ID: <43q6ip$od0@newsbf02.news.aol.com>
Source record: 110531

I live in the Las Vegas area and have UNIXWARE 2.0 Application Server for unlimited users with the additional SDK included. All books and manuals that came with the product. I am looking for an all band transciever, newer for trades. I mail pefered.

4315. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <43pnij$qme@news1.inlink.com>
Source record: 110532

In article <DF7uF1.EMn@hpcvsnz.cv.hp.com>, tomb@lsid.hp.com says...
>
>Gary V. Deutschmann, Sr. (raiar@inlink.com) wrote:
>
>..
>
>: While reviewing the question pool, as I neared the end of the list,
>: I found two very disheartening questions, both of which the answers
>: were related directly to proprietary data and information.
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>: I was so mad that I tore the book in half and threw it in the trash.
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>: As I no longer have the book, I can't put the two questions here, but
>: the questions were related to antennas and the method of moments, which
>: is definately proprietary information and has no place on the exam.
>
>: How can such proprietary questions be put in the question pool and can
>: I request a test that does not contain either of these two questions?
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>Maybe I'm being too damned analytical here, but how can I hope to carry
>on a meaningful discussion about this if I don't know what the questions
>were? How do I know what you consider to be "proprietary"? Do you
>consider explanations about how electromagnetic radiation propagates to be
>"proprietary"? Do you consider discussions about how semiconductor
>devices operate to be "proprietary"? I believe that anything published
>in a journal, book or dissertation is not "proprietary", and I also
>believe that anything which is patented is not "proprietary" ... it is
>_protected_ but not proprietary. Part of the purpose of a patent is to
>disclose the invention to the public.
>
>de K7ITM
>

The questions were A9B09 and A9B10!
Proprietary means either the product is copyrighted or patented and offered
for resale by a private firm or organization and the contents of which are
not freely distributed.
No, in order to sell a new semiconductor, the manufacturer freely publishes
the data sheets on same.
You can feel that way if you want, but I hold three US Patents myself and my
products are definately proprietary, meaning I don't allow anyone other than
myself to produce or sell my products, however, I do publicize every single
thing about my products in their respective patent abstracts. But for
seventeen years they are my proprietary product.

You think so, most patents do not disclose the operation of any device, nor the exact manufacturing specifications. Patents are usually generalizations to extend the scope and coverage of the device. For example, one claim in Land's patent was, any device wherein the development process takes place as a result of or an action of the device or casual user. That is why Kodak did not have a Polaroid type camera for 17 years. It was totally proprietary to Mr. Land.

TTUL - 73+ de Gary - N0ZOI

4316. X beam antenna suggestions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: dedelvis01@aol.com
Message-ID: <43q6iq$od2@newsbf02.news.aol.com>
Source record: 110533

I am interested in building an X beam for a small space antenna. I would appreciate if anyone have had any luck, good or bad with this antenna to please pass it along.Any other suggestions for a small portable gain antenna >???

4317. Small 10 meter beam antenna construction HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: dedelvis01@aol.com
Message-ID: <43q6j6$od6@newsbf02.news.aol.com>
Source record: 110534

I am looking to build a small 10 meter beam antenna and would appreciate any help from anyone who may have ideas or plans for such an antenna. I am also interested in the X beam 2 element antenna.

4318. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.950920135337.20864B-100000@biggulp.callamer.com>
Source record: 110535

Hi all. You might want to be careful about putting the choke in the negative lead of a full wave configured power supply. If a short, even a momentary one like a flashover were to occur, then almost the full supply voltage would appear across the choke and, therefore the center tap of the transformer. Center taps are often placed near the core NOT anticipating high voltage, and can be punchured in this fashion..73 de Cliff W6HDO

4319. re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: wade@netcad.enet.dec.com
Message-ID: <43q06r$eas@nntpd.lkg.dec.com>
Source record: 110536

>Article 10378 of rec.radio.amateur.homebrew:
>Path: nntpd.lkg.dec.com!crl.dec.com!crl.dec.com!caen!hookup!uwm.edu!spool.mu.edu!usenet.e
el.ufl.edu!col.hp.com!simtel!news.sprintlink.net!bga.com!ftp.unisql.com!unisql.unisql.com!
news
>From: Jim Strohm <jstrohm@blazer>
>Newsgroups: rec.radio.amateur.homebrew
>Subject: Re: HV supply chokes
>Date: 19 Sep 1995 15:35:27 GMT
>Organization: UniSQL, Inc.
>Lines: 13
>Message-ID: <43mnvv$i0b@unisql.unisql.com>
>References: <Michael-1809951037450001@diamonds.batnet.com>
>NNTP-Posting-Host: blazer.unisql.com
>X-Newsreader: NCSA Mosaic
>
>Peter Dahl is a good source for HV transformers and chokes.
>
>Things to consider:
>additional filter caps may be cheaper than a filter choke, and will definitely
> weigh less

>if you put the filter choke in the negative leg, you remove the requirement
> for HV protection and reduce/eliminate the need for a dielectric standoff

DANGER! putting the choke in the negative lead REDUCES the HV requirement
from roughly twice the operating voltage to roughly the operating voltage.
there is still a very serious dielectric requirement.

>you may be able to find a big filament transformer whose primary winding
> provides sufficient inductance for your application.

high voltage is serious stuff -- do it right!

>
>Jim N6OTQ

sounds like it's time to finish the article on SPICE modelling of
high-voltage power supplies...

paul N1BWT

4320. Re: Help with new Pirate Radio in S. FL.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: ssampson@icon.net
Message-ID: <ssampson.55.0015ABE1@icon.net>
Source record: 110537

In article <438321$4k4@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:

>A friend of mine and I are going to start a radio station. We
>want to pump out about 15-20 Watts, or at least enough to get
>me 6-12 miles, VERY CLEARLY, and in Stereo. I will need an
>antenna too, and a power supply. As of now, Im looking at a
>new 15 watt stereo transmitter. It costs $469.00, but than I
>need to get a good antenna for $70.00, and then I need the
>power supply, for $60.00 (according to a buddy). Thats quite a
>bit of cash for a 15 watt signal. If someone has any help and
>suggestions, and especialy equipment, I would appreciate it.
>Please... no kits, Im not too good with that kind of stuff.

Call me anytime after 8am Eastern and I can help you "I'm with
the Government."

Steve Sampson
FBI/Federal Codes Division
1-800-IM-SNITCH

4321. 10 meter portable antenna plans wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: dedelvis01@aol.com
Message-ID: <43q6jb$od8@newsbf02.news.aol.com>
Source record: 110538

I plan on a field trip and would like any suggestions for a small effiecient antenna for 10 meters, beams also. Thanks.

4322. Re: Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <43qa5m$ptl@crl3.crl.com>
Source record: 110539

Gary V. Deutschmann, Sr. (raiar@inlink.com) wrote:
: I have read each of your replies and enclosed my comments below.

: The two questions in the Advanced Question Pool, as many of you figured out
: are, A9B09 and A9B10. The first asks "What type of computer program is
: commonly used for modeling antennas?" and the second "What is the principle
: of a "Method of Moments" analysis?"

: As an antenna designer myself, I was surprised that the question first
: indicated that the program in question was a "commonly used computer
: program", so common I never heard of it. From the posts I have read thus
: far, apparently our Tax Dollars paid for it's inception and private
: companies are offering it for sale, making it even more proprietary than I
: originally suspected.

OK, Gary. I'm going to try to clarify what I feel is one of the roots
of the mis-understanding here. NEC was developed under government
contract. Mini-Nec is a derivative that is simpler to use (the original
NEC was rather un-ruly). Mini-Nec and NEC2 *are* available for free.
You can get them on the net (Try archie). The user-interface is a rather
crude character-based one.

Several companies have taken the NEC or mini-NEC engine and added features
such as graphic plots and improved operator interfaces. This is the
value added that they charge for! The code that does the numerical
work is *not* proprietary.

As for your lack of knowledge about the availability of NEC, I am
surprised, given that you design antennas! Every Ham-radio publication
has mentioned this software at some point or another, and it has
been mentioned in THIS NEWSGROUP many times.

: In my course of study to upgrade to Advanced Class, I try to find out
: everything I can about the questions posed in the exam. When I tried to
: find out about the "Method of Moments" I initially found nothing about it.
: I purchased "The ARRL ANTENNA Book" along with a disk containing the
: computer programs they offer. After reading the book cover to cover and
: finding nothing mentioned about the "Method of Moments Computer Program", I
: contacted the ARRL about this supposedly "commonly used computer program"
: and was informed that I would have to order it for a specific price.
: Until today, I just figured it was the property of the ARRL, now I find many
: different private enterprises have claimed something our tax dollars already
: paid for.

Well you have been looking in the wrong place. The ARRL ANTENNA Book,
like many ARRL publications, is a cookbook. If you want theory, you

better look elsewhere. If you research one of the modern textbooks
on *Electromagnetic Theory*, you should find a discussion on the
method of moments.

: In any case, both of the questions presented in the current question pool
: are directly contrary to the FCCs goal of giving the public the best
: possible service at minimal cost.

Service? Cost? The test isn't a service to you -- it exists to find out
your technical aptitude and knowledge of certain rules.

: There are currently 582 questions in the Advanced question pool.
: Hypothetically, if 1 out of every 10 questions consisted of proprietary type
: information and this information cost you $29.95 to obtain, it would cost
: you well over $1,500.00 just to study for your upgrade.

Are you defining proprietary information to be that information which you
must pay some price to obtain? Certainly if you want to study for an
upgrade, you would need to buy a book at some point?

: Commentary about replies to my original post:
: Donald J. Miller - They don't give it away free either!

You can ftp mini-nec over the net. Use archie to search for it. I know
that there is a directory on netcom.com that contains it. Someone else
reading this newsgroup will certainly know which directory (or another
site).

: Roy Lewallen W7EL - Your two key words were "Brief Description" and
: "Purchased"...Brief Description is not a computer program and
: purchased means to me, proprietary.

So, your definition of proprietary DOES mean you have to shell out a little
cash? I guess I spent those years in college gathering *all kinds* of
proprietary information. I had to buy books for most courses, and the
courses themselves --- well, they weren't free.

Although I don't agree with your definition, I can still prove that the
information regarding M of M is *not*, ahem, PROPRIETARY. Care to
place a wager that I can't make a trip down to my local PUBLIC library
and find some Emag book that talks about it? (I wouldn't take this
bet if I were you!)

In summary:

1) Perhaps they are including questions that are a bit more difficult to
research that before. The study guides probably haven't caught up
with the question pools, and test preparation isn't the cakewalk
that it used to be. Well, perhaps the test is going to start to be
more "real world" -- the student may have to study more than just
one or two resources to master the needed material. If you've
been to college, this should not bother you.

2) NEC is not, repeat NOT proprietary.

3) Yes, you can get versions of NEC for FREE!

4) If you would like to learn more about the method of moments, you can find out more by visiting a good library.

If you had just complained about the M of M information as being hard to find compared to other material, or the fact that you couldn't find reference to it in the ARRL publications, the folks reading this newsgroup would certainly have turned a more sympathetic ear. Rather, your outrageous accusations of the questions being based on proprietary information and if I say so myself, your inflammatory delivery of the same, caused quite a different reaction.

As for myself, I probably would have not replied after my first followup had you not replied to it with your obviously ignorant reaction that mini-nec was not free.

Please try to be a little more exhaustive in your research before you erupt the next time.

--

Don Miller My opinions are my own!
dmiller@crl.com

4323. Ten Tec T-Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <7988-209583802@humnet.humberc.on.ca>
Source record: 110540

>
> I talked today to someone at Ten Tec about their T-Kit line. Actually I
> placed an order. Anyway, Ten Tec is still firmly behind their kit line
> even though they never advertise, and the latest catalog I have is over a
> year old.
>
> I guess we've all heard about the impressive 2meter radio kit Ten Tec was
> to release over a year ago. Believe it or not, it has still not been
> released. The gentleman on the phone said they were still trying to work
> some problems, but were hoping to release it soon.
>
> Has anyone built any of their kits before?
>
> Mark, KE4IOF
>

I built one of the Ten-Tec "T-Kit" 6 meter transverter kits...
Works quite well, uses discrete components (easier,cheaper repairs
if necessary). Includes EVERYTHING...all parts, case, switches,
connectors, wire...
The manual was very comprehensive, Tuning was simple.
Mine worked the first time ! I use it with a TS-50 in the car...
Worked about 50 grids including some rare ones this past spring.
Without hesistation, I recommend it to anyone who already ownes an
HF rig and wants to check out 6 meters. The best $100 I've spent on
the hobby in years !

Regards...
Hugh Duff VA3TO Toronto

 NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/

4324. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.209.000B77E0@TRL.OZ.AU>
Source record: 110614

Winding-to-case breakdown isn't too critical, as I can mount the
>choke on
>a dielectric support.

From here cannot help with source of chokes. However, the voltage breakdown requirement is considerably reduced by placing the choke in the negative supply lead rather than the usual method where it is wired in the positive side. Achieves the same thing.

73, Drew, VK3XU. Telstra Research Laboratories.

4325. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <43nlli$4hn@maureen.teleport.com>
Source record: 110615

```
; dmiller@crl.com (Donald J. Miller) writes:
; Gary V. Deutschmann, Sr. (raiar@inlink.com) wrote:
;
; : AMATEUR RADIO GONE COMMERCIAL!!!
;
; : While reviewing the question pool, as I neared the end of the list,
; : I found two very disheartening questions, both of which the answers
; : were related directly to proprietary data and information.
;
; : As I no longer have the book, I can't put the two questions here, but
; : the questions were related to antennas and the method of moments, which
; : is definately proprietary information and has no place on the exam.
;
; What?
;
; Are you saying that anything dealing with the method of moments is
; proprietary information? NEC and miniNEC use method of moments, don't
; they? NEC was govt. funded and MiniNEC is in the public domain.
; HP, Sonnet, and Compact all have method-of-moment products. If more
; than one vendor is using the method, how can it be proprietary? These
; folks are vicious competitors --- they aren't licensing it from each
; other!
;
; Please elaborate on your objections...
;
```

Don is absolutely correct. If you're interested, there's a very good but brief description of the method of moments in John Kraus' _Antennas_, second edition. If you're a real glutton for punishment, you can get _Moment Methods in Antennas and Scattering_, edited by R.C. Hansen. It's a collection of papers on the topic. And both MININEC and NEC-2 are public domain. Their manuals can be purchased.

Roy Lewallen, W7EL

4326. looking foe ICOM 2GXAT mod to give me 155 mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: joes@halsey.com
Message-ID: <43o4vq$hek@news0.rain.rg.net>
Source record: 110616

I need to modify an Icom 2gxat to transmit on 155 Mhz for use with a
commercial buisness liscense on that frequency.
Post replys here or email to joes@halsey.com

4327. Re: 4CX1500 redux

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: internet <karyn10848@delphi.com>
Message-ID: <hbBhVx+.karyn10848@delphi.com>
Source record: 110617

I may be way off base here, but I was under the impression that the main rush toward high drives and GG AB2 amplifiers was when the FCC decided they had to give 'type acceptance' to commercial amps. The 100 watt drive level fit with current transmitters without the need for step attenuators, and it took just a few of the possibilities away from the CB group.

Actually, back when we had to build our own equipment, many a tetrode amp was built to work with a 10 watt exciter. Done a few myself. What I'm trying to point out here, is the prevalence of GG amplifiers was caused by political rather than technical considerations.
K0UYH

4328. Re: looking foe ICOM 2GXAT mod to give me 155 mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: gfiber@halcyon.com
Message-ID: <43p1bd$934@news.halcyon.com>
Source record: 110618

In article <43o4vq$hek@news0.rain.rg.net>, joes@halsey.com (Joe Sullivan) says:
>
>I need to modify an Icom 2gxat to transmit on 155 Mhz for use with a
>commercial buisness liscense on that frequency.
>Post replys here or email to joes@halsey.com
>
send your MARS or CAP license to ICOM America, Inc
2380 116th Ave N.E.
Bellevue, WA 98004

They will send you the modification if you ask for it. But will only furnish it when one of the above
licenses is supplied. Also there is the book named radio / Tech Modifications that has the information in it also.

73' Gary .

4329. Re: 455KHz IF amp ICs: Any Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <43ob7g$6ef@nnrp3.news.primenet.com>
Source record: 110619

Steve Muther (stevem@w6yx.stanford.edu) wrote:

: I am looking for IF amp ICs for use at 455KHz
: which include gain control for AGC. Looking through
: the usual data books: Moto, Philips and the like, I
: have found lots of gain controlled amplifiers but
: they all have response from DC to daylight. I would
: rather not have to worry about UHF and microwave
: construction issues for a circuit at 455KHz!

: Any ideas would help. I am looking for about 50dB
: of gain or so. More than one device is OK.

: Thanks

: Steve Muther WF6R

Steve,
Although the MC1350 and MC1590 have been suggested, I myself prefer
the CA3028B differential amplifier when it comes to a good linear AGC amp-
lifier for 455 KHz or 10.7 MHz. You have to add matching circuitry to use
them above this range. They have about 30 dB of gain as a single-ended
amplifier (aka cascode), and around 50 dB of AGC range. Newark sells them
for around $3.00 each, but they can be obtained for as little as $1.80 for
the SOIC version.

I'm not too crazy about using mega-transistor IC's for RF
work. The characteristics and noise of these devices make me cringe with
fear. A single bipolar device will usually outperform anything except
a good Nuvistor tube.

I know I'm going to catch hell for this. I just know it.

--

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo---

4330. RE: 50 ohm to 300 ohm converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: dcooper@ssec.honeywell.COM
Message-ID: <9509201329.AA26500@dilbert>
Source record: 110620

>Ok, I need to buid a 50 to 300 Ohm converter and I was curious as to how
> to go about it. If anyone has any ideas could you post them here or email
> me at raver909@telerama.lm.com
>
> Thanks much in advance.
> Joe
>
Joe-
I believe what you need is a balun, which is used for matching
unbalanced 50 ohm coax to 'balanced' 300 ohm twinlead or the like.
Look in the October issue of Electronics Now (was Radio Electronics).
This contained an article that described the designing and building
of baluns.

Hope this helps you out!

73's

David
kb0nkw

4331. Re: 4CX1500 redux

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-20 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43p5dk$e8l@newsbf02.news.aol.com>
Source record: 110621

In article <hbBhVx+.karyn10848@delphi.com>, internet
<karyn10848@delphi.com> writes:

>
>I may be way off base here, but I was under the impression
>that the main rush toward high drives and GG AB2
>amplifiers was when the FCC decided they had to give 'type
>acceptance' to commercial amps. The 100 watt drive level
>fit with current transmitters without the need for step
>attenuators, and it took just a few of the possibilities
>away from the CB group.
>
>Actually, back when we had to build our own equipment,
>many a tetrode amp was built to work with a 10 watt
>exciter. Done a few myself. What I'm trying to point out
>here, is the prevalence of GG amplifiers was caused by
>political rather than technical considerations.
>K0UYH
>
Hello Karyn(?),

Actually I think it was the ready availability of 50 to 100 watt exciters
and availability of inexpensive tubes better suited for grounded grid that
caused the change.

The CB rules came out long after gg amplifiers were popular.

The most popular amp designs were the most simple and least expensive
designs in the long run, and a GG single ended triode is by far less
costly and much more simple than any type of tetrode amplifier design. It
was a course of natural evolution.

The gg amp is less costly to build and maintain than a grid driven tetrode
or pentode in most applications.

73 Tom

4332. Re: 50 to 300 Ohm converter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: raver909@telerama.lm.com
Message-ID: <43qula$f5p@asia.lm.com>
Source record: 110541
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Many thanks to all who have responded. I have what I need now.
73's
joe

--

4333. Patch Antennas -- References??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <43s8o4$cuu@hg.oro.net>
Source record: 110542
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In the October '95 issue of QST, Hal Ward (W1GE) wrote an article on a GPS patch antenna. One of the references he used to design the antenna was a book by David Pozar titled "Antenna Design Using Personal Computers". Hal also noted that the book was published by Artech House in '85 and is out of print.

It is also out of library. My library did a data search and came up empty. Does anybody know either (a) where I can get my hands on a copy of this book even if only for a day or (b) another good reference text for patch antennas. Neither Jasik nor Hamsher (my two antenna bibles) make any reference to a "patch" antenna.

You can post here or email me, whichever suits your fancy. BTW, I will obviously be willing to pay copy and/or postage costs for any of this information.

Thanks for your help, gang.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

4334. Re: Ten Tec T-Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: charlos@rivm.nl
Message-ID: <DF9408.3IM@rivm.nl>
Source record: 110543

Has Ten-Tec decided yet to sell the kits abroad ?
Last time I asked (March this year) I was told they
wiil not sell abroad until they have proven the quality
of kits and manuals.

Charlos Potma, PA3CKR,
charlos@rivm.nl

KE4IOF (ke4iof@aol.com) wrote:
: I talked today to someone at Ten Tec about their T-Kit line. Actually I
: placed an order. Anyway, Ten Tec is still firmly behind their kit line
: even though they never advertise, and the latest catalog I have is over a
: year old.

: I guess we've all heard about the impressive 2meter radio kit Ten Tec was
: to release over a year ago. Believe it or not, it has still not been
: released. The gentleman on the phone said they were still trying to work
: some problems, but were hoping to release it soon.

: Has anyone built any of their kits before?

: Mark, KE4IOF

4335. Re: Method of Moments (was Bulk Reply AMATEUR RADIO GONE COMMERCIAL)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: mallick@crd.ge.com
Message-ID: <43rn7u$5v1@rdsunx.crd.ge.com>
Source record: 110544

For MOM references, try the book by Robert Harrington, "Moment Methods in ..."

Harrington is a well-known EE prof. at Syracuse University, and the book is
at least 10 years old.

73, John

--
....
John A. Mallick WA1HNL E-mail: mallick@crd.ge.com
GE Corporate Research and Development Phone: (518)-387-7667 (W)
Schenectady, NY 12301 FAX: (518)-387-7592 (W)
....

"Work like hell. Tell everyone everything you know. Close a deal
with a handshake. And have fun." --- "Doc" Edgerton

4336. JW Miller Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: dsnowden@ccd.harris.com
Message-ID: <43rm0g$5rc8@rs2.ccd.harris.com>
Source record: 110545

Does anyone know a source for JW Miller parts. I am looking for slug tuned inductors. i.e, 42A336CBI, 42A156CBI, etc etc. Maybe there is a stock of these items somewhere???

Doug, N4IJ dsnowden@ccd.harris.com

--
Doug Snowden
work: (407) 242-5542
dsnowden@ccd.harris.com

4337. Re: Spice Simulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Sep21.131123.80136@ucl.ac.uk>
Source record: 110546

In article 514362878wnr@ifwtech.demon.co.uk, Ian G3SEK <G3SEK@ifwtech.demon.co.uk> writes:
> Thanks to the several people who said where the program can be found.
>
> Now where's the manual, please?
>
>
> --
> 73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
> 'In Practice' columnist for RadCom (RSGB)
> Professionally:
> IFW Technical Services Clear technical English - anywhere.
>

I dont know of a free source, but one book I have is:

SPICE - A guide to Circuit Simulation & Analysis Using PSpice, by P. W. Tuinenga,
Prentice Hall, 1988. Cost #25 at some time between 1988 and now.

Cant say how good/bad it is, since I've only glanced at the first few pages, but
other in the department think its okay.

dave kirkby G8WRB.

4338. Re: Help with new Pirate Radio in S. FL.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43ror5$9cu@newsbf02.news.aol.com>
Source record: 110547

In article <ssampson.55.0015ABE1@icon.net>, ssampson@icon.net (Steve Sampson) writes:

>
>Call me anytime after 8am Eastern and I can help you "I'm with
>the Government."
>
>---
>Steve Sampson
>FBI/Federal Codes Division
>1-800-IM-SNITCH

Gee Steve,

Thanks for crediting me with the original post! You just wait til I find another bloody glove, you're next.

Tom

4339. Heathkit HO-5404 station monitor Manual needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199509211517.LAA25515@service1.uky.edu>
Source record: 110548

I picked up an uncompleted Heathkit HO-5404 station monitor at an hamfest.
It seems to have all the components installed but some multi-conductor cables
are not completed.

I need a manual so that I can complete the project.'

TNX
73
Bill ko4ww

4340. re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <43ruuc$mu5@unisql.unisql.com>
Source record: 110549

Paul Wade writes:
<snip>
> DANGER! putting the choke in the negative lead REDUCES the HV requirement
> from roughly twice the operating voltage to roughly the operating voltage.
> there is still a very serious dielectric requirement.

True, unless some level of standard safety precautions are followed.

Maybe I should have qualified that the builder needs to include a low-impedance, low-resistance path to ground, to allow for current metering as well as to limit the potential on the (negative) return line.

The ARRL standard practice is to provide two paralleled power resistors of approx 50 to 100 ohms from the return line to a proper chassis ground. This will keep the return from swinging more than a few tens of volts off ground and will sink enough current to blow fuses in a hurry if the voltage does go too far from normal. (Yeahyeah, I know the relative value of ARRL technical information.)

I made the assumption that since the builder is asking for parts here, he's doing this project on the cheap and knows what he's doing, safety-wise and design-wise.

If he's doing this with no prior knowledge of the art, he doesn't need filter chokes, he needs life insurance.

Isolated, full floating B+ and return were not in the design specs the builder provided.

Jim N6OTQ

BTW, I just got flamed somewhere else for volunteering information. I'll grant that I don't know everything, but I feel that what I do know is generally of value and is more information than the requestor had before, and hence is useful. I shouldn't have to cover my you-know-what against everybody's trivial "yes, BUT" objection relating to some off-the-wall case that occurs once in a blue moon. I've offered simple information that I felt was relevant to the scale of the problem described, and hoped that others would add to this information, not trash me for opening my mouth.

There's absolutely no doubt in my mind that if I never posted again, a lot of information that NEEDS to be shared would be lost, to the detriment of a lot of hams. potential hams, and electronics hobbyists (yes, and to newbies in a lot of other fields and hobbies). Punish me for sharing? Great idea. I'll lurk or leave. And so will a whole lot of others who get slammed for offering info GRATIS, leaving the few of you who are so convinced you know everything here to bicker over the tediously trivial.

Have a nice day.

Standard disclaimer

4341. Re: Blown diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: cmoore@sedona.intel.com
Message-ID: <43s0hf$c29@chnews.ch.intel.com>
Source record: 110550

In article <43p6s0$k2d@gw.pacbell.com>,
Stephen Hawkins <sjhawk2@srv.PacBell.COM> wrote:

>I can't make out any markings on the diodes.

Hi Stephen, more than likely, they are 1N34A's.

73, Cecil, KG7BK, OOTC (not speaking for my employer)

4342. Schematics for Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: AARVIKG@pc.iu.hioslo.no
Message-ID: <43rim1$9br@dole.uninett.no>
Source record: 110551

I am interested in any
schematics of recievers
at the:
160m - 10m .

I am only interested in receivers,
not transmittors. (I have a technical license
only permitted to recieve).

If anyone have, or know where to find, such
schematics please mail me, or leave
a message at this newsgroup.

My e-mail is:
AARVIKG@PC.IU.HIOSLO.NO

Thanks.
Geir.

AARVIK GEIR/3EY, email : AARVIKG@pc.iu.hioslo.no

4343. Re: JW Miller Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <43s1pp$jei@lamar.ColoState.EDU>
Source record: 110552

Doug Snowden (dsnowden@ccd.harris.com) wrote:
: Does anyone know a source for JW Miller parts. I am looking for slug
: tuned inductors. i.e, 42A336CBI, 42A156CBI, etc etc. Maybe there is
: a stock of these items somewhere???
:
Circuit Specialists, Inc of
Scottsdale, AZ carries the 48A and 49A series
of slug-tuned L's, they might be able to get the 42A's
1-800-528-1417, 602-464-2485

4344. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <43rcp1$6e8@news1.delphi.com>
Source record: 110553

In article <1995Sep20.171456.14773@ke4zv.atl.ga.us>,
gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
..
>>You don't need a 1st Class License issued in 1970 to work on anything made
>>in the 80's and 90's. It's a waste of time, a waste of study.
>
>Well, lets just say it isn't cost effective. In the broadcast business
>today, most equipment has diagnostic self-test, and repair is replacement
>at the subsystem level. That may be the board level, or it may be the chip
>level considering the sophistication of today's chips. But it is a very
>different skill set from the discrete component days. That skill set isn't
>necessarily less either, but it is different. Today you need a systems
>engineering understanding more than you need a component level circuit
>understanding.

Of course if you're called to the 50KW transmitter to repair a blown final
amplifier tube it helps to have some basic rework skills, especially when
a moth sneaks into the cavity as you are putting it back together after
replacing the final amplifier tube. Such a thing tends to bring the final
down again REAL fast. And since nobody has any replacement chimneys to
replace the one with carbon scoring you get out a Dremel (tm) tool and carve
away the scoring and pray it still works. (This happened to a friend of mine
a couple/three years ago. Wotta mess!)

>
>Gary
>--
>Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
>Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
>534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
>Lawrenceville, GA 30244 | |

{^_-} Joanne Dow The Wizardess
Quibbling again.... (With today's electronics yank and replace is
MUCH more efficient than soldering iron and component debug.)

4345. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <43rcpa$6e8@news1.delphi.com>
Source record: 110554

In article <43pnij$qme@news1.inlink.com>,
raiar@inlink.com (Gary V. Deutschmann, Sr.) wrote:
>In article <DF7uF1.EMn@hpcvsnz.cv.hp.com>, tomb@lsid.hp.com says...
>>
>>Gary V. Deutschmann, Sr. (raiar@inlink.com) wrote:
>>
>>..
>>
>>: While reviewing the question pool, as I neared the end of the list,
>>: I found two very disheartening questions, both of which the answers
>>: were related directly to proprietary data and information.
>>
>>: I was so mad that I tore the book in half and threw it in the trash.
>>
>>: As I no longer have the book, I can't put the two questions here, but
>>: the questions were related to antennas and the method of moments, which
>>: is definately proprietary information and has no place on the exam.
>>
>>: How can such proprietary questions be put in the question pool and can
>>: I request a test that does not contain either of these two questions?
>>
>>Maybe I'm being too damned analytical here, but how can I hope to carry
>>on a meaningful discussion about this if I don't know what the questions
>>were? How do I know what you consider to be "proprietary"? Do you
>>consider explanations about how electromagnetic radiation propagates to be
>>"proprietary"? Do you consider discussions about how semiconductor
>>devices operate to be "proprietary"? I believe that anything published
>>in a journal, book or dissertation is not "proprietary", and I also
>>believe that anything which is patented is not "proprietary" ... it is
>>_protected_ but not proprietary. Part of the purpose of a patent is to
>>disclose the invention to the public.
>>
>>de K7ITM
>>
>
>The questions were A9B09 and A9B10!
>Proprietary means either the product is copyrighted or patented and offered
>for resale by a private firm or organization and the contents of which are
>not freely distributed.
>No, in order to sell a new semiconductor, the manufacturer freely publishes
>the data sheets on same.
>You can feel that way if you want, but I hold three US Patents myself and my
>products are definately proprietary, meaning I don't allow anyone other than
>myself to produce or sell my products, however, I do publicize every single

>thing about my products in their respective patent abstracts. But for
>seventeen years they are my proprietary product.
>You think so, most patents do not disclose the operation of any device, nor
>the exact manufacturing specifications. Patents are usually generalizations
>to extend the scope and coverage of the device. For example, one claim in
>Land's patent was, any device wherein the development process takes place as
>a result of or an action of the device or casual user. That is why Kodak
>did not have a Polaroid type camera for 17 years. It was totally
>proprietary to Mr. Land.
>
>TTUL - 73+ de Gary - N0ZOI
>

Now hold on there podnah - I seem to remember studying something called a method of moments way back in the mid 60's in college antennas courses. Are you *SURE* you researched prior art properly when making your patent claims?

{^_^} Joanne Dow The Wizardess

4346. Re: Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <157636804wnr@ifwtech.demon.co.uk>
Source record: 110555

In article: <43pmqe$qme@news1.inlink.com> raiar@inlink.com (Gary V. Deutschmann, Sr.) writes:

: As an antenna designer myself, I was surprised that the question first
: indicated that the program in question was a "commonly used computer
: program", so common I never heard of it.

If the questions had asked about "NEC, MININEC and related computer programs", would that have helped? Because that's all they mean by "Method of Moments".

I truly can't believe that anyone claiming to be an antenna designer is unaware of these programs, or doesn't already use them intensively.

(On the other hand, if you're the kind of person who never reads page 1 of the manual but jumps straight into the interesting stuff, then you might have missed the academic information that all these programs use the method of Moments :-)

These programs are the biggest single development in antenna design for decades - or maybe even the biggest development ever. No holder of a recent Amateur Extra ticket should be wandering around in total ignorance of their existance or importance.

: From the posts I have read thus
: far, apparently our Tax Dollars paid for it's inception and private
: companies are offering it for sale, making it even more proprietary than I
: originally suspected.

You can download free, fully working versions of NEC and MININEC, and even the source code, from many academic ftp sites. You can order full printed reports from NTIS for a few dollars more. There's even an amateur-written beginner's FAQ for MININEC.

What you'll find is that both programs are very powerful, but competely user-oblivious. People like W7EL and K6STI have put thousands of hours into improving the user interface, adding plot routines, streamlining the calcuations and taking some bugs out of the original code. In other words, they have turned NEC and MININEC into usable tools.

When you buy EZ-NEC for example, you're paying for all the proprietary enhancements that make it "EZ" to use: you're not being asked to pay for any of the original public-domain NEC code.

If you don't choose to buy an enhanced (read "usable") version, you're completely at liberty to struggle on with NEC or MININEC -

or write your own enhancements.

Coming back to the exam question: OK, so you got a stupid answer
from whoever you chose to ask at ARRL - but that doesn't change any
of the above.

Now can someone please post a word-for-word copy of the questions
and answers, so we can see what all the fuss was about?

Don't be bashful - the questions aren't proprietary :-)

: Hypothetically, if 1 out of every 10 questions consisted of proprietary type
: information and this information cost you $29.95 to obtain, it would cost
: you well over $1,500.00 just to study for your upgrade.

Aw, c'mon Gary! Something about these two questions has "pushed
one of your buttons" and provoked a fury that is totally out of
proportion. We all have these buttons, and some of them are marked
"Amateur Radio". (Me too: I'll confess to having hurled RSGB's Radio
Communication Handbook across the room :-)

It's time to press "Reset".

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

4347. Re: custom crystal suppliers besides ICM, JAN?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <43s8uq$cuu@hg.oro.net>
Source record: 110556

wayne@interval.com (wayne burdick) wrote:

>I heard there may be less expensive alternatives to ICM and JAN for custom
>crystals. There was mention of a manufacturer in San Diego. Any
>infomation would be appreciated.

>Wayne,
>N6KR

>burdick@interval.com

If you can find a less expensive custom crystal supplier than Jan, it
would be news to me. ICM, on the other hand, is one of the more
pricey places, but Jan has always been my source for onesey-twosey
crystals and even some moderate production runs.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

4348. Re: Spice Simulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: "James P. Meyer" <jimbob@acpub.duke.edu>
Message-ID: <Pine.SOL.3.91.950921134759.17232K-100000@godzilla.acpub.duke.edu>
Source record: 110557

On Wed, 20 Sep 1995, Ian G3SEK wrote:

> Thanks to the several people who said where the program can be found.
>
> Now where's the manual, please?

Gee, you give some folks an arm and then they come back later
looking for a leg... 8-)

You'll have to pay for a manual. The free software is just to
give you a little look at some of the capabilities of the program. There
are several books out that will serve as a manual. I had a list of
several of them, but of course, I can't seem to find them now. 8-(

Jim "no sig" Meyer

4349. Re: Spice Simulator--Free

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: ct@onr.com
Message-ID: <43sbr7$2ff@mari.onr.com>
Source record: 110558

There should be a student version of PSpice floating around
the net somewhere. It does a max of 10 transistors....but's
it's a NICE freeware package.

-c.t.

>In article 514362878wnr@ifwtech.demon.co.uk, Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
writes:
>> Thanks to the several people who said where the program can be found.
>>
>> Now where's the manual, please?
>>
>>
>> --
>> 73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
>> 'In Practice' columnist for RadCom (RSGB)
>> Professionally:
>> IFW Technical Services Clear technical English - anywhere.
>>
>
>
>I dont know of a free source, but one book I have is:
>
>SPICE - A guide to Circuit Simulation & Analysis Using PSpice, by P. W. Tuinenga,
>Prentice Hall, 1988. Cost #25 at some time between 1988 and now.
>
>Cant say how good/bad it is, since I've only glanced at the first few pages, but
>other in the department think its okay.
>
>dave kirkby G8WRB.
>
>

4350. Re: Help: Find Design Solution for application

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: marvin@rain.org
Message-ID: <43sb79$ngp@news.rain.org>
Source record: 110559

PFZouave (pfzouave@aol.com) wrote:
: I am working on a microprocessor based device for a medical application.
: What I need is a simple circuit to detect proximity of the device to the
: human body -- in other words, a binary (go/no go) indication if the device
: is on the body or has been removed.

You might take a look at the Zircon electronic stud finder available in
hardware stores. It appears to measure capacitance and has 4 or 5 LEDs
operating as a bar graph display.

4351. Re: Is someone deleting my posts ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: aa005@torfree.net
Message-ID: <DF9s7o.6ot.0.bloor@torfree.net>
Source record: 110560

VE4KLM (slmusr03@MBnet.MB.CA) wrote:

: I find however, that my posts may last no more than a week, or even
: several days at most. Does this newsgroup get 'wiped' once a week,
: or what ? I have legitimate questions to ask, so why are they getting
: removed so quickly ? If anyone can help me, please do.

If your system is getting a FULL news feed that means 400MB/day. No system has infinate storage, so yes, old matterial will be deleted. How long stuff is kept varies from site to site, but 1 week is a common retention time (though I have seen sites that retain stuff for a month, and others that only hold onto stuff for two days). If your concerned about how long matterial stays at your site, talk to your system admin (and maybe offer to buy him/her a few GB of storage ... :-)).

Colin McGregor - VE3ZAA

4352. Re: Spice Simulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DF9uuK.164@hpcvsnz.cv.hp.com>
Source record: 110561

Ian G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:
: Thanks to the several people who said where the program can be found.

: Now where's the manual, please?

Gee, depends on which manual. As others have said, you can get one of the many books that folk have written about Spice. I recently got Rashid, "Spice for Circuits and Electronics Using PSpice," second edition, Prentice Hall. Seems OK. Before that, I used just the Berkeley manual which you used to be able to get via ftp from the UC Berkeley site; I don't recall its exact name right now. It's available at least in postscript format, which produces a fairly nice printout on a postscript laser printer. It's for Berkeley Spice 3. It won't tell you very much about the hows and whys and troubleshooting, but it tells you what models are built in and what the format is for them.

4353. DSP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: jon <g4tsn.demon.co.uk>
Message-ID: <811719496.18347@g4tsn.demon.co.uk>
Source record: 110562

Hello ,
Wonder if anyone can help with circuit info on the Texas TMS320C26
and the TLC32040 to use with some of the software avalible.

Thanks 73, Jon G4TSN>

4354. Help: Find Design Solution for application

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <43s915$dre@newsbf02.news.aol.com>
Source record: 110563

I am working on a microprocessor based device for a medical application. What I need is a simple circuit to detect proximity of the device to the human body -- in other words, a binary (go/no go) indication if the device is on the body or has been removed.

I am thinking in terms of two small metal plates (which could actually be pads on the circuit board itself) that constitute the plates of a large air-capacitor. In theory, I think, an oscillator could be adjusted to break into oscillation when the value of the "capacitor" changes due to the proximity of human flesh.

Another possibility would be to excite one of the plates with an oscillator. The other plate would be connected to a rectifier and comparitor. The comparitor would be triggered when rf coupling between the plates increased (due to the presence of human flesh).

I can kluge something together on a breadboard that will do all this. But what I need is an *optimum* design that can meet the following specifications:

* First, the lower the parts count, the better.
* The more generic the parts, the better (for future production reasons).
* As low a current consumption as possible (device is battery powered)
* 3 volt supply max.
* Must provide a binary (on/off) output that can be connected to an i/o pin of my microcontroller (a PIC 16C74)
* For power conservation reasons, ciruitry should only "turn on" when enabled by a microcontroller i/o pin. (0 or 3 volts).

If you have tackled a similar problem, your input would be greatly appreciated. Please E-mail responses directly to me. Thanks in advance.
PFZouave@aol.com
Pete Friedrichs
*** We don't inherit the earth from our parents, we borrow it from our children ***

4355. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43sapa$e5k@newsbf02.news.aol.com>
Source record: 110564

Hi Jim,

Let me add a bit to this. there have been some very good posts here. I'm pleased as can be to read some of the nice information, including yours. Let me add a bit to yours post if you don't mind.

In article <43ruuc$mu5@unisql.unisql.com>, Jim Strohm <jstrohm@blazer> writes:

>Maybe I should have qualified that the builder needs to include a
>low-impedance,
>low-resistance path to ground, to allow for current metering as well as
to
>limit the potential on the (negative) return line.

That should always be done in a suppy if the chassis operates close to the negative rail in potential. On rare occasions it can not be done (like a tetrode with grounded screen).

>
>The ARRL standard practice is to provide two paralleled power resistors
of
>approx 50 to 100 ohms from the return line to a proper chassis ground.
This
>will keep the return from swinging more than a few tens of volts off
ground
>and will sink enough current to blow fuses in a hurry if the voltage does

>go too far from normal. (Yeahyeah, I know the relative value of ARRL
>technical information.)
>

I don't think that's good advice to follow. No, let me re-phrase that....it's plain unvarnished ignorance for a technical publication to reccomend that method of rail protection. Let me explain why.

1.) During a HV fault (and that is a common occurrence) the filter capacitance in the supply can release many hundreds of amperes of current, and the 50 ohm resistance will still allow the negative HV rail to rise nearly to full supply voltage.

2.) During the fault, the resistors will be subjected to huge overloads. If common wire wound, metal film, or carbon resistors are used (instead of the proper expensive and rare surge rated resistors) the components depended on for protection may fail.

3.) Even during normal supply operation, the negative rail can float to dangerious voltages. As little as one ampere can pull the negative rail to 50 or 100 volts if a negative rail connection fails or is not attached.

I always use a diode network (with heavy diodes) to clamp the negative rail to the chassis, as well as a liberal sprinkling of 50 volt rated by-pass capacitors. The normal failure mode of these components is shorted, not open. So even in the event of a huge fault current between the rail and ground the supply rail remains clamped. Additionally I use a HV rated fuse and/or high surge current and voltage rated resistor in the positive lead near the capacitor to output connection (the bleeder remains directly across the capacitor).

>I made the assumption that since the builder is asking for parts
>here, he's doing this project on the cheap and knows what he's doing,
>safety-wise and design-wise.
>
>If he's doing this with no prior knowledge of the art, he doesn't need
>filter chokes, he needs life insurance.
>
>Isolated, full floating B+ and return were not in the design specs the
>builder
>provided.
>

Don't forget the choke is a high impedance, so it can have an appreciable amount of voltage on the ungrounded lead, even if the negative rail is at chassis ground.

A second more severe problem can occur with chokes, they can act like an induction coil and "kick back" several times the normal operating voltage. I usually include a spark gap across large chokes to limit the flyback voltage to reasonable values.

Lastly, let me tell a true story that may save lives. In the late 60's I built a 6000 volt supplyn (for a pair of 4-1000A's) using very good components. I tried to use a resonant choke filter circuit as suggested in the Bill Orr Handbook (commonly called the "West Coast Handbook".

Every time I closed the line switch my PA tubes would arc from the anodes to the grids, and the breaker would open. I connected a HV meter to the supply positive terminal through 40 kV insulation wire, stood back on a rubber mat, and turned the supply on with the RF deck HV lead unhooked.

The surge actually blew through the new HV wire and the wi

4356. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43t6pj$nla@newsbf02.news.aol.com>
Source record: 110565

In article <43sfgi$499@btree.brooktree.com>, hale@btree.brooktree.com (Bob Hale) writes:

Hi Bob,

>
>But a capacitor input filter puts much more stress (in the form of RMS
>current) on the rectifiers, transformer, and power line.

Didn't you mean to say (in the form of peak current)??

73 Tom

4357. Mods for Realistic Pro-23?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <43rkm2$h1n@newshost.lanl.gov>
Source record: 110566

Has anyone heard or know of possible mods for the Realistic
scanner model PRO-23 (20-504 RS catalog number)?
Please email me if so.
--
********** Jim Devenport WB5AOX **************
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
* email: jdevenport@lanl.gov *
****

4358. Re: Patch Antennas -- References??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DF9z9A.45L@hpcvsnz.cv.hp.com>
Source record: 110567
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Jim Weir (rst-engr@oro.net) wrote:
: In the October '95 issue of QST, Hal Ward (W1GE) wrote an article on a
: GPS patch antenna. One of the references he used to design the
: antenna was a book by David Pozar titled "Antenna Design Using
: Personal Computers". Hal also noted that the book was published by
: Artech House in '85 and is out of print.

: It is also out of library. My library did a data search and came up
: empty. Does anybody know either (a) where I can get my hands on a
: copy of this book even if only for a day or (b) another good reference
: text for patch antennas. Neither Jasik nor Hamsher (my two antenna
: bibles) make any reference to a "patch" antenna.

"Reference Data for Engineers," published by Howard Sams, has a chapter on antennas which by its own admission is a broad-brush overview. The seventh edition, at least, has a page or so on "Printed-Circuit Antennas," including the patch antenna. There are several references. The fundamental one seems to be Deschamps and Sichak, "Microstrip Microwave Antenna," Proc. 1953 Allerton Antenna Symposium, University of Illinois. Skipping several references, we come to the following text and footnote-reference:

"... Although a square patch could be fed on two adjacent sides with the proper phases to obtain circularly polarized radiation, simpler circularly polarized patches have been developed."

(Reference to above: Kerr, J. L. "Microstrip Antenna Developments." Proc. Printed Circuit Antenna Technology Workshop, October, 1979, New Mexico State University.

Many of the references are to papers from conferences, alas.

73, K7ITM

4359. WTB: EIMAC 8874

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: wayne@nexus.interealm.com
Message-ID: <43sq1s$l0n@nexus.interealm.com>
Source record: 110568

Need one more 8874 for spare.
Please contact Wayne WA2KEC
wayne@nexus.interealm.com
73's and tnx

4360. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: hale@btree.brooktree.com
Message-ID: <43sfgi$499@btree.brooktree.com>
Source record: 110569

In article <43mnvv$i0b@unisql.unisql.com>, Jim Strohm <jstrohm@blazer> wrote:

>Things to consider:
>additional filter caps may be cheaper than a filter choke, and will definitely
> weigh less
>if you put the filter choke in the negative leg, you remove the requirement
> for HV protection and reduce/eliminate the need for a dielectric standoff
>you may be able to find a big filament transformer whose primary winding
> provides sufficient inductance for your application.

I tried to send a reply to this by e-mail, but it bounced. Since it
may be of interest to some readers, I am posting the reply.

>Things to consider:
>additional filter caps may be cheaper than a filter choke, and will definitely
> weigh less

But a capacitor input filter puts much more stress (in the form of RMS
current) on the rectifiers, transformer, and power line. There's a
good set of reasons why high power equipment almost universally uses
choke input filtering. My experience is that the most reliable
single phase high power supplies use a bridge rectifier and choke
input filtering.

>if you put the filter choke in the negative leg, you remove the requirement
> for HV protection and reduce/eliminate the need for a dielectric
standoff

You reduce the requirement some, but you don't eliminate it. Assuming
a single-phase system, there are times when the output voltage from the
trasnformer is zero, and the choke is busy supplying the missing
voltage. At those times, the input end of the choke has the peak
secondary voltage on it. At other times, it has essentially zero
volts on it.

>you may be able to find a big filament transformer whose primary winding
> provides sufficient inductance for your application.

I have tried this, and have never found a transformer which didn't
have its inductance collapse dramatically in the presence of DC
current. This makes sense, since transformers don't incorporate
an air gap in the magnetic path.

If you really need high power, three phase is the way to go.
Unfortunately, the power companies aren't willing to furnish most
of us with it at home.

Bob Hale hale@brooktree.com

4361. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43sjuh$ghc@newsbf02.news.aol.com>
Source record: 110570

What a weird scramble? My text was little garbled. So let me finish.

The supply arced through the insulation and blew the wire in two, and the wire pasted itself to my wrist. I received 1st, 2nd and 3rd degree burns from that experience.
The resonant choke filter suggested in the book almost killed me! The rubber mat and grounded panel certainly saved my life.

Since then I include spark gaps or other clamping across chokes. As near as I could figure, when the choke hit resonance at turn on it must have "rung" a bit. The peak voltage must have built up to many kilovolts of surge causing the tubes to arc, and when they were removed the test lead became the breakdown point.

Weird things can happen, so I am more cautious now.

73 Tom

4362. High Voltage Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-21 00:00:00 UTC
From: kennedy@aol.com
Message-ID: <43rna6$736@su102w.ess.harris.com>
Source record: 110571

Can anyone tell me of a vendor who can supply a 2000WVDC capacitor
with a value of at least 1000ufs??

4363. CAD tools and distribution was(Re: 2m to 6m Transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep22.034252.22503@ke4zv.atl.ga.us>
Source record: 110472
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <43roe4$ona@mgate.arrl.org> Zack Lau <zlau@arrl.org> writes:
>
>I see your point, but since I can't supply circuit boards
>(HQ staffers can't run amateur related businesses), I
>prefer to leave QST page space open for others to fill.

Fair enough, though I suspect FAR Circuits would be happy
to make and sell the boards.

>I'm still waiting for an Internet PCB layout standard to
>evolve. In fact, few hams other than myself seem to be
>distributing Net compatible layouts in *any* form. I'm
>currently generating Postscript files using HiWire, a
>CAD program by Wintek, but suspect I ought to switch over
>to Autocad to gain the flexibility of generating things
>like properly dimensioned rat race microwave mixers.

Yeah, I'd prefer the Autocad format. I've got that and it
talks to my plotters. I don't have Postscript and have to
kludge that through ghostscript to print it on the old
HP Laser.

Maybe we should start some discussion on this topic. (I've
added .homebrew to the distribution.)

I'd like to see us standardize on a schematic distribution
format, a netlist format, and a mechanical drawing format.
Then form a rec.radio.amateur.CAD group where we could
post such things, as well as Radio Designer and Spice
files, Mathcad worksheets, etc. Since many of the CAD tools
can handle several formats, and there are utilities to convert
others, perhaps we should start with a survey of what tools
the majority of us interested in this have in common and see
if there are common formats we all share. I'll kick it off.

Mechanical:
1) Autocad
2) Generic CADD
3) CD-CAD

Schematic Capture:
1) Orcad
2) Supercad
3) MicroSim Schematic Editor

PC layout:
1) PCBoards

Routers:
1) PCRoute

Circuit Simulators:
1) ARRL Radio Designer
2) PSpice

Paint programs and image viewers:
1) MS Paintbrush
2) Visual Image

Math tools:
1) Mathcad

That should do for a start. I'll try to keep a running tabulation
on followups and see what we have available to us.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4364. Re: Help: Find Design Solution for application

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DFA6IG.98B@hpcvsnz.cv.hp.com>
Source record: 110473

Marvin Johnston (marvin@rain.org) wrote:

: You might take a look at the Zircon electronic stud finder available in
: hardware stores. It appears to measure capacitance and has 4 or 5 LEDs
: operating as a bar graph display.

It does, or at least the one I have does. It does a kind of differential measurement, as I recall, between a fixed cap and the variable one with printed circuit board plates. The plates aren't large. The caps are the timing caps in two sections of a dual monostable, 74HC123 or some such. For this application, it should be easy to just use a fixed cap on one side and the plates on the other. Trigger both at the same time. If the variable times out before the fixed, no person present. If the variable times out later, then there's a person (or other conductive or high dielectric constant object) nearby.

4365. Re: Spice Simulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep22.001632.21216@ke4zv.atl.ga.us>
Source record: 110474

In article <514362878wnr@ifwtech.demon.co.uk> G3SEK@ifwtech.demon.co.uk writes:
>
>Thanks to the several people who said where the program can be found.
>
>Now where's the manual, please?

Manual? We're amateurs, we don't need no stinkin' manuals. :-)

This is where they get you. There's a good book, _Computer-Aided
Circuit Analysis Using PSpice_ by Walter Banzhaf ISBN 0-13-159534-2
from Prentice Hall for a mere $37.50.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4366. Re: looking foe ICOM 2GXAT mod to give me 155 mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep22.002029.21306@ke4zv.atl.ga.us>
Source record: 110475

In article <43o4vq$hek@news0.rain.rg.net> joes@halsey.com (Joe Sullivan) writes:
>I need to modify an Icom 2gxat to transmit on 155 Mhz for use with a
>commercial buisness liscense on that frequency.

Sorry, the 2GXAT isn't Type Accepted for business band use. Icom
makes a *very* similar radio that is, however.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4367. WTB: EIMAC 8874

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: wayne@nexus.interealm.com
Message-ID: <43t65s$reo@nexus.interealm.com>
Source record: 110476

Need one more 8874 for amp spare,

wayne / wa2kec

4368. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: bobw@col.hp.com
Message-ID: <43t7sh$p1e@nonews.col.hp.com>
Source record: 110477

Gary V. Deutschmann, Sr. (raiar@inlink.com) wrote:

: AMATEUR RADIO GONE COMMERCIAL!!!

: I recently picked up a new study guide for the Advanced Class test
: to prepare myself for taking the upgrade examination.

: While reviewing the question pool, as I neared the end of the list,
: I found two very disheartening questions, both of which the answers
: were related directly to proprietary data and information.

: I was so mad that I tore the book in half and threw it in the trash.

<snip>

Geez, I must have pushed the "rec.radio.amateur.policy button" since
I'm clearly in the wrong newsgroup. Oops, no this really is
"rec.radio.amateur.homebrew".

Bob Witte / bobw@col.hp.com / HP / EMD / (719) 590-3230 / KB0CY / 7J1AUE

4369. Re: Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep22.015250.21795@ke4zv.atl.ga.us>
Source record: 110478

In article <43pmqe$qme@news1.inlink.com> raiar@inlink.com (Gary V. Deutschmann, Sr.) writes:
>The two questions in the Advanced Question Pool, as many of you figured out
>are, A9B09 and A9B10. The first asks "What type of computer program is
>commonly used for modeling antennas?" and the second "What is the principle
>of a "Method of Moments" analysis?"
>
>As an antenna designer myself, I was surprised that the question first
>indicated that the program in question was a "commonly used computer
>program", so common I never heard of it. From the posts I have read thus
>far, apparently our Tax Dollars paid for it's inception and private
>companies are offering it for sale, making it even more proprietary than I
>originally suspected.

NEC was developed at public expense, and is available, including source code, for free, on the net and elsewhere. NEC isn't very user friendly, however, and several companies package the NEC engine in a friendly user interface and sell the result. You're paying for "user friendly" not for NEC. If you can live without point and click, you can run good old mini-NEC for only the cost of downloading the bits. There's nothing even remotely proprietary about it.

Since NEC seems to be so widely used among professional antenna designers, and examples of NEC plots so widely published in professional papers, it's *very* surprising you, as a self-proclaimed antenna designer, didn't already know about it. And that's all the exam question, A9B09, is trying to determine, your knowledge of the *existance* of a common antenna design tool. The other question is trying to determine if you understand a very common numerical methods technique. To the computer literate, this is akin to asking how do we arrive at 2+2=4 (though honestly the latter is a tougher question to answer properly).

>In my course of study to upgrade to Advanced Class, I try to find out
>everything I can about the questions posed in the exam. When I tried to
>find out about the "Method of Moments" I initially found nothing about it.
>I purchased "The ARRL ANTENNA Book" along with a disk containing the
>computer programs they offer. After reading the book cover to cover and
>finding nothing mentioned about the "Method of Moments Computer Program", I
>contacted the ARRL about this supposedly "commonly used computer program"
>and was informed that I would have to order it for a specific price.
>Until today, I just figured it was the property of the ARRL, now I find many
>different private enterprises have claimed something our tax dollars already
>paid for.

You'd have had better luck finding out about the method of moments
in a numerical methods textbook. It's a classic algorithm for doing
piecewise numerical integration, a form of the Newton-Cotes method.
It's a widely used technique in mechanical engineering, as well as
in electromagnetic modeling. It's not specific to antennas.

As an aside, the ARRL antenna books are *cookbooks*, you didn't really
expect to find anything to do with *theory* in there did you? (This is
a really serious failing, and one that I've railed about before. With
antennas and EM radiation such an important part of amateur radio, the
ARRL publishes *nothing* that explains the theory of how antennas generate
EM fields. Sure, they devote an entire chapter to transmission line
calculations in the Handbook, but when it comes to antennas they are
merely descriptive and only offer cookbook recipes for a limited subset
of radiators without a word of explanation of *why* they work.)

>In any case, both of the questions presented in the current question pool
>are directly contrary to the FCCs goal of giving the public the best
>possible service at minimal cost.

Service? The tests are to determine your competency in the field.
If you aren't even aware of a widely used tool's existance, the
test seems to be doing its job of weeding out the incompetent, or
more politely, of serving to lead you to discover valuable and
widely used techniques you were not yet aware existed.

>There are currently 582 questions in the Advanced question pool.
>Hypothetically, if 1 out of every 10 questions consisted of proprietary type
>information and this information cost you $29.95 to obtain, it would cost
>you well over $1,500.00 just to study for your upgrade.

Oh, please. In any educational setting you expect to pay for the
information and tools you are gaining. You buy books, pens, paper,
calculating tools, pay tuition, etc. That doesn't make the knowledge
you gain proprietary. A computer program is no different than a
slide rule, it's just a calculating tool, and you don't *really*
expect such tools to be *free* do you? In this case, NEC really
is free, in the sense that it was already paid for by all our taxes,
but that's really an exception. Should the exam not have questions
about the tools commonly used in the field? Remember, you don't
have to own a copy of NEC to answer the question. All is expected
is that you be aware that it *exists* and is in common use by
antenna designers. That's no different than a question that asks
what instrument do you use to measure VSWR. You don't need to go out
and buy a reflectometer to answer the question.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4370. Re: Help: Find Design Solution for application

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <811746515.27858@pinetree.microserve.com>
Source record: 110479

pfzouave@aol.com (PFZouave) wrote:

>I am working on a microprocessor based device for a medical application.
>What I need is a simple circuit to detect proximity of the device to the
>human body -- in other words, a binary (go/no go) indication if the device
>is on the body or has been removed.

If this device will consist of two electrodes in contact with the skin,
then the simplest solution is to build the equivalent of a megohmmeter.
The output should be fed to a CMOS comparator, then to your controller.

73,

Jack WB3U

4371. Re: Patch Antennas -- References??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <43udg4$j9v@mgate.arrl.org>
Source record: 110480
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

rst-engr@oro.net wb6bhi (Jim Weir) wrote:
>In the October '95 issue of QST, Hal Ward (W1GE) wrote an article on a
>GPS patch antenna. One of the references he used to design the
>antenna was a book by David Pozar titled "Antenna Design Using
>Personal Computers". Hal also noted that the book was published by
>Artech House in '85 and is out of print.
>
>It is also out of library. My library did a data search and came up
>empty. Does anybody know either (a) where I can get my hands on a
>copy of this book even if only for a day or (b) another good reference
>text for patch antennas. Neither Jasik nor Hamsher (my two antenna
>bibles) make any reference to a "patch" antenna.
>
I've not read it, but Artech House does sell

Broadband Patch Antennas by
Zurcher and Gardiol $69

Its in their 1995 new book catalog

Zack KH6CP/1
zlau@arrl.org

4372. Land Mobile Radio FAQ needs your input!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <43ujg9$ej0@mrnews.mro.dec.com>
Source record: 110481
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

[This post lists all the information I'm looking for. You'll only have to look at this once in a while from now until the FAQ is ready - N1OOQ]

The Land Mobile Radio FAQ is now under way... I need your support!

What is it?

A listing of those surplus police and taxicab radios from the various manufacturers, how to identify them, what band they're on, how easy it is to tweak them into the ham bands, average price used, etc., all in one file for your flea market shopping convenience!

What it's not is a mod manual. You won't find out HOW to do the mods in the FAQ. That's up to you. You will find out where to get the manufacturer's manuals, most of which have detailed tuning procedures. Some of the radios can only be programmed by the manufacturer, and/or by using the manufacturer's proprietary software. Such details will be in the FAQ.

I'd like to include any and all mobile or handheld radios aimed at the commercial or public service market. Many of these out-perform the imported synthesized units by a long shot, are cheaper, and make great ham rigs! Let's put these great radios back to work and on the air!

I NEED YOUR INPUT TO MAKE THIS A REALITY!

You don't need to mail me manuals or anything like that, unless you WANT to. All I ask is a few bits of data for any of these radios you or your friends may have worked on in the past. If you've put one on the air, you've had to answer these questions, so fill 'em out and send 'em in!

Model? Manufacturer, model name (like Mastr II, Syntor, Delta, etc.), model number

Band? These radios are usually made for use in a specific band of frequencies, like 30-50 MHz, 150-170 MHz, 450-470 MHz, etc.

Freq control? Crystal, synthesized/ROM programmed, synthesized/microprocessor programmed

Average price? What did you pay? What prices did you see when shopping? New or used?

Manual price? How much did the manual cost?

Mod difficulty? How hard was it to get it tuned to ham band? Easy: re-crystal, tweak a few tuning screws

Difficult: program a new ROM, swap a few parts
Extremely difficult: Major modification and re-design
of some circuits, you must pay
authorized technician to use
manufacturer's software

How to indentify? What details do you need to know to tell these radios
apart? Does the serial number tell you anything? Does
the Model number? Are there physical differences?
This is the stuff you need to know when sorting
through the radios at the flea markets. This
information is usually in the manufacturer's manuals
in great detail.

I will re-post this notice about every couple of weeks for a while, until the
FAQ is somewhat filled out.

My net address is: randolph@est.enet.dec.com
All information, network pointers, periodical references, anything, is
appreciated, and thanks in advance!

-Tom R. N1OOQ randolph@est.enet.dec.com

4373. Re: CAD tools and distribution was(Re: 2m to 6m Transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.811785570.21272.jwicklun@mycroftxxx.halcyon.com>
Source record: 110482
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <1995Sep22.034252.22503@ke4zv.atl.ga.us>,
<gary@ke4zv.atl.ga.us> writes:
> I'd like to see us standardize on a schematic distribution
> format, a netlist format, and a mechanical drawing format.
> Then form a rec.radio.amateur.CAD group where we could
> post such things, as well as Radio Designer and Spice
> files, Mathcad worksheets, etc. Since many of the CAD tools
> can handle several formats, and there are utilities to convert
> others, perhaps we should start with a survey of what tools
> the majority of us interested in this have in common and see
> if there are common formats we all share. I'll kick it off.
>
snip....snip
Good idea Gary, but I suspect that we'll run into a pretty wide
variety of tools that interface poorly, if at all. But for my part:

Mechanical CAD
TurboCAD - by IMSI
Generic CAD - not currently using

Schematic Capture
PCAD

PCB Layout & Routing
PCAD

Circuit Simulation
Intusoft Spice

Math tools
Mathcad - but not very experience with it

Logic development tools
CUPL - normal PALs
MAX+PLUS - Altera logic

73 de KI7RH (Jay)

4374. Re: CAD tools and distribution was(Re: 2m to 6m Transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: dkelly@iquest.com
Message-ID: <dkelly-2209952045450001@dkelly.iquest.com>
Source record: 110483
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <1995Sep22.034252.22503@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
(Gary Coffman) wrote:
[shortened]
> I'd like to see us standardize on a schematic distribution
> format, a netlist format, and a mechanical drawing format.
> Then form a rec.radio.amateur.CAD group where we could
> post such things, as well as Radio Designer and Spice
> files, Mathcad worksheets, etc. Since many of the CAD tools
> can handle several formats, and there are utilities to convert
> others, perhaps we should start with a survey of what tools
> the majority of us interested in this have in common and see
> if there are common formats we all share. I'll kick it off.
>
> Mechanical:
> 1) Autocad
> 2) Generic CADD
> 3) CD-CAD
>
> Schematic Capture:
> 1) Orcad
> 2) Supercad
> 3) MicroSim Schematic Editor
>
> PC layout:
> 1) PCBoards
>
> Routers:
> 1) PCRoute
>
> Circuit Simulators:
> 1) ARRL Radio Designer
> 2) PSpice
>
> Paint programs and image viewers:
> 1) MS Paintbrush
> 2) Visual Image
>
> Math tools:
> 1) Mathcad
>
>
> That should do for a start. I'll try to keep a running tabulation
> on followups and see what we have available to us.

Gee. With the possible exception of Generic CADD none of these are Macintosh compatible. I vote for a narrower scope of "standard", simple Postscript. A Postscript printer is much less expensive than Autocad (assuming you actually pay for Autocad) and any kind of "standardization" of file formats dictates need for each and every one of the programs.

Or maybe the standard should be based on free tools and operating systems such as Linux and/or FreeBSD? What? Not enough tools there? Then making those tools would be the first step.

While many software packages claim to support other's formats I have never seen perfect support for any but pure text and often even that is problematic (does "pure text" use <CR><LF>, <LF>, or <CR> to terminate lines?) End of line problems are pretty easy to solve. Gary discounts Ghostscript as he has not been satisfied with its results translating Postscript. Can we expect DXF translaters to do any better?

Postscript is not perfectly portable between printers but Adobe has done a great job making sure genuine Postscript printers are very compatible.

For netlists any ASCII format is fine. If I like what I see in a Postscript schematic I can find a way to translate an ASCII netlist into a form suitable for my PCB tools. Any respectable print shop could print PCB artwork on film from Postscript. Often I've found this less expensive than Gerber at the same shop possibly because there is no manual entry of aperatures. As long as they don't use a Linotype 100 its just dandy.
--
David Kelly N4HHE, n4hhe@amsat.org, dkelly@iquest.com
==========
The human mind ordinarily operates at only ten percent of its capacity -- the rest is overhead for the operating system.

4375. Re: Help: Find Design Solution for applicat

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Sep22.093138.115305@ucl.ac.uk>
Source record: 110484

> >I am working on a microprocessor based device for a medical application.
> >What I need is a simple circuit to detect proximity of the device to the
> >human body -- in other words, a binary (go/no go) indication if the device
> >is on the body or has been removed.

If it is for medical purposes. Unless you are already making electrical connections to the patient (in which case I hope you know what you are doing!!), try something that make no electrical connection to the patient. An LED modulated at a few kHz, with the reflected light falling on a photodetector would be my approach. Capactive methods might also be practical. Insulated microswitch ???

I would definately avoid the electrical conductivity method.

There is also a medical physics newsgroup: sci.med.physics, which will be of more use than this one. I hate to say this but I will. As radio amateurs we often do things we should not -> Overrun components, use surplus components etc. You need a different approach for medical equipment!

dave kirkby G8WRB
Dept. of Medical Physics, University College London.

4376. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <375646752wnr@ifwtech.demon.co.uk>
Source record: 110485

Tom is SOOOO right!

: 1.) During a HV fault (and that is a common occurrence) the filter
: capacitance in the supply can release many hundreds of amperes of current,
: and the 50 ohm resistance will still allow the negative HV rail to rise
: nearly to full supply voltage.
:
: 2.) During the fault, the resistors will be subjected to huge overloads.
: If common wire wound, metal film, or carbon resistors are used (instead of
: the proper expensive and rare surge rated resistors) the components
: depended on for protection may fail.
:
: 3.) Even during normal supply operation, the negative rail can float to
: dangerious voltages. As little as one ampere can pull the negative rail to
: 50 or 100 volts if a negative rail connection fails or is not attached.
:
: I always use a diode network (with heavy diodes) to clamp the negative
: rail to the chassis, as well as a liberal sprinkling of 50 volt rated
: by-pass capacitors. The normal failure mode of these components is
: shorted, not open. So even in the event of a huge fault current between
: the rail and ground the supply rail remains clamped. Additionally I use a
: HV rated fuse and/or high surge current and voltage rated resistor in the
: positive lead near the capacitor to output connection (the bleeder remains
: directly across the capacitor).

What many designers don't appreciate is that in the event of a short from B+ to chassis (like when you switch on without disabling the top-cover safety switch) the short-circuit current will flow UP FROM GROUND to the B- rail. As Tom says, in the absence of any built-in precautions this can hoist the B- rail way above ground. It will probably vaporize meter shunts, meters and various other forms of delicate electronics connected in the region between B- and ground.

There's a dual approach to safety here.

First, Eimac and other tube manufacturers recommend a high-wattage resistor in the B+ lead. This is not intended as a fuse, but as a current limiter. About 25R per kV of B+ will limit the maximum possible current to 40A. This will help greatly to protect the tube in the event of an arc-over, and also protects the region around the B- rail. The other advantage of this B+ resistor is that it gives you a definite maximum current to design for (the actual maximum current might be less, but it can't possibly be more).

In the B- rail, the main short-circuit protection should be a DIODE (as Tom says). Yes there are resistors there too, but the diode pointing UP FROM GROUND is the real line of defence to prevent the B- rail from flying away above ground.

If the maximum possible current is 40A, why not use a protection diode that is rated for 40A continuous? After all, they don't cost much and a lot of collateral damage risk is riding on that component. The cheapest source is a 40A potted bridge rectifier: connect from corner to corner and you have two diodes in parallel, back-to-back with two more. (The reverse diode, pointing down from B- to ground is under much less stress.)

The meter shunt resistor (for grid current in the case of a GG amplifier) is connected in parallel with this protection diode. To prevent the diode from affecting the meter readings, the voltage drop across the shunt must be much less than 0.5V.

Obviously you can connect other high-wattage "safety" resistors between B- and ground if you want to, but the DIODE is the real safety component.

To repeat: over-rate everything, because come hell or high voltage the B+ resistor and the safety diode have got to hang in there for as long as it takes the fuses to blow!

Here's a quick poll of the 1995 ARRL Handbook.

Power Supplies chapter: no mention of B- protection. The two HV supply projects both feature 10R 25W resistors from B- to ground and 50R 50W resistors in the B+. Not bad... but only if there's some effective B- protection in the PA.

1500W HF amp and PSU: 15R 20W from B- to ground in PSU, 10R 20W in B+. The amp has another 10R 25W in series with B+ and unusually 25R 10W in series with the B-. That's a total of 45R to limit the prospective B+ short-circuit current to 100A, give or take. But the short-circuit protection diode (D104) in the PA is "1A, 100PIV, such as 1N4002". And if that diode fails, everything goes through the grid-current meter.

8877 amp and PSU: 10R 25W from PSU B- to ground, 10R 25W in PSU B+. Another 25R 25W in the PA B+ and - yes! - a 1N4007 to "protect" the B- rail and the meters from the effects of a B+ short!

Get the picture? All the other designs are the same. They all use a 1N400x because that's what the guy before used. (OK, so a 1N400x has a much higher surge-current rating than its continuous rating of 1A. But don't try to tell us that's why they aren't using anything larger.)

On a related topic, why do US designs always seem to use the single-pole Millen HV connectors, and not a coaxial HV type that

automatically provides a ground return as well? The idea of making
it physically possible to connect the B+ and forget the separate
ground/B- wire scares the hell out of me!

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

4377. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Sep22.153153.86866@ucl.ac.uk>
Source record: 110486

Ian (G3SEK) make some useful point about HT supplies. ...

> On a related topic, why do US designs always seem to use the
> single-pole Millen HV connectors, and not a coaxial HV type that
> automatically provides a ground return as well? The idea of making
> it physically possible to connect the B+ and forget the separate
> ground/B- wire scares the hell out of me!

I could not agree more with the last point, but would add this. I've seen it advocated to use the PET 100 series of coaxial connectors. I've used these and never had any problems on a 2kV pair of 4CX250B's. I have one on a pair of 4CX1000A's too (at 3kV) and never had a problem on that either.

However, I've since discovered another type of connector, which looks better. My worry with the PET 100's is that if you pick the connnector up with it *unmated* with a few kV on it, it looks to me as if you might just be able to get a belt. Unlikely I admit, but not totally impossible. The better connectors (in my opinion) are:

SHV=Safe High Voltage. Rated 5kV (3.5kV RMS) at 10A. Note the 5kV is valid for mated or unmated
connectors. These are excellent. They look a bit like BNC's, but the PTFE insulator sticks out *way beyond* the metal parts of the connector, making it impossible to get a shock even if you tried.

Another type, which I'm not so keen on, is the MHV (Minature High Voltage). These are no smaller, and again are rated at 5kV 10A. However, the Suhner catalogue says these give less protection in the unmated condition than the SHV's. The MHV's, also known as an H4, look even more like BNC's.

None of these connectors are cheap. Suhner (Tel: 01869-244676 in the UK) have (last time I ordered) a #50 minimum order and seem to take ages to deliver, but I would personally not build another high voltage amp with PET 100's. PET 100's are not cheap either, so the differential between these is probably well worth the extra cost.

If you need over 5kV, I've no idea what is best. I would be interested to hear of anything suitable that people know of - not that I have any tubes needing > 5kV!

dave kirkby G8WRB.

4378. Re: Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: dlleigh@frank.harvard.edu
Message-ID: <43upsf$c6e@satisfied.apocalypse.org>
Source record: 110487

In article <43qjb5$15d@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) writes:
> I'm still trying to understand what you all are yakking about.
>
> I have EM and antenna theory engineering textbooks by Kraus, Jasik,
> Jordan-Balmain, and Kuecklin along with general electronics and electrical
> engineering books but I can't find anything about Method of Moments.
>
> Can you tell me what the hell it is so I can join the fight too?<<grin>>
>
> No seriously, what is it? It must be something to do with these
> new-fangled computers and not in my old textbooks.

Hmm, looking through my shelf:

Antennas by Kraus, 2nd edition has an entire section on the
moment method (p. 359-408), though that section is actually by Edward H.
Newman (so says the title page).

The _Antenna_Engineering_Handbook_ by Johnson (used to be Jasik), 3rd
edition has a small blurb on the moment method on pages 37-9,10.

_Advanced_Engineering_Electromagnetics_ by Balanis (1st edition I guess,
(C) 1989) has a large section on the moment method (p. 670-731). I
picked this one up cheap at a flea, just because of its discussion of
the MofM.

Better update those texts, Tom. :-)

The method of moments is a numerical technique of figuring out the
unknown current distribution on some structure (like an antenna).

Darren Leigh -- kc6euy
dlleigh@frank.harvard.edu

4379. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43urjo$7j6@newsbf02.news.aol.com>
Source record: 110488

The following didn't make it throught the text editor:

Unnecessary series resistance should NEVER be placed in *series* with the negative (near ground potential) lead of a HV supply for obvious safety reasons.

The non-surge rated limiting resistor are not speced to handle the operating voltage.
And what good does a 1 A fuse do in the cathode??? Fuses are too slow and unpredictable for serious protection, although they can prevent fires!

>8877 amp and PSU: 10R 25W from PSU B- to ground, 10R 25W in
>PSU B+. Another 25R 25W in the PA B+ and - yes! - a 1N4007
>to "protect" the B- rail and the meters from the effects of
>a B+ short!
>
>Get the picture? All the other designs are the same. They all
>use a 1N400x because that's what the guy before used.
>(OK, so a 1N400x has a much higher surge-current rating than
>its continuous rating of 1A. But don't try to tell us that's
>why they aren't using anything larger.)

Well the *normal* failure mode is shorted Ian, so I understand the 1N400x. But the unreliability indicated by the word "normal" causes me to think adding secondary failsafe components like LV rated bypass caps is worthwhile. Nothing wrong with a bigger diode like you suggest, except let's not put all our eggs in one basket here. Let's tack in a few 5 penny parts for extra safety.

>
>On a related topic, why do US designs always seem to use the
>single-pole Millen HV connectors, and not a coaxial HV type that
>automatically provides a ground return as well? The idea of making
>it physically possible to connect the B+ and forget the separate
>ground/B- wire scares the hell out of me!
>

Because cost outweighs safety. On this side of the pond we prefer a little excitement, such as pulling the unprotected ground lead while letting the cat sleep on the chassis near our feet. :-) That's why we connect the power line center-tap to chassis here also!

73 Tom

4380. Re: Composite-->RGB schems?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <43uuh9$nsb@hpscit.sc.hp.com>
Source record: 110489

In article <1995Sep20.152713.14228@ke4zv.atl.ga.us>,
>In article <43ltmr$2n9@paladin.american.edu> jdubin@american.edu writes:
>>Looking to convert a composite signal to an RGB (ie: video out -> VGA
>>monitor, w/o PC intervention). If you know where I can find a schem,
>>could you email jdubin@american.edu? Thanks!

October 1990 Radio & Electronics Magazine had an article that described
a circuit for doing this. A place called Harmonic Research in Paramus, NJ
sells boards that implement the circuit in the article. I built one and
it works fine. They also have boards to go from RGB to NTSC and other
RGB stuff.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4381. Re: Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43uvgc$8p5@newsbf02.news.aol.com>
Source record: 110490

In article <43upsf$c6e@satisfied.apocalypse.org>,
dlleigh@frank.harvard.edu (Darren Leigh) writes:

>The method of moments is a numerical technique of figuring out the
>unknown current distribution on some structure (like an antenna).
>
>Darren Leigh -- kc6euy

Darn all this new-fangled computer stuff anyway. I figgered it was
something like that.
<snicker>

73 Tom

4382. Antenna Switch Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: Kory Hamzeh <kory@avatar.com>
Message-ID: <Pine.BSD/.3.91.950922104740.4306D-100000@avatar.avatar.com>
Source record: 110491

I would like to build an antenna switch for 2m and 70cm. I was wondering if in need to special toggle switch or can I use the Radio Shack variety SPDT toggle switch? Also, should the wiring inside the box be shielded coax also?

Thanks,
Kory
KE6VWO

4383. Re: Antenna Switch Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DFBpKw.Drz@hpcvsnz.cv.hp.com>
Source record: 110492

Kory Hamzeh (kory@avatar.com) wrote:

: I would like to build an antenna switch for 2m and 70cm. I was wondering
: if in need to special toggle switch or can I use the Radio Shack variety
: SPDT toggle switch? Also, should the wiring inside the box be shielded
: coax also?

I'd recommend avoiding switches, particularly at 70cm. If you've seen some of the discussion about how poor UHF-series connectors are, you will realize that it's very difficult to keep SWR low through a mechanical switch that isn't designed very carefully for the line impedance. Isolation to the "OFF" port will probably be poor, too, in case that matters. Basically you need to consider every centimeter of the path as transmission line if you want good performance.

If you don't need to switch very quickly, I'd recommend you just use BNC cables. You can bring things out to a "patch panel" if it makes it more convenient, or you can use a BNC f-f "barrel" connector to splice two BNC terminated cables.

If you really want to switch, I'd suggest you get a relay rated for use at 70cm. But these are usually kind of expensive, and then you have to have power to drive the coil.

If you absolutely _insist_ on using a mechanical switch, you might use a slide switch. There was an article about building a switched attenuator in QST around a year ago that described how to arrange the switch mechanically so it maintained a reasonably constant impedance. And I think in the RSGB VHF-UHF manual there's a description of a build-it-yourself relay that could instead be driven mechanically, if you are inclined to do some serious mechanical work.

Sorry things aren't simpler at UHF, but that's the way it is.

4384. Re: Antenna Switch Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.950922165218.8240C-100000@biggulp.callamer.com>
Source record: 110493

Hi guys...Your comments on the antenna switch was good. The slide switch idea certainly is valid but the power level possible is small. I think the article to which you refer was in QEX rather than QST. 73 Cliff W6HDO

On Fri, 22 Sep 1995, Tom Bruhns wrote:

> Kory Hamzeh (kory@avatar.com) wrote:
>
> : I would like to build an antenna switch for 2m and 70cm. I was wondering
> : if in need to special toggle switch or can I use the Radio Shack variety
> : SPDT toggle switch? Also, should the wiring inside the box be shielded
> : coax also?
>
> I'd recommend avoiding switches, particularly at 70cm. If you've seen some
> of the discussion about how poor UHF-series connectors are, you will
> realize that it's very difficult to keep SWR low through a
> mechanical switch that isn't designed very carefully for the line
> impedance. Isolation to the "OFF" port will probably be poor, too, in case
> that matters. Basically you need to consider every centimeter of the path
> as transmission line if you want good performance.
>
> If you don't need to switch very quickly, I'd recommend you just use BNC
> cables. You can bring things out to a "patch panel" if it makes it more
> convenient, or you can use a BNC f-f "barrel" connector to splice two BNC
> terminated cables.
>
> If you really want to switch, I'd suggest you get a relay rated for use at
> 70cm. But these are usually kind of expensive, and then you have to have
> power to drive the coil.
>
> If you absolutely _insist_ on using a mechanical switch, you might use a
> slide switch. There was an article about building a switched attenuator in
> QST around a year ago that described how to arrange the switch mechanically
> so it maintained a reasonably constant impedance. And I think in the RSGB
> VHF-UHF manual there's a description of a build-it-yourself relay that
> could instead be driven mechanically, if you are inclined to do some
> serious mechanical work.
>
> Sorry things aren't simpler at UHF, but that's the way it is.
>
>

4385. Re: DSP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: "Gary P. Fiber" <gfiber@halcyon.com>
Message-ID: <43uaja$bok@news.halcyon.com>
Source record: 110494

A good group to look into is comp.dsp. All they chat about is DSP chips and FFT's, assembly language etc. Sometimes a TI rep shows up there too.

73' Gary Fiber KF7XV

4386. Re: Blown diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: geotek@netropolis.com
Message-ID: <NEWTNews.811785566.21258.geotek@geotek.netropolis.net>
Source record: 110495

In Article<43p6s0$k2d@gw.PacBell.COM>, <sjhawk2@srv.PacBell.COM> writes:
> I loaned an old dual meter Swan swr/watt meter to some friends for
> an outing and they put a little too much power to it and blew
> the diodes. I can't make out any markings on the diodes. Does
> anyone have any suggestions for replacements. Thanks
> Full scale on the meter is 100 watts.
> de Steve WV6U sjhawk2@srv.pacbell.com
>
Radio Shack still sells 1N34A Germanium diodes. They should work just fine.

4387. Re: question: NE-602A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: geotek@netropolis.com
Message-ID: <NEWTNews.811786155.23182.geotek@geotek.netropolis.net>
Source record: 110496

In Article<uid.46.305FFD60@ornl.gov>, <uid@ornl.gov> writes:
> Does anyone have the figures for the noise current and the noise voltage for

> the RF inputs for the NE-602A mixer.
>
> Or the noise resistance figure for it.
>
> Danny
> QB7@ORNL.Gov
>
>
Philips specifies the noise figure at 5dB typ. at 45 MHz.
This is based on an input impedance of 1.5K resistive, 3pF capacitance.
The conversion gain is min 14dB at 45 MHz.
And the output impedance is 1.5K balanced, resistive.

4388. Re: question: NE-602A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: uid@ornl.gov
Message-ID: <uid.49.3062D74C@ornl.gov>
Source record: 110497

In article <NEWTNews.811786155.23182.geotek@geotek.netropolis.net> geotek@netropolis.com writes:
>Newsgroups: rec.radio.amateur.homebrew
>Path: stc06.ctd.ornl.gov!cs.utk.edu!gatech!news.emf.net!overload.lbl.gov!news.kreonet.re.kr!usenet.kornet.nm.kr!news.sprintlink.net!in1.uu.net!news.netropolis.net!not-for-mail
>From: geotek@netropolis.com
>Subject: Re: question: NE-602A
>Message-ID: <NEWTNews.811786155.23182.geotek@geotek.netropolis.net>
>Date: Fri, 22 Sep 95 09:03:42 PDT
>X-Newsreader: NEWTNews & Chameleon -- TCP/IP for MS Windows from NetManage
>References: <uid.46.305FFD60@ornl.gov>
>MIME-Version: 1.0
>Content-Type: TEXT/PLAIN; charset=US-ASCII
>Lines: 15

>In Article<uid.46.305FFD60@ornl.gov>, <uid@ornl.gov> writes:
>> Does anyone have the figures for the noise current and the noise voltage for

>> the RF inputs for the NE-602A mixer.
>>
>> Or the noise resistance figure for it.
>>
>> Danny
>> QB7@ORNL.Gov
>>
>>
>Philips specifies the noise figure at 5dB typ. at 45 MHz.
>This is based on an input impedance of 1.5K resistive, 3pF capacitance.
>The conversion gain is min 14dB at 45 MHz.
>And the output impedance is 1.5K balanced, resistive.

Thanks,

But I still need the noise resistance for the inputs and I dont know if the impedance is the same as noise resistance. I think i can calculate backwards and get noise power, but I don't know how to get the noise voltage or noise current to calculate noise resistance.

Danny

4389. DOD 006 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Sep22.154141.58792@ucl.ac.uk>
Source record: 110498

Anyone got any data/constructional info on the above? I gather there was something in DUBUS at some time, but dont know when. Any info appreciated. Who made/makes em??

I was once told they are similar to the RCA/Burle 7213/7214. I have a 7214 data sheet and have a short form catalogue describing the 7213. I would really like a full data sheet on the DOD006.

dave kirkby G8WRB.

4390. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <43umdp$63f@newsbf02.news.aol.com>
Source record: 110499

In article <375646752wnr@ifwtech.demon.co.uk>, Ian G3SEK
<G3SEK@ifwtech.demon.co.uk> writes:

Hi Ian,

Interesting what you pointed out. I never looked at those articles before.
Now that I have, I see why you are concerned. Let me add a few comments of
my own.

>
>Here's a quick poll of the 1995 ARRL Handbook.
>
>Power Supplies chapter: no mention of B- protection. The two
>HV supply projects both feature 10R 25W resistors from B- to
>ground and 50R 50W resistors in the B+. Not bad... but only
>if there's some effective B- protection in the PA.
>

I take it you mean page 13.32.

My comments are:
R207 is too low in value. 10 ohms only limits the current to 300 amperes,
and not only that...the resistor is not speced to be the proper surge
rated HV type resistor. The resistor may explode or arc across the
internal winding and offer little or no resistance at all to a HV
overload.

No HV B- rail protection. R204 will NOT clamp the negative rail in the
event of an open B- return. If drive is applied to the tubes the B- rail
can only go to 12 volts or so, but if a fault condition occurs and none of
the non-high voltage rated resistors arc internally the - supply rail can
fly up to 1800 volts!

Then how about the 120V blowers returned to the *chassis* instead of the
power line neutral or just being placed across the filament transformer
primary?? What about one side of the filament transformer primary being
grounded to the chassis in the RF deck?? If we're worried about HV if a
ground lead breaks, we should also worry because the whole RF deck chassis
can reach 120 Vac from the unnecessary line voltage "neutral" ground
connections to the chassis.

Wow! A switch in the HV secondary winding!! Lord protect us!

And the builder is not duly cautioned to the hazzards if the shaft is not
securely grounded! The thing shouldn't be in the secondary at all. The
entire text is "S3 is a high-voltage switch with large contacts and
ceramic insulation used to select among the taps." Not enough caution or

care on this item alone.

Now here's where the low voltage design trouble begins..page 13.34 Control circuitry

The exciter is subjected to the full discharge current of a 4.7 MFd cap (C116) charged to 1.5 volts (no current limiting) every time the relay closes. The circuit depends on the internal resistance of C116, the wiring, and D116 to limit exciter contact closure current. The little reed relay in the exciter probably says ouch, and for no reason at all! This overcomplicated sequencing and control circuit now connects to both antenna relays in parallel, so there IS NO SEQUENCING!! The only thing sequenced is the LC voltage, and it is sequenced the wrong way!!!!!

The grid trip depends on the current gain of a 2N2222 (instead of a $.39 comparator) to fire a relay. Not too precise.

I see your point Ian. Lot's of parts that don't do anything. It does look like they were put there just because someone saw them used elsewhere.

>1500W HF amp and PSU: 15R 20W from B- to ground in PSU,
>10R 20W in B+. The amp has another 10R 25W in series with B+
>and unusually 25R 10W in series with the B-. That's a total
>of 45R to limit the prospective B+ short-circuit current to
>100A, give or take. But the short-circuit protection diode
>(D104) in the PA is "1A, 100PIV, such as 1N4002". And if that
>diode fails, everything goes through the grid-current meter.
>

Good point again Ian. But please add this...

NO RF bypassing on the negative rail in the power supply. It would help with safety if the bypass caps were 25 or 50 volt rated devices. The bypass caps in the RF deck negative rail should be LV types (25-50 V) so they fail shorted to protect the operator.

Unnecessary series resistance should NEVER be placed in *series* with the negative (near ground potential) lead of a HV supply for obvious safety reasons.

The non-surge rated limiting resistor are not speced to handle the operating voltage.
And what good d

4391. Re: Patch Antennas -- References??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-22 00:00:00 UTC
From: kchen@apple.com
Message-ID: <43ve43$466@apple.com>
Source record: 110500
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

rst-engr@oro.net (Jim Weir) writes:

>It is also out of library. My library did a data search and came up
>empty. Does anybody know either (a) where I can get my hands on a
>copy of this book even if only for a day or (b) another good reference
>text for patch antennas. Neither Jasik nor Hamsher (my two antenna
>bibles) make any reference to a "patch" antenna.

In the Third Edition of Jasik (edited by R. C. Johnson), patch antennas
are discussed in chapter 7, Robert E. Munson, "Microstrip Antennas."

The second edition of Kraus also has a section on patch antennas.

If all else fails, I do have a copy of the book you are looking for.
Pretty rudimentary stuff, and a bunch of BASIC programs in that book.
You are far better off with Jasik and Kraus; believe me.

73

Kok Chen, AA6TY kchen@apple.com
Apple Computer, Inc.

4392. Re: CAD tools and distribution was(Re: 2m to 6m Transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-23 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <43vk43$m7s@parsifal.nando.net>
Source record: 110501
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>
> I'd like to see us standardize on a schematic distribution
> format, a netlist format, and a mechanical drawing format.
> Then form a rec.radio.amateur.CAD group where we could
> post such things, as well as Radio Designer and Spice
> files, Mathcad worksheets, etc. Since many of the CAD tools
> can handle several formats, and there are utilities to convert
> others, perhaps we should start with a survey of what tools
> the majority of us interested in this have in common and see
> if there are common formats we all share. I'll kick it off.

Mark me down for Generic Cadd - This also will handle many
AutoCad files as well.

I would cast a vote for the most usable for the general amateur
homebrewing population. Maybe HPGL files are more generic.
There are several inexpensive Cadd programs out there that will
handle them. I can foresee many users that simply want to print
schematics, and an investment in a $400+ Cad program seems a bit
expensive just for that purpose.

73,
Don

4393. Re: Composite-->RGB schems?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-23 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-220995173912@160.205.101.24>
Source record: 110502

One rather significant problem Gary didn't mention is the sync capabilities of a given monitor. Some multisync monitors can't syncronize to NTSC horizontal rates properly; for example, the lowest frequency an NEC MultiSync 3FGe monitor can sync to is 31 kHz, which is well above the 15.734... kHz frequency used in NTSC video. You'll need to determine if your monitor can operate successfully @ NTSC horizontal rates, otherwise some modification to the monitor itself may be necessary.

I don't know what you're trying to do, but you may be better off trying to find a good used TV w/ a baseband video input rather than trying to kludge up a PC monitor, IMO.

TGB

\\ The opinions expressed herein are my own. //

4394. Re: Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-23 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-220995182000@160.205.101.24>
Source record: 110503

In article <43qjb5$15d@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) wrote:
>
> Hi Don,
>
> I'm still trying to understand what you all are yakking about.
>
> I have EM and antenna theory engineering textbooks by Kraus, Jasik,
> Jordan-Balmain, and Kuecklin along with general electronics and electrical
> engineering books but I can't find anything about Method of Moments.
>
> Can you tell me what the hell it is so I can join the fight too?<<grin>>
>
> No seriously, what is it? It must be something to do with these
> new-fangled computers and not in my old textbooks.
>
> 73 Tom

Well, I suspect the books that Tom mentions are a bit too old to mention the method of moments (My Jordan & Balmain 2nd Edition doesn't, I know the 1st edition of Kraus doesn't & I lost my Jasik some years ago). The Method of Moments approach as it applies to electromagnetics has been around since the late '60s - I think Harrington's book, _Field Computation by Moment Methods_, published in 1968, was one of the first to deal extensively w/ this approach. A review of the Proceedings of the IEEE, IEEE Transactions on Antennas & Propagation, and IEEE Transactions on Electromagnetic Compatibility (just to name a few periodicals) from 1967 onward will reveal a fair amount of papers written on the application of the Method of Moments to a variety of problems.

TGB

\\ The opinions expressed herein are my own. //

4395. Re: CAD tools and distribution was(Re: 2m to 6m Transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-23 00:00:00 UTC
From: al@atd.rochester.ny.us
Message-ID: <1995Sep23.153735.15360@atd.rochester.ny.us>
Source record: 110504
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: I'd like to see us standardize on a schematic distribution
: format, a netlist format, and a mechanical drawing format.
: Then form a rec.radio.amateur.CAD group where we could
: post such things, as well as Radio Designer and Spice
: files, Mathcad worksheets, etc. Since many of the CAD tools
: can handle several formats, and there are utilities to convert
: others, perhaps we should start with a survey of what tools
: the majority of us interested in this have in common and see
: if there are common formats we all share. I'll kick it off.

It is not just "have in common". We need a format that is free and will not become obsolete. Unfortunately, the tool vendors like to lock you in. Not all of us use dos/windoze. There is also Mac and a variety of unix systems.

For netlists, Spice is the obvious choice, possibly with well documented extensions. Every good analog simulator either can use it directly or has conversion utilities available. (to the extent that the features overlap)

For schematics, postscript seems like a good choice on a quick glance, but there are problems. The plus side is that some systems have it built-in, and some printers use it directly. Postscript previewers are available for anything, sometimes free (Ghostscript). All good drawing programs can generate it, at least indirectly. The down sides are that may not be editable, it may not be possible to convert it back to something that it editable, and it is hard to extract a netlist from it. Some programs can edit a subset of Postscript. (Illustrator) But how do we convince the others to stick to the subset that can be edited?

How about demanding an annotated Spice netlist? It is easy to add coordinates to each element. How about 2 sets each -- one for schematic, one for layout. It is easy to make a tool to strip them out for Spice. It should be easy to patch the simulators to ignore the extra fields. The simulators could actually make use of the layout info for interconnect analysis. Since many schematic programs will output a Spice deck, they could be changed to preserve the locations. Maybe someone could make a simple viewer for it, and make it available on the net for free. How about an anno-spice to postscript converter? (master's project, perhaps?) Any takers?

Please don't make me buy any particular tool, especially one that doesn't run on my machine. Free ones off the net are no problem, as

long as they have source and can be compiled on my machine.

--

4396. Require Tube info on 8987M

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-23 00:00:00 UTC
From: ve6nap@oanet.com
Message-ID: <ve6nap.59.000107E3@oanet.com>
Source record: 110505

I have recently obtained a 8987M Tube Made in England
The tube Filiment is rated at 12.6 Volts and this information is printed on
the tube , But no other info : I have looked in the Eimac Power Grid tube Cat
1993 Version But no luck

I would like to get all the tech spec for the tube if possible
or at least connecion info and voltage and power ratings .... Element
capacitence and other info would also be nice.

Regards
Gerald Caouette
ve6nap @ oanet.com

73 de ve6nap

4397. Re: Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-23 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <441dh1$jq@newsbf02.news.aol.com>
Source record: 110506

<< A review of the Proceedings of the IEEE, IEEE Transactions
on Antennas & Propagation, and IEEE Transactions on Electromagnetic
Compatibility (just to name a few periodicals) from 1967 onward will
reveal
a fair amount of papers written on the application of the Method of
Moments
to a variety of problems.

TGB

>>
Thanks TGB,

Now let me ask a silly question. What part of "MOM" relates to
understanding how to operate, construct, or maintain an amateur radio
station?

If it can only be found in specialized engineering textbooks or
publications from the 70's, and if it is only one method of analysis
method dealing with EM fields, why the heck did someone stick it in an
amateur exam? Or is the object of the new Ham tests just to test
memorization instead of understanding?

The guy complaining may have gone a little overboard, but let's be
honest.....it is a obscure question to place in an amateur radio test.
Especially when fundamentals are often misunderstood and yet much more
important.

73 Tom

4398. Schematic for Ameco PT-2 preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-23 00:00:00 UTC
From: rbickel@ccnet.com
Message-ID: <441ovv$b5@ccnet2.ccnet.com>
Source record: 110507

I'm looking for the circuit diagram and instructions. Ameco was not helpful.
Thanks in advance.
Robert Bickel KO6PL

4399. Litz Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-23 00:00:00 UTC
From: YEKA44A@prodigy.com
Message-ID: <4424gd$hlg@usenetp1.news.prodigy.com>
Source record: 110508

Can anyone tell me where I can purchase, mail order or otherwise, Litz wire.

Thanks.

yeka44a@prodigy.com

4400. Proposed State & Federal Regulations for the INTERNET!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-23 00:00:00 UTC
From: Politics@usa.com
Message-ID: <440csn$9oj@newsie.wis.com>
Source record: 110509

My name is Scott Glasrud, and I am running for the New Mexico State Senate during the 1996 elections. One of the reasons I have chosen to run is to combat the
proposed state and federal regulations of the Internet. As you know, the Internet
was never designed to be regulated! It was designed to allow communications in the event of anuclear war or a major catastrophe. I OPPOSE REGULATION, and if elected
will fight to preserve your constitutional rights. HOWEVER, I NEED YOUR HELP!

I am asking each person who reeives this message to send $5.00 to the Scott Glasrud Campaign Committee. If we pull together, we CAN protect our first amendment rights! HELP ME show the politicians the POWER behind this important NETWORK. Please send contributions to:

The Scott Glasrud Campaign Committee
11024 Montgomery Blvd. NE, Suite 179
Albuquerque, New Mexico 87111

Thank you!

4401. Re: crystal drive specs How to measure?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-23 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <4405b6$1a2@news.duke.edu>
Source record: 110510

ptracy@aol.com (PTracy) wrote:

>Here we go with project #12554. I have built several crystal oscillators
>mostly of the colpitts and pierce variety. One spec that I never complety
>understood is Drive power to the crystal.

Drive power used to be important way back when tubes were used and folks needed to squeeze the maximum number of watts out of the minimum number of tubes. In that case it was often a single-tube power oscillator connected to an antenna! When you're pushing a 6V6 oscillator to cherry-red plate condition, it's easy to get enough feedback through the crystal to damage it.

Nowadays, unless you are trying stunts like that, drive power maximums and crystal currents are something you should never have to worry about.

Jim "no sig" Meyer

4402. FS American Capacitor Company Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <4453d1$5p0@newsbf02.news.aol.com>
Source record: 110422

I picked up at a local hamfest what appears to be unused "WAX" type capacitors with long leads made by the American Capacitor Company. They appear to be in working condition, however, I don't know if this type has a selve life or not.

Anyway, if anyone has a need let me know, I Would like to get 0.25 cent each plus postage.

PDRUNEN@AOL.COM

4403. Re: High Voltage Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <444nvk$ese@tierra.santafe.edu>
Source record: 110423

kennedy@aol.com (kennedy) wrote:
>Can anyone tell me of a vendor who can supply a 2000WVDC capacitor
>with a value of at least 1000ufs??

Chicago Condenser 312-227-7070
Condenser Products 800-382-6874
High Energy Corp. 800-732-5405

All of these should be capable of meeting your needs in quantities from 1 to many. There are many others listed in the "Capacitors, High Voltage" section of the Thomas Register. I have purchased capacitors uot to 5,000 joules energy storage from all of the above. As I recall High Energy Corp had the best prices for one offs, but the others rapidly dropped in price as a function of quantity. Be sure to give them sufficient information about your application. Peak discharge current, RMS current, and frequency of charge-discharge cycles are important parameters that can affect the design (and size and price) of a capacitor. If they don't ask for such information beware!

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

4404. Crystals in cordless phone

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: calhoun@gorge.net
Message-ID: <AC8A1B3D9668175ED1@205.162.195.2>
Source record: 110424

I have a cordless phone that has stopped working. It emitted harsh static and then nothing. I thought it was the battery and hooked a 9v battery to it. I heard static, but no dial tone. I popped it open and tested a few components (I am not big into electronics). I noticed that there were two boards inside. The first board had two of what I believe are crystals. They are pink and about 1/2 inch square approx. They are as follows:
QX-293
16.5567

QX-359
46.155

There is another crystal on the other board marked:
qx-237
4.192

I used an ohm meter to see if there was any resistance on these. Only the one marked 16.5567 had resistance. Also, on the first board there is written:
tx rx 4890

Can anyone tell me a little bit about what I am seeing? I figure at the very least I can salvage the 9v out of the unit and convert it for use with my handheld although the handheld wants 12v. Will that damage it if I use only 9v?
dave

4405. Re: Composite-->RGB schems?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDFGzxH.LLs@netcom.com>
Source record: 110425

in <43uuh9$nsb@hpscit.sc.hp.com>, Richard Karlquist wrote:
: In article <1995Sep20.152713.14228@ke4zv.atl.ga.us>,
: >In article <43ltmr$2n9@paladin.american.edu> jdubin@american.edu writes:
: >>Looking to convert a composite signal to an RGB (ie: video out -> VGA
: >>monitor, w/o PC intervention). If you know where I can find a schem,
: >>could you email jdubin@american.edu? Thanks!

: October 1990 Radio & Electronics Magazine had an article that described
: a circuit for doing this. A place called Harmonic Research in Paramus, NJ
: sells boards that implement the circuit in the article. I built one and
: it works fine. They also have boards to go from RGB to NTSC and other
: RGB stuff.

I built one for a friend and was impressed with the quality of the parts.
But I've heard the color processor chip has been obseleted by Motorola.
In addition, the output was only multisync EGA, as no scan rate conversion
was done. We hooked it up to a CGA monitor to test it, and the analog
outputs combined with the TTL inputs on the monitor made for some interesting
special effects.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

4406. Please confirm

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: Cesare.Lavazza@interland.it
Message-ID: <652_9509252001@interland.it>
Source record: 110426

```
Hello All!

If you receive this message, please confirm to my e-mail address.
Thankyou.

-----------------------------------
E-mail: cesare.lavazza@interland.it
```

4407. Re: Need your input for Surplus Land Mobile Radio FAQ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: John Bowers <bowers@tyrell.net>
Message-ID: <Pine.SUN.3.91.950923231214.25157A-100000@tyrell.net>
Source record: 110511
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Tom
read your msg on putting these older radios back in service on the ham bands. My son and I bought some Motorola Mitreks and are converting them. These were a matter of recrystaling and replacing one cap and rewinding a small coil. All this is done in the frequency elements and then retuning the radio. I have had good luck with the first one (just finished it).

I would like info on the conversion of a 450 Mhz MICOR.

Let's discuss

John K9UTK

On 19 Sep 1995, Tom Randolph wrote:

>
> What the heck, let's make it official:
> I'm willing to compile a FAQ, all about those surplus police and taxicab
> radios and converting them for ham-band use... you know, the ones you always
> hear on the air 'cuz somebody converted one: Motorola Mitrek, GE Master II,
> Phoenix, Delta, blah, blah, blah. There's dozens of these things available for
> cheap money, and I'm sure a lot of us would like to know which ones to look
> for, and which to skip over, as their performance often beats the imported
> synthesized rigs!
>
> In particular, what I want to get is information on how to identify the
> particular models, what band they're on, crystal or synth, whether they're an
> easy conversion, need a fair amount of work and skill, or are impossible, and
> how to tell all of this by looking at them and reading the model/serial
> numbers. Also, it'd be good to know if a full manual with schematics and
> tune-up procedure is available, from either the manufacturer or a Sam's
> photofact type publication.
>
> I don't really want to start a database of HOW to do the mods. That would be
> difficult without graphics, and would occupy megabytes! This should be fairly
> easy to deduce from the tune-up procedure and other details in the manual.
>
> WHY do this?
> 1) I'm interested - I've passed over a lot of these at fleas, for lack of any
> information about what I was looking at.
> 2) It doesn't seem to exist anywhere else. A lot of hams have some knowledge
> about some radios, no one has written it all up.
> 3) Put these radios back to work, and save them from the scrapyards!
>

> So there it is... all info, pointers, literature references appreciated! Send
> to me at: randolph@est.enet.dec.com
>
> -Tom R. N1OOQ randolph@est.enet.dec.com
>
>

4408. Cable TV Converter Schematics for Spectrum Anal.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: Mark Hillier <Mark@HVWTech.com>
Message-ID: <44282q$s8h@stills.pubnix.net>
Source record: 110512

Hello,

I am still looking for a SCHEMATIC for a cable TV converter; any make, any model. This is to help a friend of mine with a project to 'repair' a spectrum analyzer he has.

Thanks to all those who responded to me previous post. Alot of useful info came to light. However, nobody seems to have an actual schematic!

Since these things are so cheap to produce, I expect that there were not alot of places that bothered fixing them; so, no schematics. But they have to *exist*.

Anyone ?

As usual, happy to pay for photocopying etc..

Thanks,

Mark, VE2HVW

Mark@HVWTech.com

4409. UHF brick amp data needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: aswNS@hamp.hampshire.edu
Message-ID: <9177cb$1417.54@news.hampshire.edu>
Source record: 110513

Can anyone supply me with some specs on a TRW MX12-3 440-470 Mhz
"brick" amplifier? I need to know at least voltage and drive power
limits, more info would be very nice.

Thanks, Al N1AW

--
Albert S. Woodhull, Hampshire College, Amherst, MA
awoodhull@hamp.hampshire.edu
woodhull@shaysnet.com
413-549-2962

4410. 190.400 reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: jhoaglun@sundial.net
Message-ID: <442i3l$qj5@sundial.sundial.net>
Source record: 110514

How hard would it be to build a 190.400 reciever ???? Where could I
get the needed info to build this reciever ?

John Hoaglun
jhoaglun@sundial.net

John Hoaglun
jhoaglun@sundial.net

To surf one of the web pages that I maintain point to:

http://www.sundial.net/~wftvch9/

4411. Where to Find 40673 MOSFET

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: ericness@aol.com
Message-ID: <442pqi$f87@newsbf02.news.aol.com>
Source record: 110515

Many of the projects in ARRL publications specify the RCA 40673 dual gate MOSFET. I understand that this part has ben discontinued so, can anyone recommend suitable replacement or better yet, does anybody know of a surplus outlet that still has some old stock.

4412. List of Stamp Applications

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: cj@algonet.se
Message-ID: <444a1k$533@prometheus.algonet.se>
Source record: 110516
Cross-posted to: sci.electronics,comp.robotics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi,

I've started to compile a "List of Stamp Application" (L.O.S.A for short). I think there are lots of *GREAT* ideas and problems solved with the BASIC Stamp and the main purpose of this list is to read what other people are using their BASIC Stamps for and maybe get some inspiration or hints.

So if you have done something with the BASIC Stamp (small or big) that you are willing to tell others please use the form below and write a short description, nothing fancy is needed just a simple explanation. If you have source code to share thats even better but it's not necessary.

Then e-mail the form to:

cj@algonet.se

With the following as the subject:

L.O.S.A Contribution

When there are a bunch of contributions I'm going to post the L.O.S.A to this newsgroup and upload it to Parallax, Inc. FTP-site. I will update it approx. once a month.

[--- cut ---]

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
Title :
Author:
E-mail: (optional)
-------------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available : YES/NO
Filename : (optional)
FTP-site : (optional)
-------------------------------------------------------------------------
Description : (5-50 rows describing your application)

=========================================================================
```

[--- cut ---]

/Christer

-=-
* High Tech Horizon - Christer Johansson - * email: cj@algonet.se *
-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web - http://www.algonet.se/~cj/catalog.html <<
-=-

4413. Want VAC VARI CAP.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: kk5dr@bga.com
Message-ID: <444ct6$stf@giga.bga.com>
Source record: 110517

I need a vacum variable capacitor, about 5-6 KV, min cap. 20-50pf max.cap 500-750pf ceramic or glass
ok. I have a space resriction of 4" max dia. 8" max. long.
If you have what I need pls. E-mail me.
Thanks, Matt/KK5DR

4414. Re: Litz Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.950924131450.15936D-100000@biggulp.callamer.com>
Source record: 110518

Hi OM. You must be one of the LOWFERS that experiment in the 160 to 190 kHz range! Yes indeed Litzendraht wire is still available but horribly expensive. The only source I know of is: Kerrigan-Lewis Wire Products, 4421 West Rice Street, Chicago, Ill 60651. Telephone 312/772 7208

Getting information on the use of Litz wire is even more difficult. The best write up on this is in the LOWDOWN newsletter for April 1987 where the Hudson Wire Company 1962 Technical Inforamtion Guide is reproduced.

For the very basics, you must go back to Fred Terman, "Radio Engineering Handbook" First Edition 1943. Subsequent editions will NOT do. This issue is a collectors item nowdays! 73 and luck Cliff Buttschardt W6HDO

On 23 Sep 1995, Thomas Guillaume wrote:

> Can anyone tell me where I can purchase, mail order or otherwise, Litz
> wire.
>
> Thanks.
>
> yeka44a@prodigy.com
>
>
>

4415. Even simpler NE602 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: Ed Lieser <ed.lieser@po.cle.ab.com>
Message-ID: <444jqq$1u6@news1.cle.ab.com>
Source record: 110519

Where can they be obtained? Mouser and Digi-Key both said they don't stock this part. While I'm asking questions, I may as well inquire as to the price, too. :-)

Ed Lieser

4416. Re: AMATEUR RADIO GONE COMMERCIAL!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2409951846360001@d181.nb.interaccess.com>
Source record: 110520

In article <43t7sh$p1e@nonews.col.hp.com>, bobw@col.hp.com (Bob Witte) wrote:

> Geez, I must have pushed the "rec.radio.amateur.policy button" since
> I'm clearly in the wrong newsgroup. Oops, no this really is
> "rec.radio.amateur.homebrew".

Very witte, Bob. :-)

Dave Moorman, K9SW
Downers Grove,
Illinois

--
Still looking for a snappy signature

4417. *********NEED SHORTWAVE FREQ. FOR BO GRIS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-24 00:00:00 UTC
From: kgreasbyjr@aol.com
Message-ID: <4451u5$58j@newsbf02.news.aol.com>
Source record: 110521

PLEASE HELP ME!!! I am looking for the freq. and time for the Bo Gris shortwave radio show. Please E-mail them to me.

4418. Re: Proposed State & Federal Regulations for the INTERNET!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-25 00:00:00 UTC
From: nangwa@aol.com
Message-ID: <446fhi$fji@newsbf02.news.aol.com>
Source record: 110427

In article <440csn$9oj@newsie.wis.com>, Politics@usa.com writes:

>
> My name is Scott Glasrud, and I am running for the New Mexico State
Senate
>during the 1996 elections. One of the reasons I have chosen to run is to
>combat
>the <<snip>>

Nice try Scott.

Tom Donaly

4419. Re: Where to Find 40673 MOSFET

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-25 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <446l1s$h8q@newsbf02.news.aol.com>
Source record: 110428

I have run up to the same problem. One solution is to go to your local electronic
parts store (not Radio Shack) and ask for a NTE-222. I believe Mouser has a line of these also. My findings are that this Mosfet is equal to or hotter than the 40673.

4420. Re: Where to Find 40673 MOSFET

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-25 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <446mgn$jtq@mrnews.mro.dec.com>
Source record: 110429

In article <442pqi$f87@newsbf02.news.aol.com>, ericness@aol.com (EricNess) writes...
>Many of the projects in ARRL publications specify the RCA 40673 dual gate
>MOSFET. I understand that this part has ben discontinued so, can anyone
>recommend suitable replacement or better yet, does anybody know of a
>surplus outlet that still has some old stock.

RF Parts still has some in stock, a little pricey at $6 a pop. They have an ad
in the back of about every third QST.

If you have an electronics house or TV repair shop nearby that can get the NTE
replacement line, the NTE222 is the suggested replacement. NTE221 and NTE454
are also dual-gate MOSFETs. All of these are about $3-4 each.

Newark has the Motorola MFE201 for $1.24 each, but have a $25 minimum.

-Tom R. N1OOQ randolph@est.enet.dec.com

4421. TOKO Coil for FT207R ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-25 00:00:00 UTC
From: Ian Hamilton <100317.1432@CompuServe.COM>
Message-ID: <4465jc$8ie$1@mhade.production.compuserve.com>
Source record: 110430
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

Hello - thanks for reading this.

I am trying to repair an ancient Yaesu FT207R handheld.

It needs a replacement IF transformer. The original is a TOKO MMC 586N. I haven't been able to find this IFT in any of my TOKO catalogues, so I assume it has gone obsolete.

Can you help with either:

1. A source in the UK for the TOKO MMC 586N, or

2. An equivalent from TOKO's current range for this IFT, or

3. Data on the MMC 586N so I can choose a similar IFT from TOKO's current range.

Thanks if you can help, and thanks for taking the time to read this even if you can't help.

73 de Ian, G0TCD.

Email: 100317.1432@compuserve.com
Packet: G0TCD@GB7MSW.#33.GBR.EU
73 de Ian, G0TCD.

4422. Re: HV supply chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-25 00:00:00 UTC
From: Michael@diamonds.batnet.com
Message-ID: <Michael-2509950720530001@diamonds.batnet.com>
Source record: 110431

I want to thank the many people who took time to reply to my request for information on HV supply chokes and transformers. Both the construction suggestions and vendor names have been very helpful. My supply is running now, powering a magnetron which delivers about 1.8kW @ 2.45GHz. Again, thanks very much.

Michael Pinneo

4423. Source of Toko coils/helicals besides DigiKey

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-25 00:00:00 UTC
From: cyamamot@kilroy.jpl.nasa.gov
Message-ID: <447eo5$6j0@lo-fan.jpl.nasa.gov>
Source record: 110432

Does anyone know if Toko sells direct in small qty? Digi-key seems to be out of stock on the more popular parts and I was wondering if there are any other distributors that carry Toko? Does Toko accept Visa/MC orders of qty (1) like Mini Circuits?

Thanks,
- Cliff

4424. FCC Rules? Music and Repeaters, Roger Beep!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-25 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <446tk2$o3b@news1.inlink.com>
Source record: 110433

FCC Rules? Music and Repeaters Roger Beep!

Beethoven's 5th - di di di dah

di dit di dah di dit dah dah dah di di di dah dit dah di dah dah
dah dah dah di di dah - A popular song!

Is Morse Code music, of course not, it's a form of communication. Morse Code is usually sent as a continuous wave and the receiver adds modulation to the carrier to obtain a pleasant and easy to read tone for the listener.

However, repeaters, some communications devices, etc. use a tone modulated carrier to achieve an audible Morse Code for ID purposes. A good example of this technique is your local FM repeater's automatic IDer.

The repeater control operator and others now have the ability to determine which frequency tone they will transmit as their ID and AR signal (courtesy tone). This ability to control the audible frequency has led to many sysops using tones that are both pleasant and sometimes musical. Which poses a rather interesting question concerning the FCCs Rules about music.

Before I ask my question or open it for discussion, I would like to add that the reason for posting in homebrew is two-fold. Most of the multi-toned modulation devices are homebrew projects or operator add-ons', secondly, this is one of the newsgroups I subscribe to and read regularly.

This is not a complaint about the practice of using multiple tone IDers, but only an opportunity to open for discussion a new topic to enlighten our knowledge and brighten our day.

Over the past year, I have noticed more and more repeaters moving to using multiple tones, some have carried this practice to using harmonic triad (definition below) notes. Recently, I have heard a total of nine (9) of these notes played in succession as an AR signal (courtesy tone) that was not a CW message or ID.

****
So now I have this question:
How many notes, harmonic triad or otherwise, can be played in succession before the FCC considers it music as defined in their rules?
****

Thus far I have spoken with three agents and received three separate answers which included.
1. Music is defined as the transmission of broadcast type music (records, tapes or live), singing and whistling, or the transmission of notes from a musical instrument.

2. The CW IDer can be modulated at any frequency the operator
desires in or out of audible range. Changing the tone frequency
is not a violation of our rules.
3. Any transmission of a signal that is musical in nature is a
violation of the rules.

That's government intelligence for you! Looks like they don't even know.

From a musical standpoint, a note is not considered music, until enough
notes are placed together to create a full-measure or bar. Dictionary
definitions are shown below.

The Merriam-Webster Dictionary
music \n 1: the science or art of combining tones into a composition
having structure and continuity; also: vocal or instrumental sounds
having rhythm, melody, or harmony 2: an agreeable sound
3: punishment for a misdeed

Webster's Encyclopedia of Dictionaries - New American Edition
Chapter/Section - Webster's Dictionary
music n. the art of combining sounds or sequences of notes into
harmonious patterns pleasing to the ear and satisfying to the
emotions; melody; musical composition or score.
Chapter/Section - Music Dictionary
music - Art and science of expression in sound
harmonic - referring to harmony; partial or overtone.
harmonic triad - three tone chord composed of a root tone, the
third and fifth above.

From the above definitions of the word "music", I feel we would all be in
trouble with Uncle Charlie!

Commentary Welcome

TTUL - 73+ de Gary - N0ZOI

4425. Uniden Pro510xl

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-25 00:00:00 UTC
From: rtant@ibm.net
Message-ID: <4458kk$k76@news-s01.ny.us.ibm.net>
Source record: 110434

Hello All,

Any one have schematics for a Uniden Pro510xl. I want to butcher mine....

Raymond Tant

4426. Unwanted FM station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-25 00:00:00 UTC
From: kennedy@aol.com
Message-ID: <446n6t$npv@su102w.ess.harris.com>
Source record: 110435

I live in the country. Too bad, right? My favorite FM stereo
station is 100 miles away on 102.1 FM. The problem is an
FM station 5 miles from my house transmitting 50KW on 101.9
FM makes it impossible to recieve it(the 102.1 station).
When the 101.9 station is off the air (only during a power
outage) the 102.1 station 100 miles away comes in nicely.
Is ther some kind of filter I can install to suppress the 101.9
station. It does splatter onto 102.1 by the way. I know there
are filters out there but my problem may be unique because
of the closeness of the unwanted station and the long
distance of the wanted station. Please post if you have
a response. Thank you very much!!
P.S. I don't plan on moving to the city thank you...

4427. Re: Composite-->RGB schems?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: jdubin@american.edu
Message-ID: <4481to$d0b@paladin.american.edu>
Source record: 110436

: I don't know what you're trying to do, but you may be better off trying to
: find a good used TV w/ a baseband video input rather than trying to kludge
: up a PC monitor, IMO.

Well, I'm just trying to use my monitor as a very nice display... after all, why bother spending another $200 on a similarly sized TV (15") when all I really need is my VCR and a NTSC-->RGB converter?

I looked at the article in Popoular Electronics mention earlier in the thread. It turns out that the device is about $99... too much to justify getting. Also, this is about 5 years old... there has to be something more current.

Thanks for the tips!
Jeff

4428. Re: Even simpler NE602 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.212.00103669@TRL.OZ.AU>
Source record: 110437

>Where can they be obtained? Mouser and Digi-Key both said
>they don't stock this part. While I'm asking questions, I
>may as well inquire as to the price, too. :-)

>Ed Lieser

They are listed in the Ocean State Electronics Catalog; $2.49 ea.

Phone order number is 1-800-866-6626 toll free (I presume you are in the USA).

73, Drew, VK3XU.

4429. RF Relay sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: jlbarber@wolfenet.com
Message-ID: <448j9e$3k8@news1.wolfe.net>
Source record: 110438

Hi folks !

Am wondering if anyone has a good source of info/prices on (relatively) inexpensive RF relays ? I see a lot of "Guardian Elec." brand relays in amps, but have never seen a catalog that has them. I'm looking for SPDT and DPDT with ratings <= 110w @ 50 ohms at 440, and <=200 watts @ 50 ohms at 144. Something with a good loss/life/cost balance would be nice.

Thanks,
Jim Barber, N7CXI

4430. Re: HamView Products on the WWW

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: cadirola martin <mcadir1>
Message-ID: <447ja7$j70@news.umbc.edu>
Source record: 110439

I've tried it today 9/25 and it works
--
Martin

4431. Re: Litz Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.210.000B499B@TRL.OZ.AU>
Source record: 110440

>Can anyone tell me where I can purchase, mail order or otherwise, Litz
>wire.

>Thanks.

>yeka44a@prodigy.com

Interestingly, I see Litz type wire now used extensively in HF switched-mode power supply transformers.

73 Drew, VK3XU.

4432. Re: crystal drive specs How to measure?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DFIJ1u.DDx@hpqmoea.sqf.hp.com>
Source record: 110441

james P. Meyer (jimbob@acpub.duke.edu) wrote:

: Drive power used to be important way back when tubes were used and
: folks needed to squeeze the maximum number of watts out of the minimum
: number of tubes. In that case it was often a single-tube power
: oscillator connected to an antenna! When you're pushing a 6V6
: oscillator to cherry-red plate condition, it's easy to get enough
: feedback through the crystal to damage it.

Drive power back then was important because they were trying not to
SMASH their crystals.

: Nowadays, unless you are trying stunts like that, drive power maximums
: and crystal currents are something you should never have to worry
: about.
: Jim "no sig" Meyer

Nowadays drive power is important because modern packages have
excellent thermal insulation and milliwatts can cause enough temp rise to
make a crystal oscillator drift further than the crystal's accuracy spec.

Modern expectations of frequency stability are now far higher than
back in the 1-tube days. (Modern crystals also have far lower
self-destruct power levels, too).

You SHOULD still worry about crystal dissipation, just for different
reasons, though..

Cheers
David GM4ZNX

4433. Re: Where to Find 40673 MOSFET

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <730102980wnr@ifwtech.demon.co.uk>
Source record: 110442

In article: <ddiamond.211.000B8909@TRL.OZ.AU> ddiamond@TRL.OZ.AU (Drew Diamond) writes:

: There was an extended thread on this one a few months ago. A fellow
: called Tom R. N100Q published a list of 40673 type pretty close
: "equivalents"; 3N204, MFE131, NTE221, NTE222, 3SK73, 3SK39, 3SK40, 3SK45,
: 3SK48, 3SK72 , TA7274, 3N200, 3N204, 3N211, 3N212, 3N213, TA7150, 40673 and
: (my own contribution); Philips BF981, BF982 (little flat pack critter).

Not all of these devices are "drop-in" replacements for the 40673.
Some definitely have different bias requirements, and others may have
too much gain for the original 40673 application.

The BF981 definitely requires different bias, and is much "hotter"
than the 40673. It may wake-up an old VHF front-end, but might
cause interesting problems if you try to use it at say 10.7MHz.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

4434. Re: Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <569349450wnr@ifwtech.demon.co.uk>
Source record: 110443

In article: <446msp$hqr@news1.inlink.com> raiar@inlink.com (Gary V. Deutschmann, Sr.) writes:

: Well, this is a little passe, but the question in question referred to a
: "commonly used COMPUTER PROGRAM, entitled 'Method of Moments'" It did not
: refer to documentation, written articles, or formula's.

Will somebody PLEASE quote the complete, exact words of the questions!

: A computer program entitled "Method of Moments" does exist

No, it's a computing METHOD, like it says, and not a program.

The programs called NEC, MININEC and all other kinds of "somethingNEC"
all use the MoM, but as you'll notice none of them is actually
entitled "Method of Moments".

: and it is the
: property of and offered for sale by the ARRL.

Not according to any ARRL publications list I've ever seen - and
one arrived this morning.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

4435. Can TM441A 450 radio cover 460?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: Gary Capek <gcapek@getnet.com>
Message-ID: <449ap0$frl@news2.getnet.com>
Source record: 110444

Has anyone been able to modify a Kenwood TM 441 A radio to cover above
450? I am aware of the 'cut the wire' mod for freq below 440, but find
that of little value. Please reply direct to e-mail above. Thanks
de K8BN
Gary Capek, Phoenix, AZ

4436. Source of silver plated wire ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: jtw2@NIOSR1.EM.CDC.GOV
Message-ID: <3067C521@SmtpOut.em.cdc.gov>
Source record: 110445
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

I want to make a coil for a 160m antenna tuning circuit and would like to use silver plated no. 10 or no. 8 wire. Does anyone know where to buy this material? Terry, K3JT

JTW2@NIOSR1.em.cdc.gov

4437. Re: Unwanted FM station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DFIvpJ.MFH@hpcvsnz.cv.hp.com>
Source record: 110446

kennedy (kennedy@aol.com) wrote:
: I live in the country. Too bad, right? My favorite FM stereo
: station is 100 miles away on 102.1 FM. The problem is an
: FM station 5 miles from my house transmitting 50KW on 101.9
: FM makes it impossible to recieve it(the 102.1 station).
: When the 101.9 station is off the air (only during a power
: outage) the 102.1 station 100 miles away comes in nicely.
: Is ther some kind of filter I can install to suppress the 101.9
: station. It does splatter onto 102.1 by the way. I know there
: are filters out there but my problem may be unique because
: of the closeness of the unwanted station and the long
: distance of the wanted station. Please post if you have

Well, you could build a rather expensive, hard-to-tune filter
that would kill much of the RF that is within the channel
assigned to the 101.9MHz station. Unfortunately, the nature of
FM modulation is that there are sidebands that extend "forever"
up and down from the carrier. The ones very far removed from the
carrier frequency are extremely low amplitude, but you are so
close to the station you don't stand much chance with a filter.
There is probably too much RF from the offending station that actually
falls within the channel of the desired station, and no filter will remove
that.

What offers a tiny possibility is an antenna with gain, and
perhaps more importantly with a null. If you can point a deep null
at the offending station and quite a bit of gain at the desired
station, and if you can put the antenna up high enough that the
desired station becomes truely line-of-sight, you may have a chance.
If you can manage a 20 or 30dB differentiation between the stations in this
way, I think you have a chance.

Only other thing I can think of is to get the 102.1 station to put in
a translator in your area that puts its signal on another frequency. But
since you are out of their primary service area, they aren't likely to be
sympathetic...

4438. *********NEED SHORTWAVE FREQ. FOR BO GRI

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: MUENZLERK@uthscsa.edu
Message-ID: <01HVQEST6BXE000HIZ@uthscsa.edu>
Source record: 110447

kgreasbyjr@aol.com (KGreasbyjr) writes:

-PLEASE HELP ME!!! I am looking for the freq. and time for the Bo Gris
-shortwave radio show. Please E-mail them to me.

You might try rec.radio.shortwave, this is a pretty good group for
finding shortwave equipment or frequencies.

Kevin, WB5RUE
muenzlerk@uthscsa.edu
The University of Texas Health Science Center at San Antonio
Department of Computing Resources

4439. Re: Antenna Switch Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <449em1$4hn@cnn.exu.ericsson.se>
Source record: 110448

```
> They are spec'ed at over 1 GHz with insertion loss as low as
>3 dB at 900 MHz.
^^^^

Sorry, that's supposed to be 0.3 dB. --Mike
```

4440. 5.645 crystal filter, 500hz cw

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: wirenet!ke4id@vulcan.com
Message-ID: <8B1D305.0017001385.uuout@vulcan.com>
Source record: 110449

FOR SALE: CW, 8 POLE CRYSTAL FILTER, 5.645 MHZ, 500 HZ WIDE

USED ORIGINALLY IN DRAKE TR7 AND DRAKE R4C

I HAVE ONLY TWO FILTERS, STILL IN ORIGINAL BOXES.

$40 EACH

LEAVE MESSAGE HERE IF INTERESTED

KE4ID

4441. Re: Unwanted FM station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: bill.sorsby@dlep1.itg.ti.com
Message-ID: <449hbn$qi4@mksrv1.dseg.ti.com>
Source record: 110450

In article <446n6t$npv@su102w.ess.harris.com>, kennedy@aol.com says...
>
>I live in the country. Too bad, right? My favorite FM stereo
>station is 100 miles away on 102.1 FM. The problem is an
>FM station 5 miles from my house transmitting 50KW on 101.9
>FM makes it impossible to recieve it(the 102.1 station).
>... Is ther some kind of filter I can install to suppress the 101.9
>station.

There may be a solution, but it will not come from filtering. Filtering can solve interference for alternate channel interference (i.e., stations 400 kHz apart), but this requires an FM receiver with excellent selectivity (i.e., expensive). Filtering alone will not solve adjacent channel interference such as you have described.

What you need to do is increase the signal level of the desired station while simultaneously reducing the signal level of the undesired station. Depending upon the geometry of your situation, this may not be as implausible as it sounds.

First: So long as the undesired station location is not in-line with the desired station, you can reduce the strength of the undesired station by using an FM yagi antenna and nulling the closer station. (The common TV/FM log-periodic antennas will not provide anywhere near high enough side rejection. The antenna needs to be a Yagi.)

Second: Installing a high antenna will significantly increase the signal level of the desired station relative compared to the undesired station. (The local station will stay about the same amplitude, while the distant will increase amplitude.)

Third: The geometry of your situation must be considered when selecting antenna gain. If the local station is nearly broadside when your antenna is pointing to the distant station then you should use the highest gain yagi antenna you can find. If not, then you need to consider the antenna beamwidth when selecting an antenna.

Good luck,
Bill Sorsby, P.E. and ham operator N5BU

4442. Two-tone FM transmitter deviation test? help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: ct@onr.com
Message-ID: <449k8v$83g@mari.onr.com>
Source record: 110451

I understand that there is a way to set FM transmitter deviation
using two audio tones.

Anybody out there familiar with this technique?

Thanks in advance,

Charlie
WB4HVD

4443. CMOS SuperKeyer III Help?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: sskelton@cln.etc.bc.ca
Message-ID: <1995Sep26.180040.22617@news.etc.bc.ca>
Source record: 110452

Hi all...I've sent for, received, and assembled my SuperKeyer III...When connected to the power supply (12 v stepped down to 5 v with a regulator) it gives me it's dahdahdah dahditdah (really fast) then pauses for a second or so then gives a continuous tone....I can hear the key sending dits and dahs when I key it (behind the continuous tone) but don't know what the problem is....

Anyone out there can help???

73's Stan VE7SKT

--

4444. Re: crystal drive specs How to measure?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <449qvp$kt4@hpscit.sc.hp.com>
Source record: 110453

In article <4405b6$1a2@news.duke.edu>,
james P. Meyer <jimbob@acpub.duke.edu> wrote:
>
> Drive power used to be important way back when tubes were used and
>folks needed to squeeze the maximum number of watts out of the minimum
>number of tubes. In that case it was often a single-tube power
>oscillator connected to an antenna! When you're pushing a 6V6
>oscillator to cherry-red plate condition, it's easy to get enough
>feedback through the crystal to damage it.
>
> Nowadays, unless you are trying stunts like that, drive power maximums
>and crystal currents are something you should never have to worry
>about.
>
> Jim "no sig" Meyer

No, you still have to worry about it. If you simply throw
together a crystal oscillator using say a 2N5179 running from a
12 volt supply and use "typical" component values, it is very easy
to end up with 5 or 10 mW of crystal dissipation. If you turn this
oscillator on and off with PTT, you may notice an annoying drift
on the beginning of each transmission. The oscillator will in
general have poorer stability than one running at "sane" drive
levels (well below 1 mW).

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4445. Re: Where to Find 40673 MOSFET

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <449r1o$ku5@hpscit.sc.hp.com>
Source record: 110454

In article <442pqi$f87@newsbf02.news.aol.com>,
EricNess <ericness@aol.com> wrote:
>Many of the projects in ARRL publications specify the RCA 40673 dual gate
>MOSFET. I understand that this part has ben discontinued so, can anyone
>recommend suitable replacement or better yet, does anybody know of a
>surplus outlet that still has some old stock.

A Philips BF904 should be a good replacement.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4446. Re: Antenna Switch Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <449ef7$4hn@cnn.exu.ericsson.se>
Source record: 110455

tomb@lsid.hp.com (Tom Bruhns) wrote:

>Kory Hamzeh (kory@avatar.com) wrote:

>: I would like to build an antenna switch for 2m and 70cm. I was wondering
>: if in need to special toggle switch or can I use the Radio Shack variety
>: SPDT toggle switch? Also, should the wiring inside the box be shielded
>: coax also?

>I'd recommend avoiding switches, particularly at 70cm.

Don't throw away the whole concept because you've had some bad luck.
Do it right and it'll work just fine.

>If you really want to switch, I'd suggest you get a relay rated for use at
>70cm. But these are usually kind of expensive, and then you have to have
>power to drive the coil.

They don't have to be expensive... if you know where to look. Try
the Aromat relays distributed by Master Distributers in Oakland and
Santa Monica, California. Particularly the RF, RK and RG series.
These were designed as a cheap automatic A/B switch for TV's and
VCR's. They are spec'ed at over 1 GHz with insertion loss as low as
3 dB at 900 MHz. And isolation like you wouldn't believe! You'll
find them configured for SPST, SPDT, DPDT etc. They are designed for
PC mount so there IS a little work involved, but you end up with the
connectors of your choice when you're done.

I was turned on to these by John Quinn who designed RF Concepts latest
dual-band power amp. I liked them so much I designed them into an amp
my old company built and sold for Motorola. 50W was no problem for
these little relays. (As long as you didn't hot-switch them too many
times.)

>Sorry things aren't simpler at UHF, but that's the way it is.

I agree with that statement, but what makes it fun is doing what the
average guy can't. :-) Mike - KD6PKJ

4447. Re: RF Relay sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <449lv2$9m4@mgate.arrl.org>
Source record: 110456

jlbarber@wolfenet.com N7CXI(Jim Barber) wrote:
>Hi folks !
>
>Am wondering if anyone has a good source of info/prices on
>(relatively) inexpensive RF relays ? I see a lot of
>"Guardian Elec." brand relays in amps, but have never seen a
>catalog that has them. I'm looking for SPDT and DPDT with
>ratings <= 110w @ 50 ohms at 440, and <=200 watts @ 50 ohms
>at 144. Something with a good loss/life/cost balance would be
>nice.
>
A distributor for Guardian Electronics is Newark Electronics,
one of the big electronic distributors.

However, I suspect that the relays you saw weren't designed
for RF use. To cut costs, manufacturers will often use ordinary
relays and design the circuit to minimize the effect of the
impedance bumps.

Typically, amateurs aren't going to go through all that trouble
to characterize inexpensive relays. Instead, they will spend hours
going to flea markets or rallies to find surplus relays designed for
RF applications. Typically, these relays will go for about $35,
though they often set back the original purchaser $500. A problem
with surplus relays is that they typically are designed for 24
volts--surplus 12 volt RF relays are relatively rare, though they
can be found. Sometimes they can be rewound--the snag is taking
them apart without breaking something.

Zack KH6CP/1
zlau@arrl.org

4448. Repeater controller/ider

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: walth@plains.NoDak.edu
Message-ID: <DFIy5y.LEw@ns1.nodak.edu>
Source record: 110457

Thanks for reading this. I am a college student interested in learning about repeater controllers and iders. I am trying to build a controller, but Don't quite know how to get all the bells and whistles accomplished. I am looking for any info or plans for building either an ider and/or a controller. Right now I am just looking for ideas. Any help would be appreciated.

Chris Walth
N0OXI

4449. Why is Ten-Tec 2M kit not available?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: tom_maszerowski@mc.xerox.com
Message-ID: <NEWTNews.812130714.28129.tom_masz@agi1.mc.xerox.com>
Source record: 110458

I guess the subject says it all. I just got my catalog the other day and noticed it was not currently available. It looks like something I'd like, too. Anyone know why (tuning/setup problems?)?

Tom.

4450. How to Interface aging Kaypros for CW keyers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-26 00:00:00 UTC
From: rdkeys@csemail.cropsci.ncsu.edu
Message-ID: <4496ad$93i@taco.cc.ncsu.edu>
Source record: 110459

For a programming project, as a last gasp practical use to make some aging kaypros in the bilges of the hamshack sing again, I would like to make the things toggle rs-232 lines (data lines or control lines) to actuate external reed relays which will key a radio transmitter at a data rate (morse code specificially, although rtty or other modes would be nice too).

I have a program that runs fine on my Xerox 820-II that toggles the ports and keys remarkably fast and cleanly (much better than my PC's do when running similar software). Unfortunately, when I change the ports to make it run on the kaypros, it does nothing. There seems to be something very minor different between the control of the serial ports on the Xerox 820-II vs the kaypros.

On the xerox the ports for the keyboard are 1Eh and 1Fh for data and control registers. On the kaypros I tried ports 4 and 6 for the serial output but port 5 (i think or maybe 7) to get keyboard input did nothing.

Can anyone tell me the correct data and status register ports for the Kaypro II and the Kaypro 4-84? Also, can anyone confirm that the standard serial modem port is 04h-data/06h-status?

Also, does anyone know of any software other than the tiny bit on oak in the sigm 141 file and the oak/cpm/hamradio directory, that is related to the use of serial or parallel ports to toggle external relays, controls, or other devices, etc? I would love to gather up any and all amateur radio related CP/M softare before it becomes vaporware.....(:+{{.....

I am particularly interested in any programs that run CW on CP/M machines or log using such machines.

Does anyone know if it is possible to toggle all bits/lines on the serial or parallel ports in unison (so that one could, in theory, fan out more ttl loads than just a single line could)? Some reed relays may overload the ttl fanout load power that the single lines could control. If it would be possible to toggle all lines in unison, as if one were sending a break down the line, then that could be sufficiently powerful to drive heftier relays without the need for additional interfacing dongles or boxes (my current interface fits inside an RS-232 plug shell). Some of my boatanchor transmitters key via rather hefty 28 volt relays so hefty reed relays are required.

Thanks again, and may your fine little CP/M boxes ply the digital bitstream waters for many fine moons to come! Nothing wrong with a rack-mounted Kaypro as a CW keyboard amidst the boatanchor hamshack!

(What the heck, aging kaypros at 3 or 5 dollars a pop in the electronic fleamarkets should make great little dedicated controller boxes, in lieu

of multi-kilobuck pentium laptops.....(:+}}.....)

TU/SU 73/ZUT DE NA4G/Bob Keys
rdkeys@csemail.cropsci.ncsu.edu

--

4451. Re: Antenna Switch Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <44c5a9$fdr@hg.oro.net>
Source record: 110372

Dumb mistake. I said five wire diameters above the chassis. I should have said one FIFTH of a wire diameter above the chassis.

You can use magic mending tape as an insulator OR small bits of shrink sleeving every few inches to get the required spacing.

Sorry about the bonehead blunder. More cold caffeine....much more...

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

4452. Re: Unwanted FM station PART 2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <44c446$bgs@newsbf02.news.aol.com>
Source record: 110373

In article <44bmrm$foo@su102w.ess.harris.com>, kennedy@aol.com (kennedy)
writes:

>
>I have 2 yagi antennas for FM stereo reception and I would like to
>stack them for better selectivity(GAIN). Can you tell me what
>the vertical distance between them should be? I presume FM stereo
>signals are horizontally polarized, is that correct? If so then
>the vertical distance question stands.. Right?? Please post
>if you can help. Thanks again
>
>
>

Hi Robert,

If you want gain the spacing is different than null depth. So do you want
a deep, dide clean null or just maximum signal level with less rejection
of unwanted directions?

73 Tom

4453. Vintage Meet - NJ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: john.dilks@academia.com
Message-ID: <4446.1041.uupcb@academia.com>
Source record: 110374

>>..... NEW JERSEY ANTIQUE RADIO CLUB
>>..... RADIO SWAPMEET

>>..........Saturday, October 7, 1995

>>.......Hightstown Country Club Ballroom

The New Jersey Antique Radio Club will present its all-outdoors Fall swapmeet at Hightstown, 7 AM to 1 PM, with seller setup beginning at 6:30 AM. Vendors will be offering a spectrum of collectible old-time radios - table-model, console, transistor, Bakelite, communications - with related literature and parts. Food and beverages available. Ample on-site parking for $2. Everyone is welcome!

Directions: The location is off NJ Route 33, reached from Exit 8 of the New Jersey Turnpike. From the Turnpike exit, go east on Rte. 33 about 200 yards past Mom's Peppermill restaurant. Continue . mile to the first jughandle and loop west. At the first traffic light, bear right onto Monmouth St. Look for the white building, the "Hightstown Country Club Ballroom," about 300 yards on the left.

For out-of-area visitors, accommodations are available at the Ramada Inn directly across Monmouth St. [(609) 448-7000]. On Rte 33 nearby are the Day's Inn [(800-DAYS-INN, or (609) 448-3200] and the Town House Motel [800-922-0622 from out-of-state, or (609) 448-2400 within New Jersey].

Seller rates are $15 per table ($3 discount to NJARC members). To reserve a table, please send a check payable to NJARC to: Onalee Fisher , 344 Harrison Ave., Manville, NJ 08835 by Oct. 3. Contact: Onalee Fisher at (908) 725-7476.

Formed in mid-1992, NJARC now has a membership above 120. The club meets at Grace Lutheran Church on Corner of Old Route 33, Park Ave., and Rt 537, Main Street, in Freehold, New Jersey on the second Friday of each month at 7:30 PM. Visitors are welcome. For details, see any recent issue of Antique Radio Classified or the AWA Old Timer's Bulletin.

... 73' John Dilks, K2TQN

. 1st 2.00n #3514 . The future isn't what it used to be... Where's the Radio?

4454. QRP transceiver kit; Spanish version of manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-2709951240390001@burdick.interval.com>
Source record: 110460
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Wilderness Radio's NorCal 40A (40 meter QRP CW Transceiver kit) is now available with a very good Spanish translation of the manual. A second product, the KC1 universal subminature keyer/frequency counter kit (2.5" x 0.8"), will also soon have a Spanish translation available. Contact Bob Dyer, KD6VIO, at 415-494-3806. Or write to Wilderness Radio, P.O. Box 734, Los Altos, CA 94023-0734, U.S.A.

Wayne
N6KR

4455. Schematics on the net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: el941314@stoat.shef.ac.uk
Message-ID: <44b8fd$9bf@hippo.shef.ac.uk>
Source record: 110461

Hi!!!
I'm looking for places around the Internet where I could find schematics and circuit diagrams (well, you know, that sort of stuff), mainly for radio stuff. Please, help me!! :-)))

Cheers,
Jose
--
J.L.Gomez-Dans@sheffield.ac.uk EEE
Jose: Cerveceiro dende 1976

4456. Re: Antenna Switch Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <44bsqt$b26@hg.oro.net>
Source record: 110462

Kory Hamzeh <kory@avatar.com> wrote:

>I would like to build an antenna switch for 2m and 70cm. I was wondering
>if in need to special toggle switch or can I use the Radio Shack variety
>SPDT toggle switch? Also, should the wiring inside the box be shielded
>coax also?

>Thanks,
>Kory
>KE6VWO

Well, yes and no to all these questions. Actually, if you run coax to
the switch and keep the leads short, the little mini-switches that
mount in a 1/4" dia hole aren't all that bad. I've done switching
with them at 500 MHz. and don't expect half a dB loss.

One trick that I have used to advantage is to use a shielded box for
my A/B switch using BNC connectors in and out. Then I use a #22 wire
mounted five wire diameters above the chassis (this is what is called
air-dielectric microstrip) to make a 50 ohm transmission line out of
the wire and the chassis ground. Only when the wire has to go up to
the switch and the center post of the connector do I go above the
5-diameter separation.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

4457. Re: Even simpler NE602 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <44c5s1INNlq5@sepia.wv.tek.com>
Source record: 110463

>>Where can they be obtained? Mouser and Digi-Key both said
>>they don't stock this part. While I'm asking questions, I
>>may as well inquire as to the price, too. :-)
>
>>Ed Lieser
>
>I bought a dozen from Jade. Can't remember the exact price but was in the $2 ea.range.
Jade have an ad in 73 and CQ too, I think.
>
>Murray Kelly. vk4aok.
>
Newark carries them also $1.82 in 1-99 quan.
Their number (for Pacific Rim countries) is (619) 691-0172
They also have offices throughout the US, Canada, Europe, etc.
I have no connection with them, other than being a satisfied customer.
(they had what I needed for a ham project at a reasonable price and time).

Ed Burress
KC7GFX

4458. Re: RF Relay sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <44cm4c$gpj@grape.epix.net>
Source record: 110464

Zack Lau <zlau@arrl.org> wrote:
>jlbarber@wolfenet.com N7CXI(Jim Barber) wrote:
>>Hi folks !
>>
>>Am wondering if anyone has a good source of info/prices on
>>(relatively) inexpensive RF relays ? I see a lot of
>>"Guardian Elec." brand relays in amps, but have never seen a
>>catalog that has them. I'm looking for SPDT and DPDT with
>>ratings <= 110w @ 50 ohms at 440, and <=200 watts @ 50 ohms
>>at 144. Something with a good loss/life/cost balance would be
>>nice.
>>
>A distributor for Guardian Electronics is Newark Electronics,
>one of the big electronic distributors.
:though they often set back the original purchaser $500. A problem
;>with surplus relays is that they typically are designed for 24
;>volts--surplus 12 volt RF relays are relatively rare, though they
;>can be found. Sometimes they can be rewound--the snag is taking
;>them apart without breaking something.
;>
;>Zack KH6CP/1
;>zlau@arrl.org
;>
Did you see the super simple switcher in this issue of "Nuts and Volts" ?
It looks as if it would be a narural for applications like using 24 volt
relays on 12 volt circuits. Super simple circuit if it behaves as the
author says. The noise consideration is always there also....

Garry (WB0NN0)

4459. Unwanted FM station PART 2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: kennedy@aol.com
Message-ID: <44bmrm$foo@su102w.ess.harris.com>
Source record: 110465

I have 2 yagi antennas for FM stereo reception and I would like to
stack them for better selectivity(GAIN). Can you tell me what
the vertical distance between them should be? I presume FM stereo
signals are horizontally polarized, is that correct? If so then
the vertical distance question stands.. Right?? Please post
if you can help. Thanks again

4460. Re: RF Relay sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: raateland@vyh.fi
Message-ID: <1995Sep27.134426@vyh.fi>
Source record: 110466

In article <449lv2$9m4@mgate.arrl.org>, Zack Lau <zlau@arrl.org> writes:
> jlbarber@wolfenet.com N7CXI(Jim Barber) wrote:
> though they often set back the original purchaser $500. A problem
> with surplus relays is that they typically are designed for 24
> volts--surplus 12 volt RF relays are relatively rare, though they
> can be found. Sometimes they can be rewound--the snag is taking
> them apart without breaking something.

Or one can use an electronic circuit to temporarily boost your 12 volts to 24 to make the relay pull in. Usually 12 volts will be enough to keep the relay pulled. It will use less current as a bonus. I 'designed' and used such a circuit long ago. My design wasn't all that complicated, 2 transistors, some diodes and some passive components, but an improvement in that it didn't have the recovery time that the original circuit had. Using a lower holding voltage probably has disadvantages, too. Perhaps somebody can enlighten us on that.

Somebody asked about such a circuit half a year or so ago. I hope I've still got the ASCII artwork somewhere.

--... ...-- -.. . --- .... ..--- --.. .- --..
Arjen Raateland, SAS Support
Finnish Environment Agency
Helsinki, Finland
.-.-. -.-

4461. Spellman power supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: Michael@diamonds.batnet.com
Message-ID: <Michael-2709951246250001@diamonds.batnet.com>
Source record: 110467

I'm looking for the phone number or location of Spellman, a vendor of high-voltage
switching power supplies. Thanks in advance for your help.

Michael Pinneo

4462. Re: Composite-->RGB schems?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: rutledge@enuxsa.eas.asu.edu
Message-ID: <DFJH0p.B8D@ennews.eas.asu.edu>
Source record: 110468

Jeff Dubin (jdubin@american.edu) wrote:
: : I don't know what you're trying to do, but you may be better off trying to
: : find a good used TV w/ a baseband video input rather than trying to kludge
: : up a PC monitor, IMO.

: Well, I'm just trying to use my monitor as a very nice display... after
: all, why bother spending another $200 on a similarly sized TV (15") when
: all I really need is my VCR and a NTSC-->RGB converter?

Better to get a TV card for the computer. That way you can capture stills
of all your favorite babes too... A friend of mine uses a PC TV card (might
be Reveal, but I'm not sure... there are several now I understand) with his
PC and 17" monitor. It has an onboard tuner, whereas the ones meant
specifically for video capture (such as Creative's Video Blaster) don't,
and are more expensive due to the ability to capture full-motion video,
and in some cases to output full-motion video too.

--
_______ KB7PWD @ N7MRP.AZ.US.NOAM shawn.rutledge@asu.edu
(_ | |_) html: http://enuxsa.eas.asu.edu/~rutledge/home.html
__) | | ____
* mad science * C++ * fusion * packet * SunSparc * X window * PIC * robotics *

4463. Re: FCC Rules? Music and Repeaters, Roger Beep!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: rutledge@enuxsa.eas.asu.edu
Message-ID: <DFJHrK.BKy@ennews.eas.asu.edu>
Source record: 110469

Gary V. Deutschmann, Sr. (raiar@inlink.com) wrote:
: FCC Rules? Music and Repeaters Roger Beep!

: Beethoven's 5th - di di di dah

<snip>

: **********
: So now I have this question:
: How many notes, harmonic triad or otherwise, can be played in succession
: before the FCC considers it music as defined in their rules?
: **********

I continue to wonder why the FCC should care anyway. As with many of
their other rules I guess.

Anyhow, you bringing up Beethoven's 5th got me thinking, what if you
were to use sort of an FSK/Morse combination, such that the carrier frequency
shifts a little bit for the various notes, and the music thus can be
heard by beating with your BFO? That would certainly be stretching
the definition of music a bit... you're not modulating the carrier with
music, only with information which can be used to create music. Just
so happens that every receiver designed for CW could hear it, that's all...
And, if your "song" had rhythmic patterns that corresponded to Morse
characters, and you got caught, you could always just say that you really
did intend to transmit all that gibberish, and dosh-garnit, the bloody
oscillator in the transmitter happened to be feeling flakey right about
then and....

I bet some hacker somewhere messed around with RTTY music, picking the
right data sequences to achieve a similar effect... heck, if it can be done
with a dot matrix printer why not?

--
_______ KB7PWD @ N7MRP.AZ.US.NOAM shawn.rutledge@asu.edu
(_ | |_) html: http://enuxsa.eas.asu.edu/~rutledge/home.html
__) | | ____
* mad science * C++ * fusion * packet * SunSparc * X window * PIC * robotics *

4464. TAPR TNC-2 Parts Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: dws@sgfb.ssd.ray.com
Message-ID: <DFL4M0.84G@ssd.ray.com>
Source record: 110470

I have a TAPR TNC-2 that was recently damaged
in a lightning storm. I need to replace a
couple of IC's that I have had no luck in
locating. Would anyone know where I might
aquire the EXAR chips XR2211 and XR2206
along with the MF10 filter chip. I've tried
DigiKey and Newark without luck. Any help
would be appreciated. Thanks.

Dave Smith WA1UWU

4465. CMOS SuperKeyer III "fix"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-27 00:00:00 UTC
From: sskelton@cln.etc.bc.ca
Message-ID: <1995Sep27.160102.6170@news.etc.bc.ca>
Source record: 110471
Body handling: HTML body converted to readable text

Eureka...CMOS SuperKeyer III "solution" (sic) found!

Well, thank you very very much Bill, your suggestion to clean the circuit board (see below) "cleaned up" my problem with the superkeyer.

I guess a lot of the foil paths were "crudded up" and just needed a couple of Bill's treatments....

The superkeyer appears to work flawlessly now, although I haven't gotten it back into the case and haven't tried out all of the functions yet... I really like the automatic key spacing (but what do I know, I'm just a newbie)....

Thanks again Bill...lots of us owe a lot to you guys giving us the benefit of your experience....

4466. RF Transformer can slugs????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: russ@gslink.net
Message-ID: <44d2vi$au2@ddi2.digital.net>
Source record: 110375

I have an Allied SX190 receiver from the 70's that has a cracked ferrite slug in the transformer can for the front-end preselector.

It's a small affair, roughly .25" square by .5" high. Anyone know where I can get a slug, or whole replacement?

Thanks if you can help

4467. Looking for fast scanner with PC IF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: Danie Brynard <danie.brynard@pixie.co.za>
Message-ID: <44d8nn$8gd@foible.pix.za>
Source record: 110376

Hi OM. Is there a fast scanner available with a PC RS232-type
interface available with which I can implement a 'home-brew'
spectrum analiser ? I believe Trident has something that can even
be connected to an oscilloscope ??

I need a relatively cheap spec anaylser for home constructiuon.
Any ideas ?

4468. Re: Source of Toko coils/helicals besides DigiKey

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <44datk$bfo@nnrp1.news.primenet.com>
Source record: 110377

Cliff Yamamoto (cyamamot@kilroy.jpl.nasa.gov) wrote:
: Does anyone know if Toko sells direct in small qty? Digi-key seems to
: be out of stock on the more popular parts and I was wondering if there
: are any other distributors that carry Toko? Does Toko accept Visa/MC
: orders of qty (1) like Mini Circuits?

: Thanks,
: - Cliff

Cliff,
Try Penstock. There is undoubtedly a phone number for them in the
LA area. They are the only other distributor for TOKO that I know of.
They don't normally sell in very small quantities, but you might try
them for samples. I've had good fortune with them in this regard when
trying to get a working prototype together in a hurry.

--

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------oo0~(_)~0oo----------

4469. Re: RF Relay sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Sep28.063127.22882@ke4zv.atl.ga.us>
Source record: 110378

In article <449lv2$9m4@mgate.arrl.org> Zack Lau <zlau@arrl.org> writes:
>Typically, amateurs aren't going to go through all that trouble
>to characterize inexpensive relays. Instead, they will spend hours
>going to flea markets or rallies to find surplus relays designed for
>RF applications. Typically, these relays will go for about $35,
>though they often set back the original purchaser $500. A problem
>with surplus relays is that they typically are designed for 24
>volts--surplus 12 volt RF relays are relatively rare, though they
>can be found. Sometimes they can be rewound--the snag is taking
>them apart without breaking something.

Often you can just swap the 28 volt coil for a 12 volt coil from a more
conventional (read cheaper) relay. And also surprisingly frequently
a 28 volt relay *will* work at 12 volts without tinkering. The relay
manufacturer often designs in quite a bit of margin, and if the spring
has lost a bit of its "sproing" the relay will work at the lower voltage.
Sometimes you need to hit the relay with a spike to make it pull in, but
it will then hold at 12 volts. Obviously this won't always work, but may
be an alternative for using an available relay in a one-off project.

The reduced holding pressure may cause contact burning, so you need
to watch out for that.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4470. Re: Two-tone FM transmitter deviation test? help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: geertj@ripe.net
Message-ID: <DFM3uo.50B@inter.NL.net>
Source record: 110379

In <449k8v$83g@mari.onr.com> ct@onr.com (Charlie Thompson) writes:
>I understand that there is a way to set FM transmitter deviation
>using two audio tones.
>Anybody out there familiar with this technique?

I think you are mistaking FM and SSB.
Two tones are used to test an SSB transmitter. The reason is that
with one one, the output of the transmitter is (should be) just
a single carrier. With two tones, you can test linearity and such

To set the deviation of FM, you can use another trick, which is based
on FM theory. The theory says, that for certain values of the modulation
index, the carrier completely disappears. So, of you have an unmodulated
signal and add modulation, you add sidebands:

```
| |
| |
| => | | |
--------------- ---------------
```

For small values of the modulation index, only the first sidebands
are visible. If you add more deviation, the carrier gets smaller
and smaller, disappears, and reappears again:

```
|
| | |
| | | => | |
--------------- ---------------
```

The first time this happens is at m=2.4. Now, how does this help you?

Assume that you need a deviation of 3 KHz. Get a sine generator and set
it to 3000/2.4 = 1250 Hz. Connect to transmitter and set modulation to 0.

Take a SSB receiver and tune it to the carrier of the FM transmitter.
Tune to get a tone that is easily recognized, say, 400 Hz.
Now slowly increase the modulation. You will hear all kinds of rubbish
but only pay attention to the 400 Hz tone. At a certain amplitude, the
tone will be nulled out. Measure the amplitude you used to get this;
that is the amplitude needed for 3 KHz modulation.

Hope this helps,

Geert Jan PE1HZG

4471. RATEC UK

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: jedc@midcoast.com.au
Message-ID: <DFM4G6.Gyr@online.tmx.com.au>
Source record: 110380

Some years ago there was a geoup in the Uk known as RATEC (Radio
Amateurs Technical Enthusiast Club ?)
Does it still exist and can anyone give me a contact address/E-mail
address
VK2AEC

4472. Re: Litz Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: novatech@eskimo.com
Message-ID: <DFMAI6.3Hu@eskimo.com>
Source record: 110381

ddiamond@TRL.OZ.AU (Drew Diamond) writes:

>>Can anyone tell me where I can purchase, mail order or otherwise, Litz
>>wire.

Multiwire Inc. is a source.
>>Thanks.

>>yeka44a@prodigy.com

>Interestingly, I see Litz type wire now used extensively in HF switched-mode
>power supply transformers.

In one design of mine, which had to deliver about 50 watts at 250kHz, I shifted from 10 strands of #26 to 50 strand litz wire and saved 2.5watts without any other changes. I kept the total amount of copper equal (same circular mils) Litz lowers a problem called the "proximity affect." The cost hit wasn't too large.

>73 Drew, VK3XU.

--
Steven D. Swift, novatech@eskimo.com, http://www.eskimo.com/~ntsales
NOVATECH INSTRUMENTS, INC. 1530 Eastlake Avenue East, Suite 303
206.322.1562, fax 206.328.6904 Seattle, Washington 98102 USA

4473. Re: Where to Find 40673 MOSFET

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: ddw2@Lehigh.EDU
Message-ID: <44ejsg$4741@ns2-1.CC.Lehigh.EDU>
Source record: 110382

In article <446l1s$h8q@newsbf02.news.aol.com>, vinyn1vc@aol.com (VINY N1VC) writ
es:
>I have run up to the same problem. One solution is to go to your local
>electronic
>parts store (not Radio Shack) and ask for a NTE-222. I believe Mouser has
>a line of these also. My findings are that this Mosfet is equal to or
>hotter than the 40673.
>
Found it listed in ALLTRONICS #951 catalogue P.71- RCA40673 $1.39. They also
carry other goodies like Gel-cells, varicap, vacuum tubes and some RF power
transistors.
There address is: 2300 Zanker Rd., San Jose, CA 95131.
Phone:(408)943-9773, Fax:(408)943-9776

Hope this help.
73
DJ, N2YKP
==========

D. J. Wang, Ph.D. N2YKP Lehigh University
Director of Instrumentation Chemistry Department
ddw2@lehigh.edu Seeley G. Mudd Bldg.
(610)758-3463 (Ph) 6 E. Packer Ave.
(610)758-6536 (Fax) Bethlehem, PA 18015

4474. Re: CAD tools and distribution was(Re: 2m to 6m Transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: hbrown@ew0206.resd
Message-ID: <44ekhr$n8g@morgan.vf.mmc.com>
Source record: 110383

I've been away from this newsgroup for a while and just read things for the first time in weeks.

I would like to suggest that interested readers that want a copy of an excellent circuit simulator get a copy of APLAC. APLAC is a very versatile circuit and system level simulator. A "DEMO" version is available at the following location:

http://picea.hut.fi/aplac/general.html

APLAC is a windows program that is "spice like" and much like touchstone. The demo version is very, very little disabled. The only restrictions that are stated are that it limits file sizes to 256 K bytes and that the interface drivers that allow the import of s parameters from your network analyzer are disabled.

It does not have a schematic input but it is compatible with PSPice and touchstone files. There is a schematic program called NASSE that does draw a schematic and create a file but it is limited to 10 components. APLAC has files for about any component you might want including stripline and I beleive even rat race mixers. It does not do artwork however (I beleive).

I can't remember how big the files are but I beleive they are around 2 meg or so before unzipping. There is extensive documentation available that is also downloadable. The manual is several hundred pages long and is over 10 meg long. It requires a postxcript printer to printout. A friend of mine has printed out around 100 pages so far using "Ghostscript" to his inkjet printer. The manual includes full graphics including schematics of examples response charts and smith charts.

I have only looked through some of the samples that are included in the demo program. Note that the word "DEMO" is what Helsinki University and and the Nokia Coeporare Research Center call it. Most of us would call it a full featured program.

What I have seen of it makes me very entheustic. It appears to be a professional program that I can afford ($0.00), costing only download time. A friend of mine copied his via Prodigy so anyone with web capabilities should have no problem.

I'm anxious to have others run it through it's paces and either confirm my limited experience or to shoot holes through my story.

What do you guys think?

73, Harry, W3IIT

4475. Hand-mike REPAIR-Tip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: gene@eagle.csl.uiuc.edu
Message-ID: <gene.812307090@eagle.csl.uiuc.edu>
Source record: 110384

I was successful in renovating damaged Dynamic Handmike (probably 600 ohm-Z) which had been ruined by dropping it on the cement floor. The small internal P-C board with transistor was mounted to the voice-coil terminals, resulting in severing the tiny voice-coil wires in such a way that it was almost impossible to repair. Radio-Shack sells an "Electret" unit for $1.99 which has wide frequency resonse, but requires supply voltage of between +2 volts and +10 volts. Substituting this unit alone, although it worked, did not supply enough output (This particular mike was a Motorola series 500 from a SSB C-B transceiver..cat# 550). In order to utilize the original transistor which had amplified the original voice-coil, I substituted a 100 ohm resistor for the bad voice-coil and removed a 1.0 uf by-pass capacitor. But now a supply voltage is needed for the Electret unit (ideally +4.5 v thru 1K load-resistor to the Electret). The only voltage in microphone unit was via the collector load resistance to the original transistor amplifier....which is a class-A amplifier with "average" +6v at its collector. Since my Electret unit only consumed about 1/3 ma, I simply filtered out the audio-swings from the collector through a 4.7K to a 220 ufd, which provided about +4.5 DC. Then from here, the recom-mended 1K to the Electret....then a 10 ufd coupler from the Electret output to the base of the original transistor. This yielded just the amount of audio that I needed....a little more than 100% modulation on AM with loud talk into the microphone. There was no gain-control, so this is also the correct level for SSB operation. Viewing on oscilloscope showed no observable distortion. These guide-lines could probably be implemented in a wide variety of hand-mikes used in Amateur-Radio and C-B equipment, that have been damaged by water or dropping.
--

Internet, BITNET: gene@csl.uiuc.edu

4476. Re: Source of Toko coils/helicals besides DigiKey

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <44f6sk$41h@hpscit.sc.hp.com>
Source record: 110385

In article <447eo5$6j0@lo-fan.jpl.nasa.gov>,
Cliff Yamamoto <cyamamot@kilroy.jpl.nasa.gov> wrote:
>Does anyone know if Toko sells direct in small qty? Digi-key seems to
>be out of stock on the more popular parts and I was wondering if there
>are any other distributors that carry Toko? Does Toko accept Visa/MC
>orders of qty (1) like Mini Circuits?
>
>Thanks,
>- Cliff

I once heard a Toko salesman say that they consider 100,000 pieces to
be a small quantity, and won't provide free samples to customers
working in those volumes.

Do yourself a favor, and work within the constraints of Digi-Key.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4477. ICs too small?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <44er37$s8e@mgate.arrl.org>
Source record: 110386

I noticed that HP has come out with a new SOT-363 package, which is significantly smaller than SO-8 packages.

I have been able to point to point wire SO-14/SO-8 ICs without a magnifying glass, so these seem to be OK.

Anyone have comments on how easy/hard they found it to work with these new parts in amateur homebrew projects?

Looks like the MGA-87563/MGA-86563 might be useful for making miniature microwave transceivers for taking on hiking trips.

Zack KH6CP/1

4478. Re: Composite-->RGB schems?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <44f6do$3iv@hpscit.sc.hp.com>
Source record: 110387

In article <mzenierDFGzxH.LLs@netcom.com>,
Mark Zenier <mzenier@netcom.com> wrote:
>in <43uuh9$nsb@hpscit.sc.hp.com>, Richard Karlquist wrote:
>: In article <1995Sep20.152713.14228@ke4zv.atl.ga.us>,
>: >In article <43ltmr$2n9@paladin.american.edu> jdubin@american.edu writes:
>: >>Looking to convert a composite signal to an RGB (ie: video out -> VGA
>: >>monitor, w/o PC intervention). If you know where I can find a schem,
>: >>could you email jdubin@american.edu? Thanks!
>
>: October 1990 Radio & Electronics Magazine had an article that described
>: a circuit for doing this. A place called Harmonic Research in Paramus, NJ
>: sells boards that implement the circuit in the article. I built one and
>: it works fine. They also have boards to go from RGB to NTSC and other
>: RGB stuff.
>
>I built one for a friend and was impressed with the quality of the parts.
>But I've heard the color processor chip has been obseleted by Motorola.

I happen to have some extra IC's (assuming I can still find them).
Anyone want to buy some?

>In addition, the output was only multisync EGA, as no scan rate conversion

No, the output is NTSC analog (15.734 kHz. horiz sweep). EGA is a
digital interface, there is no way it would ever work for TV, even
with scan rate conversion.

>was done. We hooked it up to a CGA monitor to test it, and the analog
>outputs combined with the TTL inputs on the monitor made for some interesting
>special effects.
>
>Mark Zenier mzenier@eskimo.com mzenier@netcom.com
>

I used an analog computer monitor with adjustable sweep rate (it can go
from below 15.734 to 37 kHz. (SVGA).

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4479. Re: CMOS SuperKeyer III "fix"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: kevinf@aquilagroup.com
Message-ID: <44eo5h$8an@mack.rt66.com>
Source record: 110388

Advice from idustrial experience:

I design some circuits that run 5+ years on a set of batterys.
(O.K. they are lithium cells)

If my assemblers or technitions leave ANY flux on these boards, they
WILL malfunction, due to high impedances needed to save batterys.

I use "Hydro-flux" or "Organic" core solder exclusively.

This can be cleaned with water, but I use some dishwashing soap and a
toothbrush, followed by plain tap water rinse.

Boards are then dried with dried, filtered compressed air.

The problem with using alchohol is that nobody ever uses enough. They
just dissolve the flux, smear it around, the alchohol flashes off,and
leaves a thin flux residue which is invisable but can give 1 MOhm or
less between traces easily. I have also seen FR4 boards "stained"
where flux residue is carried into the fibreglass!

Water is cheap, (even in desert where I live) and no problem using
enough of it.

Another advantage of using water in industrial setting is that the
EPA doesn't care how much you use, or what you do with it!

At home, I use same process on my projects. If working on something
built with "rosin" flux, I scrub with alchohol, and rinse with soapy ,
then fresh water before alchohol dries.

Other hams seem horrified that I put circuit in kitchen sink. Never
had any problems with this, and ABQ water is fairly hard. Give a
final rinse with DI water if you are worry wart, or have super bad
hard water problem.

Remove as much water "mechanically" (shake, blow or blot) as
possible, ions are deposited by evaporation process.

Buy solder at "real" store, or mail order (Newark, Allied, etc.) RS
has only the rosin core stuff which is near impossible to clean up.

BTW, on the "5 year boards" I can raise battery current 500% by
breathing (like when cleaning glasses) on them! Part of the reason we
pot them after test. Try this with SK III board, will give you new
respect for just how little current CMOS uses!

KO0B

4480. Hombrew Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <812286491.AA03745@hamlink.mn.org>
Source record: 110389

Hi,
Would there be any interest here for a posting of my experiences in hombrewing RF RX and TX equipment? Stuff such as recommended parts, techniques that work at HF/VHF, as well as the stuff that does *not* work.
I've made lots of mistakes thru the years and think I have learned some helpful things to pass on.
QRZ?

Bob Liesenfeld
WB0POQ ARCI QCWA ARRL NORCAL

4481. Re: Where to Find 40673 MOSFET

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <44f6na$3sk@hpscit.sc.hp.com>
Source record: 110390

In article <730102980wnr@ifwtech.demon.co.uk>,
Ian G3SEK <G3SEK@ifwtech.demon.co.uk> wrote:
>
>The BF981 definitely requires different bias, and is much "hotter"
>than the 40673. It may wake-up an old VHF front-end, but might
>cause interesting problems if you try to use it at say 10.7MHz.

I used BF980's to add two extra IF stages to my Yaesu FT-757 to
wake up its *HF* front end. In stock condition, it's a real
dog on 10 meters. Now I can hear the increase in background
noise that occurs when the band is open.

Anyway, they worked great at the 8.XXX MHz. IF. I've never had
oscillation problems with them.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4482. Re: Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: Charlie Panek <charlier>
Message-ID: <DFn36r.9rn@hpcvsnz.cv.hp.com>
Source record: 110391

Ian G3SEK <G3SEK@ifwtech.demon.co.uk> wrote:
>In article: <446msp$hqr@news1.inlink.com> raiar@inlink.com (Gary V. Deutschmann, Sr.)
writes:
>
>
>: Well, this is a little passe, but the question in question referred to a
>: "commonly used COMPUTER PROGRAM, entitled 'Method of Moments'" It did not
>: refer to documentation, written articles, or formula's.
>
>Will somebody PLEASE quote the complete, exact words of the questions!

I can't stand watching this any more!

HERE's THE BLOODY QUESTIONS, RIGHT FROM THE ARRL INFOSERVER:

A9B09 (B)
What type of computer program is commonly used for modeling antennas?
A. Graphical analysis
B. Method of Moments
C. Mutual impedance analysis
D. Calculus differentiation with respect to physical properties

A9B10 (A)
What is the principle of a "Method of Moments" analysis?
A. A wire is modeled as a series of segments, each having a distinct
value of current
B. A wire is modeled as a single sine-wave current generator
C. A wire is modeled as a series of points, each having a distinct
location in space
D. A wire is modeled as a series of segments, each having a distinct
value of voltage across it

You'll notice it says "TYPE of computer program".

Sheesh.

--
Charlie Panek Hewlett Packard Company
charlier@lsid.hp.com Lake Stevens Instrument Division
Everett, Washington

4483. Re: Crystals in cordless phone

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-28 00:00:00 UTC
From: mgarrett@prairienet.org
Message-ID: <44fcd5$suc@vixen.cso.uiuc.edu>
Source record: 110392

In a previous article, calhoun@gorge.net (Dave Calhoun) says:

>I have a cordless phone that has stopped working. It emitted harsh static
>and then nothing. I thought it was the battery and hooked a 9v battery to
>it. I heard static, but no dial tone. I popped it open and tested a few
>components (I am not big into electronics). I noticed that there were two
>boards inside. The first board had two of what I believe are crystals. They
>are pink and about 1/2 inch square approx. They are as follows:
>QX-293
>16.5567
>
>QX-359
>46.155

Yikes, 9 volts. Most cordless take around 3 to 4 volts on the handset to
operate. Check the voltage on the nicad battery pack after a charge.
The 46.155 sounds like a recieve crystal. If you add .455Mhz (a common
If in most cordless you come out on 46.61 Mhz which is a cordless frequency.
The 16.5567 is the transmit crystal and you times them by 3 to get the
handset transmitter frequency.

>
>There is another crystal on the other board marked:
>qx-237
>4.192

Possibly a crystal used in the generation of tones for the keypad. It
does not sound familiar. >

>I used an ohm meter to see if there was any resistance on these. Only the
>one marked 16.5567 had resistance. Also, on the first board there is
>written:
>tx rx 4890
>
>Can anyone tell me a little bit about what I am seeing? I figure at the
>very least I can salvage the 9v out of the unit and convert it for use with
>my handheld although the handheld wants 12v. Will that damage it if I use
>only 9v?
>dave
>
>Try using a portable general coverage reciever to see if the crystals are
operating properly by dialing up their frequency and holding the antenna
close to the handset and listen for a carrier. If you hear one shut the
handset down and if the carrier goes away you know that what you were hearing
was the crystal.
I have found that if the handset was not dropped and the batteries are ok

then it may be as simple as retuning the pilot tone most phones generate.

Be sure and check the base unit for the obvious things such as power loss
(bad adapter) or disconnection from the phone line.
Good luck. >

--
Mark Garrett mgarrett@prairienet.org
KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM

4484. NEED A CAPACITOR

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: kk5dr@bga.com
Message-ID: <44fdds$939@giga.bga.com>
Source record: 110393

I want a vacum variable capacitor, it needs to be 5-6KV, 20-500pf or min 20-50 & max 400-750pf
The size is important here, max diameter is 4", max long is 9"
Glass or ceramic is ok. E-mail me with your size cap. & price your asking.
Thanks, Matt/KK5DR

4485. C25 Simulator w/src code

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: wware@world.std.com
Message-ID: <DFnFqG.M81@world.std.com>
Source record: 110394

I am posting, as free software under the GNU license, a simulator for
the Texas Instruments TMS320C25 digital signal processor. It can be
gotten via anonymous ftp at

ftp.std.com:/pub/wware/c25sim01.zip

This is a DOS program, written in C, and including all source files.
I've also uploaded it to garbo.uwasa.fi. If anybody finds it useful,
bon appetit.
--

Will Ware <wware@world.std.com> web <http://world.std.com/~wware/>
PGP fingerprint 45A8 722C D149 10CC F0CF 48FB 93BF 7289

4486. Re: Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <814468163wnr@ifwtech.demon.co.uk>
Source record: 110395

In article: <DFn36r.9rn@hpcvsnz.cv.hp.com> Charlie Panek <charlier> writes:

: I can't stand watching this any more!
:
: HERE's THE BLOODY QUESTIONS, RIGHT FROM THE ARRL INFOSERVER:
:
: A9B09 (B)
: What type of computer program is commonly used for modeling antennas?
: A. Graphical analysis
: B. Method of Moments
: C. Mutual impedance analysis
: D. Calculus differentiation with respect to physical properties
:
: A9B10 (A)
: What is the principle of a "Method of Moments" analysis?
: A. A wire is modeled as a series of segments, each having a distinct
: value of current
: B. A wire is modeled as a single sine-wave current generator
: C. A wire is modeled as a series of points, each having a distinct
: location in space
: D. A wire is modeled as a series of segments, each having a distinct
: value of voltage across it

Oh.

Is that all it was?

: Sheesh.

Quite so.

Thanks, Charlie!

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

4487. HW16 Power Transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: a313@Lehigh.EDU
Message-ID: <44gnv9$3ctc@ns5-1.CC.Lehigh.EDU>
Source record: 110396

I have a Heathkit HW16 cw transceiver with a bad power transformer. The rig in cosemetically fine and worked well until I pluged in the external VFO. Apparently the additional load was too much to hadle and the circuit breaker opened after a few minutes. One of the windings has a very low resistance so all I get is the filament and negative bias supply voltages.

If anybody has a transformer for the rig or an old almost worthless HW16, I would be interested in a deal. Someday I would like to finish restoring this neat rig without expending an arm and leg or giving up the rights to my first born :-)

73's

Dick K8WHA

a313@lehigh.edu

4488. Anyone into 6m R/C?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: jgoecks <jgoecks@pacifier.com>
Message-ID: <44h8ms$4hv@news.pacifier.com>
Source record: 110397

I am interested in building a 6 m radio control unit. Are there
people out there who have experience in this field to help?

Are the new frequencies in use yet (channel 00=50.80 MHz...)?
Is FM the best to use for this?
Are there special restrictions I need to know about?

Thanks for the help,

Jim Goecks WA7UKS

4489. Transmitting variable capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: bs872@FreeNet.Carleton.CA
Message-ID: <DFoKCA.16E@freenet.carleton.ca>
Source record: 110398

Looking for a supplier of air variable tranmitting capacitors similar
to the J.W. Miller #2150 and #2151 (from the ARRL 1990 Handbook).
J.W. Miller and E.F. Johnson no longer manufacture these types of
variable capacitors.

Does anyone know of sources for similar capacitors?

An ex-homebrewer who wants back in.....

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

4490. Re: Hombrew Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: alf@kaiwan.com
Message-ID: <FU4RmClg1el8068yn@kaiwan.com>
Source record: 110399

```
In article <812286491.AA03745@hamlink.mn.org>,
Bob.Liesenfeld@f100.n282.z1.fidonet.org (Bob Liesenfeld) wrote:
> Hi,
> Would there be any interest here for a posting of my experiences in
> hombrewing RF RX and TX equipment? Stuff such as recommended parts,
> techniques that work at HF/VHF, as well as the stuff that does *not*
> work.
> I've made lots of mistakes thru the years and think I have learned
> some helpful things to pass on.
> QRZ?
>
> Bob Liesenfeld
> WB0POQ ARCI QCWA ARRL NORCAL
>
>

YES, would appreciate very much.
```

Alfred Lee alf@kaiwan.com
KE6KGV 'The answer is (e^i&#65533; + 1) ? "No" : "Yes"'

4491. Re: Bulk Reply AMATEUR RADIO GONE COMMERCIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <44hhfg$4fd@newsbf02.news.aol.com>
Source record: 110400

In article <814468163wnr@ifwtech.demon.co.uk>, Ian G3SEK
<G3SEK@ifwtech.demon.co.uk> writes:

>
>Oh.
>
>Is that all it was?
>
>: Sheesh.
>
>Quite so.
>
>
>
>Thanks, Charlie!
>
>

Ohhh, it's just a name of a tool like "screwdriver" or "calculator". I
read it was the basis of all antenna theory, construction, and
understanding on this thread. I'm dissapointed.
:-(

73 Tom

73 Tom

4492. Re: Source of silver plated wire ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: Vance Campbell <vcampbel@triton.mobius.provo.novell.com>
Message-ID: <44hg4o$913@grok.provo.novell.com>
Source record: 110401
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

jtw2@NIOSR1.EM.CDC.GOV (Wassell, James T., Ph.D.) wrote:
>I want to make a coil for a 160m antenna tuning circuit and would like to
>use silver plated no. 10 or no. 8 wire. Does anyone know where to buy
>this material? Terry, K3JT
>
>JTW2@NIOSR1.em.cdc.gov
>

Contact Rick Christensen, KA7CHT in Payson, Utah. He sold me a roll of about 300' for a mere 10 bucks! I don't have a phone number h=
andy and he doesn't do the net, but he is in the call book ;-)

Vance - WA7ROI

4493. Re: Litz Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: Vance Campbell <vcampbel@triton.mobius.provo.novell.com>
Message-ID: <44hgpn$913@grok.provo.novell.com>
Source record: 110402

YEKA44A@prodigy.com (Thomas Guillaume) wrote:
>Can anyone tell me where I can purchase, mail order or otherwise, Litz
>wire.
>
>Thanks.
>
>yeka44a@prodigy.com
>

Rick Christensen KA7CHT of Payson Utah recently made and also found
some. Unfortunately he doesn't "do the net" and I don't have a phone
number, but he is in the Callbook ;-)

Vance WA7ROI

4494. Re: Hom(e)brew Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <44hhu1$1nl@news.vcd.hp.com>
Source record: 110403

Hi Bob,
Your suggestion is good, but unless you want to go on for a very long time,
it would be difficult to cover the many topics that various folks have in mind.
Maybe it would be better to solicit questions, and then answer them from
your experienced point of view. Or, you can pick any item you want, that was
a "learning experience for you", and just post it. Maybe this is what you
had in mind, anyway...
Also, you might correct the spelling of "homebrew".

73,
Don, W6JL

4495. Re: Hand-mike REPAIR-Tip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.950929130131.26622B-100000@biggulp.callamer.com>
Source record: 110404

Very cleaver microphone repair congrats...Cliff W6HDO

4496. Looking for technical data on ICOM H16T Rx/Tx

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: supermag@dialup.francenet.fr
Message-ID: <44hkl7$pdn@chleuasme.francenet.fr>
Source record: 110405

I'm looking the way
-to setup new channels,
-to modify current channels
-or to remove some old channels
My Rx/Tx an ICOM H16T has been tuned by vendor and
my manual DOES NOT explain how to proceed with frequency tunning.
Each time I need some new frequencies, I have to send back my Rx/Tx
to the vendor and to wait one or two weeks for get it back to me.

PS: I don't use this Rx/Tx for myself, but for a charitable
association which provides all legal permits needed for frequency
use, and which also often changes, adds or removes some frequencies.

Please answer by mail to supermag@dialup.francenet.fr ,
(and don't expect too quick answer)
Thanks.

4497. HR2600 Mods?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: DICENSODJ%DFL@pcmail.usafa.af.mil
Message-ID: <44hmcu$cfc@usafa2.usafa.af.mil>
Source record: 110406

Anybody got a mod for the HR2600 that'll let me reduce power below the accepted QRP 5 watt level?

I wrote Uniden, but got a rather impolite nasty-gram that implied serious repercussions if I were to modify my radio in any way...

Same punishment as tearing that little tag of your matterss, I guess.

Thanks for any suggestions!

- Dave WB1CDG / 7J6CCH

4498. Re: Hombrew Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: Roger Koss <kossr@edl1.ksc.nasa.gov>
Message-ID: <44h4ms$n6q@niven.ksc.nasa.gov>
Source record: 110407

I'd be interested in this...

4499. Re: ICs too small?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <44g0bt$i5u@nntp.Stanford.EDU>
Source record: 110408

In article <44er37$s8e@mgate.arrl.org> Zack Lau <zlau@arrl.org> writes:
>I noticed that HP has come out with a new
>SOT-363 package, which is significantly
>smaller than SO-8 packages.
>
>I have been able to point to point wire
>SO-14/SO-8 ICs without a magnifying glass,
>so these seem to be OK.
>
>Anyone have comments on how easy/hard they
>found it to work with these new parts in
>amateur homebrew projects?
>
>Looks like the MGA-87563/MGA-86563 might
>be useful for making miniature microwave
>transceivers for taking on hiking trips.
>
>Zack KH6CP/1
>
>
>

I have done some dead bug construction with SSOP packages (20mil lead pitch) but it was done under a microscope with very fine solder and small iron tip.

In many cases, I go right up to the device leads with .082 or the smaller .041 rigid coax for the ins and outs on MMICs and mixers etc. I have tried these techniques up as high as 6GHz with good results.

I have seen some reasonably priced stereo microscopes at the ham flea markets lately. Seems like a good thing to have in the home shop today. I sometimes wonder how much longer we will be able to buy DIP components and leaded Rs and Cs.

Steve Muther WF6R
stevem@w6yx.stanford.edu

4500. Re: RF Transformer can slugs????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDFnM5K.22w@netcom.com>
Source record: 110409

Russ (russ@gslink.net) wrote:
: I have an Allied SX190 receiver from the 70's that has a cracked ferrite
: slug in the transformer can for the front-end preselector.
:
: It's a small affair, roughly .25" square by .5" high. Anyone know where
: I can get a slug, or whole replacement?

Have you tried using epoxy to glue the ferite slug back together?
You may want to look through the Digi-Key catalog if worse comes to
worse (1-800-344-4539). They have a good selection of tunable
inductors. Remember, *never* use a screwdriver on a tuning slug.
Always use proper alignment tools.

By the way, that is a nice radio you have. I had one years ago. I wish
I'd never sold it.

good luck,

Thomas
KI4N

4501. Re: Hombrew Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <44g7lk$i30@ixnews2.ix.netcom.com>
Source record: 110410

In <812286491.AA03745@hamlink.mn.org>
Bob.Liesenfeld@f100.n282.z1.fidonet.org (Bob Liesenfeld) writes:
>
>Hi,
> Would there be any interest here for a posting of my experiences in
>hombrewing RF RX and TX equipment? Stuff such as recommended parts,
>techniques that work at HF/VHF, as well as the stuff that does *not*
>work.
> I've made lots of mistakes thru the years and think I have learned
>some helpful things to pass on.
> QRZ?
>
> Bob Liesenfeld
> WB0POQ ARCI QCWA ARRL NORCAL
>
>
GO FOR IT!!!!!!!!!!!!!

John
KE6TGN

4502. Looking for tubes: 6JB6's & 12BE6

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-29 00:00:00 UTC
From: ve3trj@terraport.net
Message-ID: <44hhps$v5s@archangel.terraport.net>
Source record: 110411

I'm trying to locate a pair of 6JB6's and a 12BE6 for use in an older National NCX-5 ssb xcvr. If you have such, and wish to sell (at a reasonable price), please email me at the above address. Thanks & 73. Bryan.

4503. Re: Why not 13 months? (Was La Systeme Metrique)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: d013889c@dcfreenet.seflin.lib.fl.us
Message-ID: <44k0tb$1l2@bcfreenet.seflin.lib.fl.us>
Source record: 110322

--

Al Goldberg
d013889c@dcfreenet.seflin.lib.fl.us

4504. Re: Unwanted FM station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: rsmits@ham.island.net
Message-ID: <093095190407Rnf0.79b6@ham.island.net>
Source record: 110323

kennedy@aol.com (kennedy) writes:

>I live in the country. Too bad, right? My favorite FM stereo
>station is 100 miles away on 102.1 FM. The problem is an
>FM station 5 miles from my house transmitting 50KW on 101.9
>FM makes it impossible to recieve it(the 102.1 station).
>When the 101.9 station is off the air (only during a power
>outage) the 102.1 station 100 miles away comes in nicely.
>Is ther some kind of filter I can install to suppress the 101.9
>station. It does splatter onto 102.1 by the way. I know there
>are filters out there but my problem may be unique because
>of the closeness of the unwanted station and the long
>distance of the wanted station. Please post if you have
>a response. Thank you very much!!
>P.S. I don't plan on moving to the city thank you...

You have a number of problems here. The local station will be very strong. The distant station is very weak. Your receiver may lack sufficient selectivity to reject strong adjacent channel signal and is being desensitized (because the AGC circuit is reacting to the adjacent signal instead of the desired one).

Assuming that the unwanted station is not producing unwanted signal on the desired frequency, (because if that is the case nothing can help you), and because the two frequencies are 800 KHz apart, you MAY be able to produce a usable signal.

First, use as directional an antenna as possible to increase the wanted signal while decreasing the unwanted signal. Obviously having the unwanted signal in another direction from the desired one will help. If you have enough room, for example, the old ARRL Antenna Books used to describe a 144-MHz rhombic with an estimated gain of 27 db and a horizontal beamwidth of 8.5 degrees which should scale up to 101 MHz fairly easily. (You'll need a space about 100 feet by 40 feet, though).

Secondly, there are a number of trap filters you can use to try to reduce the amount of 101.9 Mhz signal entering your receiver. The ARRL Radio Frequency Interference Book shows the bandpass characteristics, for example, of the Winegard FT-760 tunable VHF-FM trap, designed for use in 75 ohm coaxial transmission lines - designed to notch out one or two FM broadcast stations. The notch is about 25 db deep.

If you can receive the desired station on your FM car radio, which generally has more sensitivity AND more selectivity than your typical home stereo, then there is probably hope you can engineer a solution.

--
rsmits@ham.island.net (Robert Smits, VE7HS)

4505. Re: Patch Antennas -- References??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: jataylor@ll.mit.edu
Message-ID: <jataylor.158.00095F18@ll.mit.edu>
Source record: 110412
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <43s8o4$cuu@hg.oro.net> rst-engr@oro.net (Jim Weir) writes:

>In the October '95 issue of QST, Hal Ward (W1GE) wrote an article on a
>GPS patch antenna. One of the references he used to design the
>antenna was a book by David Pozar titled "Antenna Design Using
>Personal Computers". Hal also noted that the book was published by
>Artech House in '85 and is out of print.

>It is also out of library. My library did a data search and came up
>empty. Does anybody know either (a) where I can get my hands on a
>copy of this book even if only for a day or (b) another good reference
>text for patch antennas. Neither Jasik nor Hamsher (my two antenna
>bibles) make any reference to a "patch" antenna.

This was an interesting article.

a)This book was in my work library, the last I looked. They sometimes lend
via interlibrary loan, but probably NOT to individuals themselves.
My library is at Lincoln Laboratory, Mass. Institute of Technology.
Your library could conceivably request it from us. Dave Pozar is at Univ. of
Massachusetts at Amherst, so their library would also likely have it. I think
Dave went to Ohio State, I believe, and that library would also likely have
it. Other likely libraries are Syracuse Univ., VPI, Univ. of Houston and
Arizona State? I'm basing these comments on which universities have active
research programs in patch antennas.

b)Another reference would be the IEEE's "Transactions on Antennas and
Propagation." Look in the cumulative indices under Dave Pozar, Keith Carver,
S. Long or P. Katehi. Patch antennas are also known as "microstrip" antennas,
so don't forget to look there.

John Taylor V73JT
Kwajalein Atoll

4506. Re: Hombrew Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: hmm@netcom.com
Message-ID: <hmm-2909952153040001@198.0.2.1>
Source record: 110413

In article <812286491.AA03745@hamlink.mn.org>,
Bob.Liesenfeld@f100.n282.z1.fidonet.org (Bob Liesenfeld) wrote:

> Hi,
> Would there be any interest here for a posting of my experiences in
> hombrewing RF RX and TX equipment? Stuff such as recommended parts,
> techniques that work at HF/VHF, as well as the stuff that does *not*
> work.
> I've made lots of mistakes thru the years and think I have learned
> some helpful things to pass on.
> QRZ?
>
> Bob Liesenfeld
> WB0POQ ARCI QCWA ARRL NORCAL

As a newer ham, I would be very interesting in seeing information you may
have collected!

--
| Scott Szretter email:hmm@netcom.com |
| N1VAN ftp: ftp.netcom.com /pub/hm/hmm |
| www: ftp://ftp.netcom.com/pub/hm/hmm/www/homepage.html |

4507. Re: X beam antenna suggestions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: richg@raven.cybercomm.net
Message-ID: <44jivj$epc@crow.cybercomm.net>
Source record: 110414

DedElvis01 (dedelvis01@aol.com) wrote:
: I am interested in building an X beam for a small space antenna. I would
: appreciate if anyone have had any luck, good or bad with this antenna to
: please pass it along.Any other suggestions for a small portable gain
: antenna >???

I have a 20-m X-beam on the roof. It's built according to the dimensions given in the manual (ARRL), though I had to trim the tails more than I expected (about 10 inches) to get a low SWR (about 1.2).

It was easy enough to build, and it's light: I have it on a short mast that's bolted to the end of a gable, and I rotate it with a Radio Shack TV-antenna rotator.

It's definitely an improvement over a dipole. It seems to have a few dB gain and somewhere between 10 and 15 dB front-to back ratio. It's got a couple of deep nulls on each side, which I can use to advantage.

It hasn't been through any really heavy weather yet -- no winds over about 35 mph and no snow.

So far, I'm satisfied.

==/// It takes all the running you can do to keep in the same place.

Rich Griffiths richg@raven.cybercom.com
Red Bank, New Jersey W2RG

4508. Re: Unwanted FM station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: richg@raven.cybercomm.net
Message-ID: <44jkm7$epc@crow.cybercomm.net>
Source record: 110415

kennedy (kennedy@aol.com) wrote:
: I live in the country. Too bad, right? My favorite FM stereo
: station is 100 miles away on 102.1 FM. The problem is an
: FM station 5 miles from my house transmitting 50KW on 101.9
: FM makes it impossible to recieve it(the 102.1 station).
: When the 101.9 station is off the air (only during a power
: outage) the 102.1 station 100 miles away comes in nicely.
: Is ther some kind of filter I can install to suppress the 101.9
: station. It does splatter onto 102.1 by the way. I know there
: are filters out there but my problem may be unique because
: of the closeness of the unwanted station and the long
: distance of the wanted station. Please post if you have
: a response. Thank you very much!!
: P.S. I don't plan on moving to the city thank you...

4509. Tantalum foil ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: root@asarginv.ORG.AR
Message-ID: <199509301652.AA00139@asarginv.org.ar>
Source record: 110416

Hi!
I'm trying to find a source for Tantalum foil, needed for IC shielding.
If someone knows where I can get itfrom, please let me know.

Thanks in advance, Ed
<root@asarginv.org.ar>

4510. Re: RF Transformer can slugs????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: jimzs1xn@cssa.org.za
Message-ID: <44k9hm$2tq@grovel.iafrica.com>
Source record: 110417

russ@gslink.net (Russ) wrote:

>I have an Allied SX190 receiver from the 70's that has a cracked ferrite
>slug in the transformer can for the front-end preselector.

>It's a small affair, roughly .25" square by .5" high. Anyone know where
>I can get a slug, or whole replacement?

>Thanks if you can help

I had a similar problem with a old Yaesu mobile transceiver some years
ago. Although the factory was prepared to supply replacements, the
cost was horrendous.
I scratched around in the junkbox and discovered that the slugs from
an old Panasonic tv chassis fitted and worked perfectly.
If you still have the pieces, they can be glued very successfully
using superglue. Glueing has little effect on performance.
To prevent future cracks, coat outside of slug with a bit of wax.

4511. Need circuit diagram for a 1 or 2 channel rf transmitter and receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: scottc@pegasus.cc.ucf.edu
Message-ID: <44kcmp$hi1@news.cc.ucf.edu>
Source record: 110418

Does anyone know where I could find a circuit diagram for a 1 or 2 channel
r transmitter and receiver? It has to be able to transmit about 200 feet.
Would like to build one from scratch rather than savage parts from a product.
I have some old schematics but the components are not available anymore.

Thanks in advance

scottc@pegasus.cc.ucf.edu

4512. Build your own Doppler RDF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: tlewis@dfw.net
Message-ID: <44kegh$gnj@dfw.net>
Source record: 110419

Build your own Doppler for radio direction finding.

High quailty PC boards only $49.95!

Parts are also available as well as operational boards and completely
assembled and tested units.

If you would like more information, please e-mail tlewis@dfw.net

73!
Tom Lewis
AB5CK Dopplers
6721 Rolling Hills Drive
North Richland Hills, Tx. 76180

Internet tlewis@dfw.net
Phone 817-428-8200

4513. Re: Litz Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <44i9er$1c6@nnrp3.news.primenet.com>
Source record: 110420

Thomas Guillaume (YEKA44A@prodigy.com) wrote:
: Can anyone tell me where I can purchase, mail order or otherwise, Litz
: wire.

: Thanks.

Thomas,
The best place to buy Litz wire from is:

MWS Wire Industries
31200 Cedar Valley Road
Westlake Village, CA 91362

(818) 991-8553 (voice)
(818) 706-0911 (FAX)

Be prepared for sticker shock, as this stuff is not cheap. They
charge an enormous amount for their Multifilar and Twistite products, on
the order of $0.60 a foot, but it's well worth the cost in some circum-
stances.

Regards,

Chris Trask

--

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo--

4514. Building your own simpatch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-09-30 00:00:00 UTC
From: pbobby@ix.netcom.com
Message-ID: <44kj9f$f63@ixnews7.ix.netcom.com>
Source record: 110421

Completing this staggering feat would be the hardest thing I've ever done. BUT, I'm willing to give it a shot.

Any sources out there?

Paul Bobby - pbobby@ix.netcom.com
Life is great, aint it!

4515. Help, need sync. detector articles (QEX, QST)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-01 00:00:00 UTC
From: russ@gslink.net
Message-ID: <44mfsf$d96@ddi2.digital.net>
Source record: 110324

I'm looking for some articles regarding synchonous detectors, and
have been pointed towards the following:

QST Jan 1988 pp. 16-23 by G. Breed on the phasing method

QEX Sep 1992 pp. 8-16 "Synchonous Detection of AM signals"

1996 Handbook, reportedly an article on building a "quasi-synchronous"
detector

If anyone could send me copies of the above, I'll glady reimburse
expenses. Any other pointers would be appreciated.

Thanks in advance,

Russ

4516. Re: Build your own Doppler RDF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-01 00:00:00 UTC
From: Andy Brinkley <brinkley@ols.net>
Message-ID: <44mf4n$at1@server2.ols.net>
Source record: 110325

tlewis@dfw.net (Thomas Lewis) wrote:
>Build your own Doppler for radio direction finding.
>
>73!
>Tom Lewis
>AB5CK Dopplers
>6721 Rolling Hills Drive
>North Richland Hills, Tx. 76180
>
>Internet tlewis@dfw.net
>Phone 817-428-8200
>
>

Tom - Please send me more info (brinkley@ols.net) on the doppler units.

TNX Andy N4ROX

4517. Wanted: schematics for AM-1178/GRC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-01 00:00:00 UTC
From: Gary Mitchelson <garym@racalrecord.com>
Message-ID: <44n142$rg3@news.cais.com>
Source record: 110326

Wanted

Schematics for a AM-1178/GRC 400-600 Mhz Amp

N3JPU

4518. Mini linier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: paul1@wizard.ucs.sfu.CA
Message-ID: <9510021421.AA12339@wizard.ucs.sfu.ca>
Source record: 110327

I was looking through the junk box and came across a 6146b and was
wondering if anyone has had any experience with or ideas about using
one of these as a linier for my qrp rig???

cheers, Paul
VE7CQK
email: paul1@wizard.ucs.sfu.ca

4519. Transistor data for SPICE ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: Carl Gregory <cgregory@uiuc.edu>
Message-ID: <44ou0o$2sp@vixen.cso.uiuc.edu>
Source record: 110328

Does anyone know where one can obtain transistor data ("models") for use in one of the SPICE programs ? The free version of MicroSim's PSPICE comes with 2N2222 and 2N3904 data, but I'd like to use some other devices, like 2N5179, 2N3866, etc.

Thanks in advance

K8CG

4520. Clean audio PA op amp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: psoper@encore.com
Message-ID: <DFtv5K.9z2@encore.com>
Source record: 110329

Hello,
Call me a sucker, but I tried to use an LM380 as the PA
for an audio filter project. If I ever need a pink noise generator
I've got just the thing in my junk box now :-)
Could somebody suggest a low noise (i.e. very low hiss)
alternative that I can use with both headphones and speaker? Something
I can get from DigiKey or Mouser would be ideal. I only need a half watt
for speaker use, not the full power the LM380 is capable of. I'd like to
use a 9 volt supply for this but could go up to 12 or down to 5 or 6.

Regards,
Pete

Pete Soper KS4XG (psoper@encore.com) 919 481 3730/voice 919 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA

4521. Re: Radio for 9600 baud@UHF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Oct2.115201.385@nad.com>
Source record: 110330
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

pbutlalj@ia.net (Allan Butler) writes:

> I was wondering if there are any suggestions out there for which
>radios are easiest to convert to UHF 9600 baud packet radios. There are
>

Last spring, I bought an old Standard 2 channel crystal controlled mobile radio that was originally set up for 460mhz. I got the manual, too. I was going to use it for 9600 baud TCP/IP. Someone had "converted" it to 446, by simply retuning it down. The radio was basically deaf. In order to "make it hear", I retuned the helical front end by removing the cans, and rewinding the coils - adding about 3/8 turn to each in the process. Standard included a table of front end filter coils in the manual for each of the bands this could be tuned on, from 400 to 470mhz (excluding 430-450). I interpolated to get the required size for 440.

I now have to go over the PA, and make sure it's clean. Output is down from spec, and tuneup was very touchy, so I have a feeling it's going to need some work. Now that I have a spectrum analyzer, I feel much more comfortable about tackling this.

This radio should be an ideal radio to dedicate to 9600. It's crystal controlled, and uses electronic switiching, so turnaround time will be very fast. Power output is rated at 12-25watts, if I remember correctly. It was fairly cheap - $50 with the manual. But I probably could have done even better. Conversion involves some work, though and the proper instruments.

If I ever find the time to finish this project, I'll write it up, I promise...

Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

4522. Anybody used Ramsey FX-440 for 9600?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DFty7w.569@sunsrvr6.cci.com>
Source record: 110331
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
packet, but nobody has actually been able to get it going quite right.

73...Jim N2VNO

4523. Re: Transistor data for SPICE ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <44pdsh$aq0@nntp.Stanford.EDU>
Source record: 110332

In article <44ou0o$2sp@vixen.cso.uiuc.edu> Carl Gregory <cgregory@uiuc.edu> writes:
>Does anyone know where one can obtain transistor data ("models") for use
>in one of the SPICE programs ? The free version of MicroSim's PSPICE
>comes with 2N2222 and 2N3904 data, but I'd like to use some other
>devices, like 2N5179, 2N3866, etc.
>
>Thanks in advance
>
>K8CG
>
>
Most of the big vendors like Motorola, National etc. offer Spice models
on disk for many of their products. Call the sales offices listed
in the data books and find out who your local rep. is. They can order
the models for you. It helps to have a legitimate business need
for it so make one up if you need to.

Steve Muther WF6R
stevem@w6yx.stanford.edu
steve@multipoint.com

4524. Antenna splitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: lhaas@pratique.fr
Message-ID: <lhaas-0210952255250001@194.98.4.162>
Source record: 110333

Hi all

I'm looking for descriptions of passive antenna splitters, to use 1 antenna and several (at least 2) receivers. It has to work from 1.8 to 7 Mhz.

In fact, it's supposed to work with a beverage receiving antenna.

Have u ever seen that in ur readings ???

Thanks in advance and best 73s from Paris

Larry - F6FVY - lhaas@pratique.fr

4525. Re: Clean audio PA op amp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: jgoecks <jgoecks@pacifier.com>
Message-ID: <44pq2r$6ef@news.pacifier.com>
Source record: 110334

psoper@encore.com (Pete Soper) wrote:

> Call me a sucker, but I tried to use an LM380 as the PA
> for an audio filter project. If I ever need a pink noise generator
> I've got just the thing in my junk box now :-)
> Could somebody suggest a low noise (i.e. very low hiss)
> alternative that I can use with both headphones and speaker? Something
> I can get from DigiKey or Mouser would be ideal. I only need a half watt
> for speaker use, not the full power the LM380 is capable of. I'd like to
> use a 9 volt supply for this but could go up to 12 or down to 5 or 6.
>

I have used the LM380 without too much trouble in the past, but
you may try the LM833 dual audio op amp with both op amps
driving the load with about 10 Ohm isolation resistors.

Jim

4526. Re: Clean audio PA op amp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: kevinf@aquilagroup.com
Message-ID: <44prcd$gle@mack.rt66.com>
Source record: 110335

psoper@encore.com (Pete Soper) wrote:

>Hello,
> Call me a sucker, but I tried to use an LM380 as the PA
>for an audio filter project. If I ever need a pink noise generator
>I've got just the thing in my junk box now :-)

I have not found noise to be a problem with the LM380. (Stability is another issue.) If you can tame the PS bypassing requirements, and sensitivity to stray coupling, and keep it from oscillating (took me 4 tries!) then the '380 is reasonably clean. It's distortion is not quite up to CD quality, but it sounds as good as anything else on say "Dolbyed" cassets. A lot of lower end car stereos used this chip (with 'house' part numbers) 10-15 years ago, and none were excessivly "Hissy".

Hiss in general comes in at low level/high impedance points of circuit, not at PA level. If you are running PA at high enough gain to hear it's hiss, then you are asking for all kinds of trouble in other areas.

I hope you are using an "audio-grade" amp at lower power level locations in your circuit.(ie active filters) A lot of the good audio amps (5534, TL071 etc) won't work well with only 9V between the rails. Haven't had reason to use new single supply amps yet, but unless you have low noise spec, assume it's a hisser. If you are using a switching technique to generate a negitive rail, it is a prime culpret for your noise source. Connect filter output to your stereo's Aux input to rule this out. If it's still hissy, you needn't work on PA.

In my experience, hiss often comes in via the power supply lines. Are you "baising up" the audio path from the PS because of single 9V rail? Even very good linear voltage regulators have some "hiss" on them. (esp the popular 78XX and 79XX series regulators) There is just no substitute for passive (RC or LC not just C!) decoupling/filtering on the PS lines. and do not derive bias from any unfiltered source. If you use tantilum caps for bypassing, it will probably work. If you use aluminum electrolytics with 1 uF ceramics in paralell, it might work, or you might have to experiment with values. I have found this to be true with many high power amps: LM-12, 2005, 380 etc. That high current output just wants to couple into everything.

If you must bias '380 inputs from PS, make sure that both inverting and non-inverting inputs "see" same impedance to ground, and same impedance to PS at all audio frequencys, not just DC. this allows PS noise to cancel. I used this this trick on a digitally controlled,

clickless attenuator circuit once, and went from "hissy " to dead quiet. I could see no PS noise on 'scope, judt output.
My mistake had been in putting cap to ground on reference input..I replaced cap with circuit simulating output impedance of driving audio stage, and ALL noise vanished.

LM380 is adiquate for all communication applications....But not up to high end audio like you want from a stereo system.. It actually has enough "headroom" to sound pretty nice in comm applications.
Also, consider what impedance levels exist at you amplifier inputs. anything over 1K and you will start picking up BC, computer noise etc.

Ultra sonic oscillation can sound like hiss sometimes, so look at output with a 'scope.

hope something here helps, and good luck!

-73- KO0B

4527. Re: Clean audio PA op amp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951002172040.4173C-100000@biggulp.callamer.com>
Source record: 110336

Do NOT try and run the LM 380 with less than 12 volt power supplies!
They do turn into noise generators even with many micofarad of supply
bypassing. Use an LM 386 instead, even if a nine volt battery is used.
Some LM 380's are OK at lower voltages but why try and find the units
that will work at the lower voltage? 73 de Cliff W6HDO

4528. Spectrum Display for Yaesu FT-1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: allen.r@eworld.com
Message-ID: <44q9n3$phb@hp5.online.apple.com>
Source record: 110337

I've been trying to buy/build a spectrum display unit for a Yaesu FT-1000 transceiver. Grove used to carry one but now they only carry a 10.7 MHz IF version and the FT-1000 has a 73.62 MHz IF. Does anyone know of any plans/articles on creating such a device?
AA6UZ
Dick Allen

4529. Re: Clean audio PA op amp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-02 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <812673235snz@lfheller.demon.co.uk>
Source record: 110338

In article <DFtv5K.9z2@encore.com> psoper@encore.com "Pete Soper" writes:

> Hello,
> Call me a sucker, but I tried to use an LM380 as the PA
> for an audio filter project. If I ever need a pink noise generator
> I've got just the thing in my junk box now :-)
> Could somebody suggest a low noise (i.e. very low hiss)
> alternative that I can use with both headphones and speaker? Something
> I can get from DigiKey or Mouser would be ideal. I only need a half watt
> for speaker use, not the full power the LM380 is capable of. I'd like to
> use a 9 volt supply for this but could go up to 12 or down to 5 or 6.

I like the Philips TDA7052. It gives 1.2 W into 8R at 6V, and needs
virtually no external components. The gain is fixed at 40 dB, it needs
no heatsink, and produces no power on/off clicks. 8-pin DIL package, and
quite cheap!

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

4530. Re: Clean audio PA op amp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <44q2s5$ngj@parsifal.nando.net>
Source record: 110339

psoper@encore.com (Pete Soper) wrote:
>
> Hello,
> Call me a sucker, but I tried to use an LM380 as the PA
> for an audio filter project. If I ever need a pink noise generator
> I've got just the thing in my junk box now :-)
> Could somebody suggest a low noise (i.e. very low hiss)
> alternative that I can use with both headphones and speaker? Something
> I can get from DigiKey or Mouser would be ideal. I only need a half watt
> for speaker use, not the full power the LM380 is capable of. I'd like to
> use a 9 volt supply for this but could go up to 12 or down to 5 or 6.
>
Pete,

If you find one, please let me know - I was just about to do the
same thing you did, in fact I have the circuit board almost wired.
Maybe I'll finish it just to see if I get the same thing, and we
can compare notes. BTW, was good to have you visit in my shop today.

73,
Don W3FPR

4531. Receiver Schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: AARVIKG@pc.iu.hioslo.no
Message-ID: <44qpoa$etb@dole.uninett.no>
Source record: 110340

Anybody know where to find schematics
for 2m - 160m receivers ?

Please post www/ftp adress or
mail me at e-mail adress:AARVIKG@PC.IU.HIOSLO.NO

Thanks.

AARVIK GEIR/3EY, email : AARVIKG@pc.iu.hioslo.no

4532. Re: looking for info on theramins

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: Tom Kreyche <tkreyche@well.com>
Message-ID: <44qk1j$ds6@nkosi.well.com>
Source record: 110341

In article <44qejg$dhu@news2.isp.net> Scott Frankel, tanru@slip.net
writes:
>Subject: looking for info on theramins
>From: Scott Frankel, tanru@slip.net
>Date: 3 Oct 1995 04:36:00 GMT
>>No, not multi-vitamins -
>Can't seem to find any references to these radio/musical instruments
>anywhere.....

It's theremin. I built one from a kit about 25 years ago, I think it was
advertised or featured in Popular Electronics. If you can get an index
for PE you might find it. It was nearly impossible to keep tuned due to
temperature changes but it was a neat toy. I'm sure there are better
designs now. It's just an oscillator circuit with capacitive adjustment
(via the hand or body).

-tk

4533. multiple freq. filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: jde@xmission.xmission.com
Message-ID: <44rjfs$kn8@xmission.xmission.com>
Source record: 110342

I need information on a multiple freq. notch filter. It needs to be user selectable, and be able to operate in the FM band. Please post replies in this newsgroup or email me at jde@xmission.com

4534. Re: Clean audio PA op amp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1995Oct3.152750.19621@schbbs.mot.com>
Source record: 110343

> Hello,
> Call me a sucker, but I tried to use an LM380 as the PA
> for an audio filter project. If I ever need a pink noise generator
> I've got just the thing in my junk box now :-)
> Could somebody suggest a low noise (i.e. very low hiss)
> alternative that I can use with both headphones and speaker? Something
> I can get from DigiKey or Mouser would be ideal. I only need a half watt
> for speaker use, not the full power the LM380 is capable of. I'd like to
> use a 9 volt supply for this but could go up to 12 or down to 5 or 6.
> --
> Pete Soper KS4XG (psoper@encore.com) 919 481 3730/voice 919 481 3868/FAX
> Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA

Yes, I have had the same experience. I have since replaced
it with a LM383 (also known as a TDA2002, CA2002, or ULN3701Z).

It comes in a five pin TO220 package, cost about $2.50.

It is certainly not noiseless either, but is much better than that
lousy LM380.

I did experience some instability though, which I finally cured
by feeding the 12v via a 7808 voltage regulator (or was it a 78L09?).
The current limit feature of the regulator stopped the instability
(motorboating: self explanitory if you ever hear it). Even at reduced
voltage, there was plenty of volume for bother speaker and headphone work.

Later, I noticed the same type of current limit circuit applied to a
LM380 in one of the ARRL QRP books.

- Dan Tayloe, WB0NVB

4535. 300 V Low Cost RF Power MOSFETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: ilkka.kontola@nmp.nokia.com
Message-ID: <ilkka.kontola.72.000D6B6A@nmp.nokia.com>
Source record: 110344

RF Design Aug 1995 cover story "Low Cost 1000 Watt,
300 Volt RF Power Amplifier for 13.56" describes a
class C 1 kW amplifier using four MOSFETS.

The ARF444/ARF445 MOSFETs are manufactured by
Adcanced Power Technology. What is unusual with these
MOSFETs is the plastic TO-247 package. Also the 300 V
operating voltage simplifies the power supply a lot.

If these MOSFETs were as inexpensive as the article hints
and if one could get decent IMD in linear amplifier use
they would revolutionize HF amplifier homebrewing.

Personally being more declined to VHF/UHF weak
signal work (but somewhat active on HF) I would be
delighted if one could with 100 W drive (IC-736)
get, say, 500 Watts output on 50 MHz using these MOSFETs.

Does anyone have any experience or at least more data
on these MOSFETs?

73

Ilkka OH3NJC

****
Ilkka Kontola E-Mail: ilkka.kontola@nmp.nokia.com
Nokia Mobile Phones Amateur packet radio: oh3njc@oh3rbr
Tampere, Finland

4536. Re: looking for info on theramins

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <812740694.14267@pinetree.microserve.com>
Source record: 110345

nangwa@aol.com (Nan Gwa) wrote:

>I think they're named after a fellow named Leon Theremin, their inventor.
>Joseph Schillinger, the musical theorist, (tried to marry music and math)
>wrote some music for theremin. They never caught on musically because
>they're short on harmonics. Just another curiosity like the heckelphon,
>or the musette. If you build one, don't practice when your neighbors
>are home!

The lack of harmonics is easily rectified with a "fuzz" circuit employing diodes. The real disadvantage to these devices is the lack of multiple, simultaneous notes (chords). Nowadays, you can create the same effect as a theremin with any good synthesizer, although the method of control is different.

I remember a complete construction article for a theremin in Popular Electronics, back in the mid-60's. The device was pictured on the cover and I think it used triangular plates for each surface. One plate controlled the volume, the other the pitch. These devices work on the same principle as metal detectors.

73,

Jack WB3U

4537. Re: looking for info on theramins

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951003121007.7762A-100000@biggulp.callamer.com>
Source record: 110346

Scott---in about 1963 or so, Radio Electronics magazine had a whole
series on the Thermin organ as they called it. I could be off by many
years but do look at the index of articles for that era..73 Cliff W6HDO

On 3 Oct 1995, Scott Frankel wrote:

> No, not multi-vitamins -
> Can't seem to find any references to these radio/musical instruments
> anywhere. Would anyone know where I can get more information on them
> (I'm not even sure I'm spelling it correctly)? Or better yet, would
> anyone have any plans floating around for building a theramin?
>
> Thanks in advance,
> Scott
> tanru@slip.net
>
> p.s. I've had very limited electronics experience so basic info would
> be a big plus :)
>
>
>
>

4538. Re: 300 V Low Cost RF Power MOSFETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: RLS@psu.edu
Message-ID: <44s30g$16q5@hearst.cac.psu.edu>
Source record: 110347

In <ilkka.kontola.72.000D6B6A@nmp.nokia.com>, ilkka.kontola@nmp.nokia.com (Ilkka Kontola) writes:
>RF Design Aug 1995 cover story "Low Cost 1000 Watt,
>300 Volt RF Power Amplifier for 13.56" describes a
>class C 1 kW amplifier using four MOSFETS.
>
>The ARF444/ARF445 MOSFETs are manufactured by
>Adcanced Power Technology. What is unusual with these
>MOSFETs is the plastic TO-247 package. Also the 300 V
>operating voltage simplifies the power supply a lot.
>
>If these MOSFETs were as inexpensive as the article hints
>and if one could get decent IMD in linear amplifier use
>they would revolutionize HF amplifier homebrewing.
>
>Personally being more declined to VHF/UHF weak
>signal work (but somewhat active on HF) I would be
>delighted if one could with 100 W drive (IC-736)
>get, say, 500 Watts output on 50 MHz using these MOSFETs.
>
>Does anyone have any experience or at least more data
>on these MOSFETs?
>
>73
>
>Ilkka OH3NJC
>
>
>**
>Ilkka Kontola E-Mail: ilkka.kontola@nmp.nokia.com
>Nokia Mobile Phones Amateur packet radio: oh3njc@oh3rbr
>Tampere, Finland
I remember reading that article, and if my memory serves me correctly, due to the high gate capacitance and other characteristics, you would be hard pressed to use these devices much past the medium frequency range. I think these devices were developed for switching power supplies whose frequencies of operation are in the hundreds of kiloHertz. I doubt if you could get anywhere close to VHF operation out of them.

regards,

Bob AD3K

4539. Re: Clean audio PA op amp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: al@atd.rochester.ny.us
Message-ID: <1995Oct3.143518.17785@atd.rochester.ny.us>
Source record: 110348

In article <DFtv5K.9z2@encore.com> you wrote:
: Could somebody suggest a low noise (i.e. very low hiss)
: alternative that I can use with both headphones and speaker? Something
: I can get from DigiKey or Mouser would be ideal. I only need a half watt
: for speaker use, not the full power the LM380 is capable of. I'd like
: use a 9 volt supply for this but could go up to 12 or down to 5 or 6.

How about a standard op-amp with a power stage added? A single
complementary pair - emitter follower should do it. Put it inside
the feedback loop. With a pair bootstrap capacitors, you won't
lose voltage swing. Use whatever op-amp meets the input and
gain-bandwidth requirements.

--

4540. Re: How to Interface aging Kaypros for CW keyers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: jlbarber@wolfenet.com
Message-ID: <44s9fp$6qn@news1.wolfe.net>
Source record: 110349

In article <4496ad$93i@taco.cc.ncsu.edu>, rdkeys@csemail.cropsci.ncsu.edu () says:
>
>Can anyone tell me the correct data and status register ports for the
>Kaypro II and the Kaypro 4-84? Also, can anyone confirm that the
>standard serial modem port is 04h-data/06h-status?
>

Bob:

Interesting application !
As it happens, I still have a mint Kaypro II in the closet. I can
verify that you have the ports right; perhaps you aren't programming
the UART (I don't remember what chip they use) correctly.
If I remember correctly, you have to set the control register to
a specific bitmask to enable the handshaking lines. It's been
8-10 years or so since I fooled much with 'em, but I'll take a look.
Do you know if they used the Z80 SIO ? I still have the docs for
all the "native" Z80 peripherals on the "retired" shelf.

As to CP/M software, There are still a couple of CP/M UG's around
the country. It probably wouldn't be a bad idea to sniff around
for some archives; I'll look into it when I have a little time.

BTW: I have a NorthGate Advantage (with 5mb hard drive) that needs
a home ! Anyone ?? For free ??

Regards,
Jim Barber, N7CXI
jlbarber@wolfenet.com

4541. Re: looking for info on theramins

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: nangwa@aol.com
Message-ID: <44rnak$46d@newsbf02.news.aol.com>
Source record: 110350

In article <44qejg$dhu@news2.isp.net>, Scott Frankel <tanru@slip.net>
writes:

>
>No, not multi-vitamins -
>Can't seem to find any references to these radio/musical instruments
>anywhere. Would anyone know where I can get more information on them
>(I'm not even sure I'm spelling it correctly)? Or better yet, would
>anyone have any plans floating around for building a theramin?
>
>

I think they're named after a fellow named Leon Theremin, their inventor.
Joseph Schillinger, the musical theorist, (tried to marry music and math)
wrote some music for theremin. They never caught on musically because
they're short on harmonics. Just another curiosity like the heckelphon,
or the musette. If you build one, don't practice when your neighbors
are home!

Tom Donaly

4542. Re: Hombrew Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: timtj@aol.com
Message-ID: <44ssul$gen@newsbf02.news.aol.com>
Source record: 110351

You have a good idea. Please share your experiences. Often construction articles assume more knowledge or experience than is typical in today's amateur community.

Thanks and 73, Tim KB0XX

4543. Re: Anyone know of good 220 Ant.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: Buster <lathrop@azstarnet.com>
Message-ID: <44s2ia$7ir@news.azstarnet.com>
Source record: 110352

allenw@teleport.com (Wayne Allen) wrote:
>I own a couple 220 Mhz repeaters and I was wondering if anyone has found
>a good homebrew antenna to use or if anyone knows where to get one cheap
>that works really well. Please e-mail me if you have any info.

Try a J-Pole. I had an old 2m twin-lead J-Pole that I cut down for
my 220 HT. It works really good. You could make a copper pipe J-pole
for about $8. Down here in Arizona, a lot of people working FM on 2
meters just love the J-Pole.

Good luck & thanks for putting up a buck and a quarter meter machine.

Buster

4544. Heath catalogs FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-03 00:00:00 UTC
From: bob.albert@ledge.com
Message-ID: <8B2525C.01B5001662.uuout@ledge.com>
Source record: 110353

I have a pile of old Heathkit catalogs that I want to sell. Anyone
want them? 73 DE K6DDX

4545. Re: multiple freq. filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: DB Wilhelm <w3fpr@nando.net>
Message-ID: <44stg5$lln@parsifal.nando.net>
Source record: 110354

jde@xmission.xmission.com (JjdeD Enterprises) wrote:
>
> I need information on a multiple freq. notch filter. It needs to be user
> selectable, and be able to operate in the FM band. Please post replies in
> this newsgroup or email me at jde@xmission.com
>
I don't know if it will work in your application, but one easy thing
to try is an open 1/4 wavelength stub. That should look like a
high Q series tuned circuit. Ship sissors for one time user selection :-)

73,
Don

4546. Re: looking for info on theramins

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: Scott Frankel <tanru@slip.net>
Message-ID: <44t4o0$ifr@news2.isp.net>
Source record: 110355

Thanks for the replies! Found a schematic and am on my way -

Scott
tanru@slip.net

p.s. BTW, the vote's in on the spelling: Leon Theremin.

4547. Solder + silver conductivity

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: whiting@cadence.com
Message-ID: <DFx3Gx.41n@Cadence.COM>
Source record: 110356

Hi,

I've been build some microwave stuff and find that solder
containing silver (eg 60/38/2% tin/lead/silver) is
recommended for this.

In other descriptions, normal tin/lead solder is said to be
lossy and should not be left around in cavities, etc.

The question (for you materials science types) is this:
Does a 2% silver content in the solder do anything to
sognificantly reduce the (resistive/skin effect) loss of
solder, such that I don't need to worry (so much) about
removing it from cavities, or would the silver content
have to be much higher to do this.

(It may be that this solder is recommended to avoid silver
leaching problems with smd components, rather than for
conductivity reasons?)

73,

Neil

| Neil Whiting - G4BRK |
| |
| Email: whiting@cadence.com |

4548. Re: Clean audio PA op amp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <44t86t$oka@maureen.teleport.com>
Source record: 110357

> psoper@encore.com (Pete Soper) wrote:
>
> >Hello,
> > Call me a sucker, but I tried to use an LM380 as the PA
> >for an audio filter project. If I ever need a pink noise generator
> >I've got just the thing in my junk box now :-)

Sounds like you're getting lots of good advice. One more point I didn't hear mentioned was the noise generation of typical 3-terminal regulators with band-gap references. These guys are very noisy unless you bypass the output with a good 10 uF or larger capacitor. If you're using a single supply, you probably have, somewhere, a voltage divider to get a voltage of about half the supply voltage. Typically, you apply this to the input of the first stage. This is an excellent place for noise from the supply (or anywhere else) to get in. Use large resistors for the divider (assuming you've designed things so very little current is required from this reference) and use a big capacitor at the divider's output.

(By the way, zeners aren't necessarily any better. They can be extremely noisy under some circumstances, too.)

73,
Roy Lewallen, W7EL

4549. Re: looking for info on theramins

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <44tckl$4e2@ixnews2.ix.netcom.com>
Source record: 110358

Golly gee... Maybe if you tried the Theremin Home Page you would find more than you ever wanted to know about Mr. Theremin and his weird musical instrument. Don't have the web address so whip up Yahoo and see what you find. And let's not minimize the effect of the theremin. It has been used extensively in the recording of popular music since its introduction. Usually a few of the top 40 songs are still using it today. The Theremin also was the foundation for the evolution of the development of electronic instruments.

In <44rnak$46d@newsbf02.news.aol.com> nangwa@aol.com (Nan Gwa) writes:
>
>In article <44qejg$dhu@news2.isp.net>, Scott Frankel <tanru@slip.net>
>writes:
>
>>
>>No, not multi-vitamins -
>>Can't seem to find any references to these radio/musical instruments
>>anywhere. Would anyone know where I can get more information on them
>>(I'm not even sure I'm spelling it correctly)? Or better yet, would
>>anyone have any plans floating around for building a theramin?
>>
>>
>
>I think they're named after a fellow named Leon Theremin, their
inventor.
>Joseph Schillinger, the musical theorist, (tried to marry music and
math)
>wrote some music for theremin. They never caught on musically because
>they're short on harmonics. Just another curiosity like the
heckelphon,
>or the musette. If you build one, don't practice when your neighbors
>are home!
>
>Tom Donaly

--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

4550. Re: looking for info on theramins

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <44sojd$ed5@usenet2.interramp.com>
Source record: 110359

>
>The lack of harmonics is easily rectified with a "fuzz" circuit employing
>diodes.

Oh, GROSS. Why would you want to destroy the unique and wonderful
sould of a perfectly good instrument by this kind of uncool garbage.

>Nowadays, you can create the same effect as
>a theremin with any good synthesizer, although the method of control is
>different.
>

I SERIOUSLY beg to differ -- to get the effect of a theramin, you need a
REAL theramin. You just can't get the pitch/volune shift effects or
tonality with a keyboard, mod wheels and CV pedals no matter how good a
player you are. There is simply no keyboard synth which can properly,
and in any but the most meager and unmusical way, duplicate the sound
that can be extracted from the real thing in a performance situation. As
far as being monophonic, well, that's just the way it is -- its a solo
instrument. You can't play cords on a trombone either ... And I
certainly wouldn't want to listen to one played through a fuzz box.
Yecccch.

For the gentleman who asked the question, there are very modern theramins
which are still available commercially. Best source would be to call
around to music shops which cater to the professional musician. They
should be able to put you in the right direction. Not being a theramin
player by skill or trade, it would take a while, but I might be able to
find a current reference or two. I have seen some theramin references
Keyboard or Electronic Musician magazines sometime in the past couple of
years or so.

Rather than posting here to rec.radio.stuff, you should be able to find
an appropriately musical newsgroup on USENET, where you could get some
definitive answers on the subject. Some of the synth vendors are on line
(Ensoniq, etc.) and they might be willing to point you to a source if you
send to their E-mail. Also, in the MIDI related forums on Compuserve
there should be some answers, if you have access to that service -- a lot
of expertise there (circuit info, too) and many vendors on-line as well.

You might also check your local library for electronic musical instrument
references -- books in the period 1930-50s or so (I don't really know the
right time periods).

Regards

Grant/NQ5T

4551. Re: looking for info on theramins

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: kell@mpac.jsc.nasa.gov
Message-ID: <kell-0410950757530001@toad.jsc.nasa.gov>
Source record: 110360

In article <44tckl$4e2@ixnews2.ix.netcom.com>, drted@ix.netcom.com (Ted Viens) wrote:

> Golly gee... Maybe if you tried the Theremin Home Page you would find
> more than you ever wanted to know about Mr. Theremin and his weird
> musical instrument. Don't have the web address so whip up Yahoo and
> see what you find. And let's not minimize the effect of the theremin.
>
> --
> Bye... Ted..
> Deep in the Heart of the Armpits of Houston, Texas...

Well, well, there are _two_ Teds in Houston. The Theremin Home Page is at

http://www.vuse.vanderbilt.edu/~jbbarile/theremin.html

There is another reference in the folk music area.

There are kits available for <90 dollars with a case at under 80.

73

Ted (The other one)

4552. Re: looking for info on theramins

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <812830675.3943@pinetree.microserve.com>
Source record: 110361

Grant H Youngman <us007699@interramp.com> wrote:

>Oh, GROSS. Why would you want to destroy the unique and wonderful
>sould of a perfectly good instrument by this kind of uncool garbage.

C'mon Grant, everyone knows that anything less than 50% THD isn't *real*
music. The effect is kinda nostalgic, actually. Reminds me of the old
Akai Cross-Field recorders with the bias head out of alignment. We used
to record guitar licks this way because the effect wasn't as harsh as the
diode method.

>I SERIOUSLY beg to differ -- to get the effect of a theramin, you need a
>REAL theramin.

That must be why synthesized guitars, pianos and violins don't sound like
the real thing. They just fool 99.9% of the people 99.9% of the time.

>You can't play cords on a trombone either ... And I certainly wouldn't
>want to listen to one played through a fuzz box. Yecccch.

Yeah, they said the same thing about guitars until Jimi Hendrix came along.
Actually, didn't "real" musicians berate the industry for electrifying the
instrument in the first place?

This reminds me of a client I had once, who replaced his 50's vintage hi-fi
with stereo equipment I recommended. We ended up having to disconnect the
tweeters in the Klipsch Cornwalls so the music would be more "mellow", the
way he was used to hearing it.

It's all in the ear of the beholder, Grant.

73,

Jack WB3U

4553. Re: Clean audio PA op amp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: kevinf@aquilagroup.com
Message-ID: <44ujkd$40i@mack.rt66.com>
Source record: 110362

Just pulled up '380 data sheet (been a while since I used one, 10 yr maybe)

Paint my face red!

I was confusing this with '383..Sorry guess my memory is going.
Apply my earlier comments to '383 chip, not '380.

Now then, looking at the '380 data sheet:

Make sure you have a CERAMIC (not electrolytic) .47-2.2 uF cap from pin 1 to your low level signal ground.
(filter input reference, not gnd pins of '380 chip, which should be tie point for PS, and speaker return)

The fixed gain of 50 and Zin of 150 K are both awfully high for a PA stage...just begging for trouble.

I'd try 10Kohms to signal ground from pin 6. run a 47k in series with a cap (>=1uF,SWAG value, + to pin 8 if polarized) feedback from pin 8 to pin 6 for a gain of ~6. connect input via 10K from pin 2 to preceeding amp output.

Cap is required in feedback due to self biasing (Vcc/2) scheme. 10K input R to pin 2 is optional, may help or hurt depending on layout.

lower gain PA will let you use more of the dynamic range in your low level circuits, (~20 dBgreater S/N ratio) and perhaps reduce your hissing.

Check to make sure this didn't disrupt output biasing scheme (doesn't look like it aughta) if so, add a 10uF cap in series with pin 6 R to ground.

These fixes may be easier than scrapping '380 circuit.

Again, sorry to fuel confusion, 73.
-KO0B-

4554. looking for info on thera

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: bob.roach@sourcebbs.com
Message-ID: <8B261DE.0367001DB2.uuout@sourcebbs.com>
Source record: 110363

SF>-No, not multi-vitamins -
SF>-Can't seem to find any references to these radio/musical instruments
SF>-anywhere. Would anyone know where I can get more information on them
SF>-(I'm not even sure I'm spelling it correctly)? Or better yet, would
SF>-anyone have any plans floating around for building a theramin?

Hi Scott,

This ain't gonna be easy. I remember seeing construction articles for
these a long time ago. You're gonna have to find a library with old
copies or micro film of the construction oriented electronics magazines
of the '60's.

The best first step would be the guide to periodical liturature (ask the
Librarian if you're not familiar with it) you just pick the year, look
up "theramin" and it will tell you every mag where this subject was
addressed.

Good Luck es 73 de KE4QOK
Bob

* SLMR 2.1a * "Hey Worf....I hooked Data up to a modem. Wanna see?

This message originated from: ---------- Selective Source BBS
------- Virginia Beach, Virginia
----- (804) 471 6776

4555. Do you use technology in your club? Please Read

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: aruss36461@aol.com
Message-ID: <44vkfr$dqf@newsbf02.news.aol.com>
Source record: 110364

I have been asked to research how different amateur radio clubs make innovative use of technology to communicate to, and with their members. I have volunteered to research this issue for the Montgomery Amateur Radio Club in Maryland. My goal is to present a report to the membership on how others are using packet, the internet, BBS services, voice mail, and even programmed repeater announcements to keep the flow of information in front of the members. I feel strongly that the time has come to consider the club newsletter as only one vehicle for the dissemination of information. Your comments are appreciated. If you are a member of a club, please share with me what your club does, or what you wish they did do.

When all responses are compiled I will make the total file available for anyone who wishes to see it.

Thank You.

73

Avery N3TOU

Avery
Compuserve 75105.462@compuserve.com (Alternate Address)

4556. Re: Solder + silver conductivity

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct4.162654.23119@ke4zv.atl.ga.us>
Source record: 110365

In article <DFx3Gx.41n@Cadence.COM> whiting@cadence.com writes:
>
>(It may be that this solder is recommended to avoid silver
>leaching problems with smd components, rather than for
>conductivity reasons?)

Bingo! Silver solder (2%) isn't markedly more conductive
than ordinary soft solder, but the silver content does reduce
leaching problems. It also offers a bit better mechanical
bond. In contrast, high silver content *hard* solder gives
a much stronger bond, and is also much more conductive, but
the melting point is too high for most electronic applications,
but not for things like cavity finger stock or finger stock
used for tube contacts. Then *hard* silver solder is just
the ticket (you need a torch).

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4557. Seeking Quadrature Amplitude Modulation (QAM) info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: russ@gslink.net
Message-ID: <4513fg$h5m@ddi2.digital.net>
Source record: 110272

Can someone point towards some good technical references on this modulation (and demodulation) scheme?

Thanks,

Russ

4558. WANTED: Radio Switch Model 88

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: James Garland <garland@ohstpy.mps.ohio-state.edu>
Message-ID: <4512f2$9du@pacific.mps.ohio-state.edu>
Source record: 110273

I DESPERATELY need a replacement bandswitch for my 8877 homebrew amplifier (pictured in the Bill Orr Handbook, last N editions). I'm looking for a Radio Switch Model 88 (NOT an 86). The ideal switch would have two gangs, 30 degree indexing, 1-12 positions, with at least one gang with a shorting wafer (to short 3 or 4 sections). I can piece together parts from several switches to make what I want, but the essential requirement is at least one 30 degree indexed, shorting wafer. Tnx and 73, Jim W8ZR

4559. Need microwave/stripline design text

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: bill@alfalfa.pas.rochester.edu
Message-ID: <1995Oct5.180217.20400@galileo.cc.rochester.edu>
Source record: 110274

I will be doing a project soon that will involve quite a bit of striplines.
Specifically, this will include matching and impedance-transforming
sections, interdigital and/or combline filters and 'discrete' inductances
and capacitances. All of the above will be etched on some suitable PC
board material.

Can someone point me to any articles or texts on designing these things?
Emphasis on construction would be best, but if I have to slog through
a DECENT EE text, that's ok too.

--

My opinions. No one elses. Get your own!

Oh, I'm a sysadmin, and I'm ok. | Bill VanRemmen, KA2WFJ
I work all night and I work all day. | bill@pas.rochester.edu
I knock back Cokes, I skip my lunch, | http://www.pas.rochester.edu/~bill
I'm glued to the VDT! |

4560. Odd behavior of 4CX1000A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <DFzMps.HLD@eskimo.com>
Source record: 110275

I have just finished a homebrew amp using a 4CX1000A and it works fine, with one small exception: The plate current drifts a bit depending on the temperature of the tube. For example, I have the idling plate current set at 250 ma as recommended by the Eimac data sheet, but when I drive it to full output (1500 watts) and then remove the drive, the plate current drops back to about 220 ma and then climbs back up to 250, taking about five seconds or so. I can also see this after I have it tuned up -- I apply drive (continuous carrier) and the plate current rises to the normal 800 ma or so, then drifts down about 20-30 ma and stabilizes there. This drift is NOT in any of the supply voltages. It's definitely in the tube itself. The supplies are:
Plate: 3000 volts loaded, 3400 volts unloaded
Screen: 355 volts (shunt regulated)
Control grid: -62 volts (for 250 ma idle)
Filament: 6.1 volts

Is this normal behavior or do I have a tube starting to go bad? The tube is an old one (1960's era), but the fellow I got it from said he won it at a hamfest and it's been mostly sitting on a shelf all this time.

Anyone have a known good one for sale? Wouldn't hurt to have a spare, I suppose.

73, Bill W7LZP
wrt@eskimo.com

4561. Re: 300 V Low Cost RF Power MOSFETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <451cnr$23e@unisql.unisql.com>
Source record: 110276

So you're saying that you wouldn't be able to use s00 watts' worth of
these cheap transistors for a monoband CW transmitter on 20 meters?
A pity. However, if you can get an RF device that won't give a 5% bandwidth,
you may have a wonderful component for an active filter.

I don't subscribe to the magazine in question. Can anybody snail-mail
me a copy of the article or provide me the address and phone no. of
the mag, with the article citation?

Jim
N6OTQ

4562. R2 Single Signal Single Conversion Receiver - Experiences?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: Dave Fifield <fifield@lan.nsc.com>
Message-ID: <DFzu8C.A5F@nsc.nsc.com>
Source record: 110277

Hi,

Have any of you built an R2 direct conversion receiver at all? This was published in 1992 in QST: basically it was a "phasing" SSB receiver.

I'd be interested in exchanging experiences with other builders ... especially on sourcing of components, local oscillators tried (DDS anyone?) and DSP'ing the backend of the receiver.

PSE KKK

Dave Fifield (ex G8INR)

4563. Re: WANTED: Radio Switch Model 88

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: bs872@FreeNet.Carleton.CA
Message-ID: <DFztxA.F8u@freenet.carleton.ca>
Source record: 110278

James Garland (garland@ohstpy.mps.ohio-state.edu) writes:
> I DESPERATELY need a replacement bandswitch for my 8877 homebrew
> amplifier (pictured in the Bill Orr Handbook, last N editions). I'm
> looking for a Radio Switch Model 88 (NOT an 86). The ideal switch would
> have two gangs, 30 degree indexing, 1-12 positions, with at least one
> gang with a shorting wafer (to short 3 or 4 sections). I can piece
> together parts from several switches to make what I want, but the
> essential requirement is at least one 30 degree indexed, shorting wafer.
> Tnx and 73, Jim W8ZR
>

Check Electroswitch (Unit of Electro Switch Corp) (ex Centralab???)
their part no. PA301 (30 deg index, 2-12 position, 4-6 sections) index
with necessary PA-0 (1 pole, 2-12 position, shorting) and PA-1 (1 pole,
2-12 position, non-shorting) sections.

Good luck.

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

4564. Re: Seeking Quadrature Amplitude Modulation (QAM) info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951005151620.30378G-100000@biggulp.callamer.com>
Source record: 110279

Hi Russ. As you know there are many references to QAM but what I think
you need is a good introduction that is easy to understand. One of my
favorite texts is: "Electronic Communications Systems" by Wayne Tomasi.
It seems this text gets the job done most simply and directly. Publisher
is Prentice Hall (expensive), so I would attempt to review a copy in a
University library first. Also, some of the theory is explained in color
TV texts as well as that is the system used there.. 73 Cliff W6HDO

On 5 Oct 1995, Russ wrote:

> Can someone point towards some good technical references on this modulation
> (and demodulation) scheme?
>
> Thanks,
>
> Russ
>
>
>

4565. Re: Unwanted FM station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: jpll@vectorbd.com
Message-ID: <DFzwv3.DJ2@vectorbd.com>
Source record: 110280

Here's some better related info

Free space path loss is

Lfs(db) = 37 + 20*log(d) + 20*log(F)

where d is distance in miles, and F is frequency in MHz.

For 30 miles and 444 MHz, the free space path loss is 119.49 db.

>Also, What is the calculation for figuring how much gain in the antenna I'll
>need and beamwidth etc.....

Well you need to know the required signal strength at the receiver to
achieve a 20 db quieting. That's typically in the 0.5 microvolt range.
Applying P=E^2/R, and assuming a system input impedance of 50 ohms,
we have a required signal level at the receiver of -143 dbW. With a
one watt transmitter, we're starting with 0 dbW, and must subtract
path loss from that giving a signal of -119.49 dbW at the receiver
with *no antenna gain*. That's a fade margin of 23.51 db with isotropic
antennas at each end. So if you *really* have a free space path between
the sites, simple 1/4-wave omni antennas will suffice. To determine
the signal level at the receiver, you apply the following formula,

Er = sqrt((10*10^(Txp + (Txant-TFeed) - PL + (Rxant-RFeed)))/50)

Where Er is in volts, Txp is transmit power in dbW, Txant is transmit
antenna gain in db, TFeed is feedline loss in db, PL is path loss in
db, Rxant is receive antenna gain in db, and RFeed is feedline loss
in db.

Now you probably *don't* really have line of sight between the sites.
30 miles is near the radio horizon for an antenna 1000 feet HAAT. So
you'll have additional loss. You have to figure loss from objects in
the path, such as trees, houses etc. And if you really have terrain
blockage, say by a ridgeline, then you'll be communicating by forward
scatter or tropo. An equation that will give path loss in the forward
scatter case is as follows,

Lsc = 126 + 30*log(F) + 20*log(d) + 10*A - 0.2*N

Where F is frequency in MHz, d is distance in miles, A is the scatter
angle in degrees, and N is the radio refractive index of air over the
scattering path. N is expressed as

N = 77.6*P/T + 3.73*10^5*e/T^2

Where P is pressure in millibars, T is temperature in Kelvins, and
e is water-vapor pressure in millibars. Typical sea level value for
N is 324.

Working your problem with a scatter angle of 1 degree, we get a
path loss of 180.16 db. So you'll need combined antenna gains at
the transmitter and receiver of 37 db to make the trip on 1 watt.
Increasing transmit power to 45 watts (16.5 db) would help considerably,
allowing antennas with 10 db over isotropic on each end.

Tropo ducting will allow path loss to fall somewhere between the line
of sight case and the pure forward scatter case.

Gary Coffman KE4ZV

~~~~~~
Jim Lill jpll@vectorbd.vivanet.com wa2zkd@wb2psi.#wny.usa.na
~~~~~~

4566. Re: Radio for 9600 baud@UHF

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: "W. Mark Clifford" <cliffow@wpdis01.wpaf.af.mil>
Message-ID: <44vb16$43o@blackbird.afit.af.mil>
Source record: 110366
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Don't try the FT-51R. Great radio but the handbook specifically sez
It won't work.

4567. Need address for Electronic shops in Perth,Australia.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: phoa@astoria.pc.my
Message-ID: <367@astoria.pc.my>
Source record: 110367

Happy Days,

Hope to have a short list of electronics parts,Kits & Amateur
Radio shops in Perth.Will be going to Perth,Australia Soon.Hope
to visit some of the Shops.

Thanks

--
==========
Phoa Kia Teck

Postal address:
22 Tramway Road, Email: phoa@astoria.pc.my
10460 Penang. Fax : 04-361984
Malaysia.

4568. Heathkit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.5327.546@acenet.com>
Source record: 110368

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

BL> Does anyone have a phone#/address for what is left of Heathkit? I need
BL> 72 Bob WB0POQ

Here ya go Bob:

Heathkit Co. (800) 253-0570
P.O. Box 1288
Benton Harbor, MI 49023 Some parts & manuals still available

Heath Replacement Parts (800) 44-HEATH for free catalog
455 Riverview Dr. FAX: (616) 925-4876
Benton Harbor, MI 49022 Parts (616) 925-4914
Repairs 925-3273

From MEGALIST.TXT updated October 1, 1995

• SLMR 2.1a • Is your computer too FAST? Type 'WIN' at the DOS prompt!

Internet: brian.carling@acenet.com (Brian Carling)
This message was processed by NetXpress from Merlin Systems Inc.

4569. Re: Looking for Engineering programs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: a313@Lehigh.EDU
Message-ID: <450m8n$18hr@ns1-1.CC.Lehigh.EDU>
Source record: 110369

In article <DFy4t0.Kto@maestro.maestro.com>, butch@maestro.maestro.com (' ALLAN
W. BART) writes:
>Hello,
>
>so do any of you hams out there have any good packages for designing
>matching networks or doing transmission line matching ala smith chart via
>a pc. should have such gems please email them to me.
>
>yours,
>
>allan bart
Try checking out the oakland university software repository file
server in Rochester Michigan.

>
>

4570. Re: 300 V Low Cost RF Power MOSFETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <450rd1$b1u@cnn.exu.ericsson.se>
Source record: 110370

ilkka.kontola@nmp.nokia.com (Ilkka Kontola) wrote:

>If these MOSFETs were as inexpensive as the article hints
>and if one could get decent IMD in linear amplifier use
>they would revolutionize HF amplifier homebrewing.

First of all, these are NOT linear devices and IMD's would stink. You have to understand the market at the 13.56 MHz ISM (Industrial, Scientific, Medical) band to know WHY low cost/watt is critical. I wont go into that here. The transistors are driving a load-line that is critically matched for very high efficiency and good power out, but only at 13.56 MHz. If you wander off of that freq. with that circuit the efficiency will go down, the device dissipation will go up, and the transistors will blow. The plastic package can only dissipate so much. You can design a different circuit at another frequency and possibly get it to work, but you will only get good results over a narrow bandwidth. Let me add, getting it to work will be no small feat either. It's a catch-22: you have to drive it hard to design and tune the correct load-line for it for the best efficiency/power out, but you CAN'T drive it hard until it IS correct or it will over-dissipate and blow.

There's a good reason why the article was published. It was not an easy task to accomplish. Mr. Lee Max who assisted in this design is one of the best in the industry. I visited with him a couple of days ago when he dropped by our facility. If we all has his talent and patience, many amplifier houses would go out of business.

For home-brew, I recommend sticking with the more rugged, tried and proven, mobile 13.6V transistors. If you want to play with MOSFET's, the MRF150 is really easy to work with if you've got 40-50V handy and can give you pretty good linearity also.

Mike Groves - KD6PKJ

4571. Re: Unwanted FM station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-05 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Oct5.104942.46193@ucl.ac.uk>
Source record: 110371

kennedy@aol.com (kennedy) writes:

>I live in the country. Too bad, right? My favorite FM stereo
>station is 100 miles away on 102.1 FM. The problem is an
>FM station 5 miles from my house transmitting 50KW on 101.9
>FM makes it impossible to recieve it(the 102.1 station).
>When the 101.9 station is off the air (only during a power
>outage) the 102.1 station 100 miles away comes in nicely.
>Is ther some kind of filter I can install to suppress the 101.9
>station. It does splatter onto 102.1 by the way. I know there
>are filters out there but my problem may be unique because
>of the closeness of the unwanted station and the long
>distance of the wanted station. Please post if you have
>a response. Thank you very much!!
>P.S. I don't plan on moving to the city thank you...

Unless you take a hell of a lot of trouble, I would think you will find it difficult to construct a filter with the required Q, to sepparate two stations 0.2MHz apart at 100MHz. You would need a Q of about 1000 to attenuate the strong one by only 3dB, so to get 20dB or so, you would need a Q of several thousand. A well constructed cavity could do it, but a simple band-pass LC will not. Crystal filters can be made to do this sort of thing, but you would probably have to spend $500 to get one made for your frequency, but its cheaper than moving house!

A directional antenna would be a simpler bet. If the two stations are located 90deg apart in direction, you are laughing, as a beam has a null at 90 degrees. Aim the antenna at the week one and the stronger one will disapear. If they are close to 90 degrees, you might be able to null the strong one out, by pointing it at right angles to the boom, but *not* aiming the beam at the weak one. This will give slightly lower signal to the weak one than would be the case if beamed straight at it, but much higher signa to interference ratio.

If they are sepparated by a small angle, you will have to get a high gain antenna, and rely on aiming at the weak one, and hoping the attenuation of the side of the beam is enough.

In theory you can make an antenna and place the nulls where you want them, but its not trivual to work out the maths, nor to build the antenna.

One possibility, if you dont mind a bit of experimentation is to try to actively cancell the strong signal. Take a beam and aim this at the weak one. Take a small whip, which will pick up mostly the strong one. Add the signal from the two antennas together, after introducting both a variable phase control and amplitude control. If you can make the two signals form the local station of the same amplitude and opposite phase, you can cancell it. I've done this to cancell unwanted signals in

circuits before, when filtering was not an option.

One possibility might be to build a receiver with a good quaility multi-pole crystal filter in the IF stages. At the end of the day, unless the strong station is actually transmitting a poor signal, it is a receiver fault. Ceramic filters used in most receivers dont have the selectivity of crystal ones. You could probably get a decent receiver in module form, then feed its audio back to HiFi.

dave kirkby

4572. List of Stamp Applications

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-06 00:00:00 UTC
From: cj@algonet.se
Message-ID: <453v6v$32g@prometheus.algonet.se>
Source record: 110281
Cross-posted to: sci.electronics,comp.robotics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something with the BASIC Stamp (big or small)
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@algonet.se

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.algonet.se/~cj/losa.html

When there are a bunch of contributions I'm going to post the L.O.S.A
to this list, upload it to Parallax, Inc. FTP-site and send it to the
following Usenet groups. I will update it approx. once a month.

sci.electronics
comp.robotics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

[--- cut ---]

=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
New Contribution [ ] Update [ ]
-----------------------------------------------------------------------------

Title :
Author: Date:

E-mail: (optional)
-----------------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
```

URL : (optional)

Description : (5-50 rows describing your application)

==

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form" please let me know and I will add it.

Regards,

/Christer

-=-
* High Tech Horizon - Christer Johansson - * email: cj@algonet.se *
-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web - http://www.algonet.se/~cj/catalog.html <<
-=-

4573. Re: R2 Single Signal Single Conversion Receiver - Experiences?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-06 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <453f7l$9ej@unisql.unisql.com>
Source record: 110282

I have an R2 / T2 pair "in the works" (well, actually, buried in the junkbox until after the next time I move).

1) Order the commercially made circuit boards!!
2) Follow the parts recommendations in the articles, especially for the capacitors. For the phasing filters, a lot of same-value, different-part-number caps WILL NOT FIT, either in the PCB holes or in the spaces between the components.
3) If you can custom-match the phasing L and C parts, you'll get a better performing rig. You need an LCR bridge or similar, and probably 10 friends who are also building R2 / T2 projects to get rid of all the extra parts you'll need to buy to get good matching components.
4) I had no problem whatsoever getting parts, but at the time I was living in the Dallas/Ft. Worth area, and had excellent access to a number of well-stocked surplus houses. Digi-Key and Mouser provided excellent service for the mail-order parts they stocked. For the Mini-Circuits mixers, I was able to find some at a swap fest. However, Mini-Circuits accepts small orders and Visa/MC. For convenience you may want to batch your order with those of your 10 friends...and ask for the RF Designer's Guide, and order some of their other fun RF goodies like MMICs.
5) Read the instructions carefully, look at the diagrams until you've memorized them, and be advised that there was at least one correction printed in QST a few months after the R2 plans were published.
6) Although it's mentioned in the plans, it bears repeating -- socket the ICs or you will never be able to get them out of the PCB if you have a bad one or a failure later.

Hope this helps

Jim
N6OTQ

flames to /dev/null please

4574. Re: Need microwave/stripline design text

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-06 00:00:00 UTC
From: novatech@eskimo.com
Message-ID: <DG1n1H.9E0@eskimo.com>
Source record: 110283

bill@alfalfa.pas.rochester.edu (Bill VanRemmen) writes:

>I will be doing a project soon that will involve quite a bit of striplines.

>Can someone point me to any articles or texts on designing these things?
>Emphasis on construction would be best, but if I have to slog through
>a DECENT EE text, that's ok too.

>---
>Oh, I'm a sysadmin, and I'm ok. | Bill VanRemmen, KA2WFJ
>I work all night and I work all day. | bill@pas.rochester.edu
>I knock back Cokes, I skip my lunch, | http://www.pas.rochester.edu/~bill
>I'm glued to the VDT! |
>---

This isn't a stripline book, but rather a microstrip book. I think you
will find it useful:

Foundations fo Microstrip Circuit Design, 2nd Ed, Terry Edwards,
Wiley, 1992, 0-471-93062-8.

--
Steven D. Swift, novatech@eskimo.com, http://www.eskimo.com/~ntsales
NOVATECH INSTRUMENTS, INC. 1530 Eastlake Avenue East, Suite 303
206.322.1562, fax 206.328.6904 Seattle, Washington 98102 USA

4575. Re: Litz Wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-06 00:00:00 UTC
From: claude@bauv111.bauv.unibw-muenchen.de
Message-ID: <claude.812980375@bauv111>
Source record: 110284

ddiamond@TRL.OZ.AU (Drew Diamond) writes:

>>Can anyone tell me where I can purchase, mail order or otherwise, Litz
>>wire.

>>Thanks.

>>yeka44a@prodigy.com

>Interestingly, I see Litz type wire now used extensively in HF switched-mode
>power supply transformers.

No surprise. They are the best choice for this frequency range.
--
Claude F. (claude@bauv106.bauv.unibw-muenchen.de)

This message may contain opinions which are not shared by my employer.
The facts can speak for themselves.

4576. Re: Solder + silver conductivity

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-06 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <454afm$era@maureen.teleport.com>
Source record: 110285

```
; whiting@cadence.com (Neil Whiting) writes:
; Hi,
;
; I've been build some microwave stuff and find that solder
; containing silver (eg 60/38/2% tin/lead/silver) is
; recommended for this.
;
; In other descriptions, normal tin/lead solder is said to be
; lossy and should not be left around in cavities, etc.
;
; The question (for you materials science types) is this:
; Does a 2% silver content in the solder do anything to
; sognificantly reduce the (resistive/skin effect) loss of
; solder, such that I don't need to worry (so much) about
; removing it from cavities, or would the silver content
; have to be much higher to do this.
;
; (It may be that this solder is recommended to avoid silver
; leaching problems with smd components, rather than for
; conductivity reasons?)
```

I really don't know about cavities, although I'd be surprised if the small silver content has much of an effect on conductivity.

The main use for 2%-3% silver-bearing solder is as you said, to avoid leaching the metallization from SMD components. I've done some experiments and have found that leaching isn't a problem with solder-terminated parts, but is with palladium-silver and gold-terminated parts, and the silver content does help in the latter cases.

Roy Lewallen, W7EL

4577. Making labels from transparencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-06 00:00:00 UTC
From: jathomas@netcom.com
Message-ID: <jathomasDG1s85.CM8@netcom.com>
Source record: 110286

Has anyone had experience making panel labels for projects using laser-printed transparencies? With Word for Windows, I can align and print very nice labels. The only problem is gluing them to a panel. Nothing I have tried (rubber cememt, contact cement, crazy glue, airplane cement) seems to stick. I assume the plastic is mylar.

Any ideas?

John A. Thomas
jathomas@netcom.com
N5RZP

4578. Filter synthesis prog.??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-06 00:00:00 UTC
From: snorris@netcom.com
Message-ID: <snorrisDG1r4A.4t5@netcom.com>
Source record: 110287

I'm looking for a filter synthesis program. Preferrably for windows and has the following capabilities.

LPF, HPF, BPF
Butterworh, Chebyshev, Elliptic, Bessel, Transitional Gaussian, etc, (as many types as possible)
component tolerances for yield analysis would be nice but not neccessary.
graphical schematics would be nice too for use in design reports
Good for RF frequencies
active compnents would be nice as well, but not neccessary.
Fairly reasonable cost or even shareware.

That's about it. I'm doing my own research right now, but if anyone has some suggestions, I would love to hear them.

Sean

4579. Re: Heathkit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: dstuart@rocket.cc.umr.edu
Message-ID: <454jdq$k1m@hptemp1.cc.umr.edu>
Source record: 110288

: Here ya go Bob:

: Heathkit Co. (800) 253-0570
: P.O. Box 1288
: Benton Harbor, MI 49023 Some parts & manuals still available

: Heath Replacement Parts (800) 44-HEATH for free catalog
: 455 Riverview Dr. FAX: (616) 925-4876
: Benton Harbor, MI 49022 Parts (616) 925-4914
: Repairs 925-3273

: Internet: brian.carling@acenet.com (Brian Carling)
: This message was processed by NetXpress from Merlin Systems Inc.
: ---

I thought they were out of business?

--
-- Dave Stuart
dstuart@umr.edu
University of Missouri -- Rolla

KB0SLY

4580. Re: Making labels from transparencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: Phil Smith <phils@tiac.net>
Message-ID: <454tph$keo@sundog.tiac.net>
Source record: 110289

> John A. Thomas
> jathomas@netcom.com
> N5RZP asked:

> Has anyone had experience making panel labels for projects using laser-
> printed transparencies?

I don't have any experience with that, but
the thought occurs to me that perhaps using
sheets of laminating plastic would work.

4581. J pole antenna using COAX instead of twinlead for its stub

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDG292y.MEI@netcom.com>
Source record: 110290

A J POLE ANTENNA USING COAX FOR THE STUB

Instead of 300 ohm twinlead.

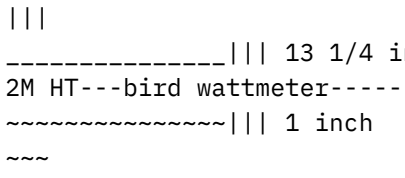
Decided to try using a piece of RG58 coax in place of the usual
300 ohm TV twinlead. They're both transmission lines. So, a
quarter wave length of eighter should work (factor in velocity
factor in measuring out a quarter wave length, twinlead is 0.88
and RG58 poly is 0.66). And the coax is unbalanced, so no
theoritical need for a choke balun (ferrite beads or many turn
coil). The coax shield is at RF ground potential, the RF is
on the center conductor, and the open end of the quarter wave
stub center conductor connects to the end of the half wave
dipole. The tap is formed by "T" connecting the stub coax
to the coax feedline from the radio.

Take some RG58, short shield to center conductor.
Measure 13 1/4 inches from the short, remove the outside jacket
and shield at this point and beyond. Leave an inch or 2 of
center conductor sticking out.

Measure 1 inch from the short, and prepare to do a "T" connection
here. Create a hole in the outer shield about 1/3 inch long
and peel it about half way round the coax. Then take a razor blade
and remove enough insulation from the center conductor to bare a
small spot. Enough to do a tack solder connection, which connects
to the center conductor of the feedline coax. And shield to
shield. Take care to get a good connection without shorts.
Take your time here. One probably could just use a BNC T connector
here, and make a short shorted cable for one side, and a longer
cable to feed the dipole on the other. Just keep the overall
lengths right.

Now connect a length of wire to the center conductor sticking out
the open end of the stub, enough so the length of the wire and
the amount of center conductor protruding beyond the end of the
coax shield totals 37 1/2 inches. This is the dipole part.

ASCII attempted diagram: |
|
|
|
| 37 1/2 inches
|
|
|



13 1/4 inches (includes below
1 inch)
1 inch

Used a 2 meter HT and a Bird wattmeter to measure forward and reflected power, indirectly SWR. My forward power was ten times reflected power, not bad. At one point, I had a bad T connection (bad solder joint) that caused the forward power to almost equal reflected power. Fixed that, and now it works like the twinlead Jpoles. Ran my hand along the feedline coax, and the stub, no effect on reflected power. Did get reflected power if I get near the dipole part, as expected.

And I could hit repeaters pretty well, considering I was in the basement.

4582. Need X-Band waveguide

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <455iak$8g2@newsbf02.news.aol.com>
Source record: 110291

I am looking for the following X-Band parts:

1) Flexible waveguide UG39 flange any length considered.

2) Right angle waveguide UG39 flange

Please respond by Email or phone: 203-583-1191 eves or 203-573-5581 days
73's Viny

4583. Re: Making labels from transparencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <455q18$c14@ixnews6.ix.netcom.com>
Source record: 110292

In <jathomasDG1s85.CM8@netcom.com> jathomas@netcom.com (John A. Thomas)
writes:
>
>Has anyone had experience making panel labels for projects using
laser-
>printed transparencies? With Word for Windows, I can align and print
>very nice labels. The only problem is gluing them to a panel.
Nothing I
>have tried (rubber cememt, contact cement, crazy glue, airplane
cement)
>seems to stick. I assume the plastic is mylar.
>
>Any ideas?
>
>John A. Thomas
>jathomas@netcom.com
>N5RZP

Avery sells "Clear Laser Labels" product number 5661 which may make the
whole thing a lead pipe cinch. Haven't tried it myself yet, just a
suggestion...
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

4584. Geogre G. Smith Where Are You?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: pmn@tharp.demon.co.uk
Message-ID: <pmn-0710951405420001@tharp.demon.co.uk>
Source record: 110293

Geogre Can you e-mail me with your current e-mail address
re:Motorola MX360

Ron (N2YSV)

4585. Re: Odd behavior of 4CX1000A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: jfriley@airmail.net
Message-ID: <4565k7$2l4@news.iadfw.net>
Source record: 110294

>wrt@eskimo.com (Bill Turner) wrote:

>>when I drive it to full
>>output (1500 watts) and then remove the drive, the plate current drops back to
>>about 220 ma and then climbs back up to 250

>YOUR FILIMENT VOLTAGE COULD BE DROPING

Naw, this tube uses an oxide-coated cathode. But it also has a grid
rated for 1 ma; no wattage rating at all. The behavior being
described is pretty much what I was used to seeing when I ran my 30S-1
up into grid current. Grid leak would shove the bias up and the time
constant of the bias circuit was quite long. That doesn't eliminate
the possibility that something's happening at the cathode--especially
when you say the output power is 1.5 KW. The extra current might be
changing the emissivity of the cathode. I did not see this effect
when I switched over to 4CX1500B's (unless I went into grid current)
so the grid might be involved too.

73

Fred
JFRILEY@airmail.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

4586. Re: Mini linier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDG2p3E.J7x@netcom.com>
Source record: 110295

Paul Erickson (paul1@wizard.ucs.sfu.CA) wrote:
: I was looking through the junk box and came across a 6146b and was
: wondering if anyone has had any experience with or ideas about using
: one of these as a linier for my qrp rig???

If you have a power supply available, or the parts to build one then it would be a fun project. You will need something in the neighborhood of (roughly) 700 volts at 200 mA. Depending on frequency you should get about 40 or 50 watts output. It might be cheaper to build an amplifier from solid state components if you can't scrape together a power supply.

73,

Thomas
KI4N

4587. Need Kenwood TR-7950 manu

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: darryl.linkow@ledge.com
Message-ID: <8B292BB.01B5001694.uuout@ledge.com>
Source record: 110296

Hello all and thanks for reading this message. I am looking for
a copy of the owner's manual for a Kenwood TR-7950 2 Meter rig for
a friend of mine, KE6JWQ, who does not have Internet access. If
you have one to sell, please let me know. Or, if you can make a
photocopy, he would gladly pay for copying and postage. Please
leave me a message here if you can help.
73, Darryl KE6IHA

---
* OLX 2.2 * Darryl Linkow (818)346-5278 9 am - 5 pm PDT

4588. Re: Odd behavior of 4CX1000A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4575fe$mqf@newsbf02.news.aol.com>
Source record: 110297

In article <4565k7$2l4@news.iadfw.net>, jfriley@airmail.net (J. Fred Riley) writes:

>t the cathode--especially
>when you say the output power is 1.5 KW. The extra current might be
>changing the emissivity of the cathode. I did not see this effect
>when I switched over to 4CX1500B's (unless I went into grid current)
>so the grid might be involved too.
>
>73
>
>Fred

Fred's correct about this. I've seen the same effect in 8877's also. It's a common mox cath problem when the tube is near its ratings.

73 Tom

4589. Re: Impedance of AM car radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <457751$ndv@newsbf02.news.aol.com>
Source record: 110298

In article <456mtm$g4u@usenet1.interramp.com>, mfranks@interramp.com writes:

>
>Anyone know impedance of AM car radio antenna input ?, is it 50 ohms ?.
>I am designing a convertor and can not find info I need .
>
>Please resond via Email....TNX WB9EZB
>
>

No it's sure not 50 ohms, it's usually very high Z. The antenna it matches is a short unloaded voltage probe, so the input of the rx has to be very high Z to not load it.

73 Tom

4590. Impedance of AM car radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: mfranks@interramp.com
Message-ID: <456mtm$g4u@usenet1.interramp.com>
Source record: 110299

Anyone know impedance of AM car radio antenna input ?, is it 50 ohms ?.
I am designing a convertor and can not find info I need .

Please resond via Email....TNX WB9EZB

FROM==>Michael Franks, MD
mfranks@interramp.com

4591. Returned mail: warning: cannot send message for 4 hours

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199510071545.KAB24375@ooz.backbone.uoknor.edu>
Source record: 110300

```
This is a MIME-encapsulated message

--KAB24375.813080746/ooz.backbone.uoknor.edu

*********************************************
** THIS IS A WARNING MESSAGE ONLY **
** YOU DO NOT NEED TO RESEND YOUR MESSAGE **
*********************************************

The original message was received at Sat, 7 Oct 1995 06:36:31 -0500
from aardvark.ucs.uoknor.edu [129.15.10.11]

----- The following addresses had delivery problems -----
<arees@elect4.uoknor.edu> (transient failure)

----- Transcript of session follows -----
<arees@elect4.uoknor.edu>... Deferred: Connection timed out with elect4.chem.uoknor.edu.
Warning: message still undelivered after 4 hours
Will keep trying until message is 5 days old

----- Original message follows -----

--KAB24375.813080746/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with ESMTP id GAA23422 for
<arees@elect4.uoknor.edu>; Sat, 7 Oct 1995 06:36:31 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HW5DYQTIO0002HJC@aardvark.ucs.uoknor.edu>; Sat,
07 Oct 1995 06:38:26 -0500 (CDT)
Date: Sat, 07 Oct 1995 06:38:26 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #314
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HW5DYQVNTU002HJC@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HW5DYJWMEO002K3R@aardvark.ucs.uoknor.edu>; Sat,
07 Oct 1995 06:38:17 -0500 (CDT)
```

Received: by mail.ucsd.edu; id EAA13953 sendmail 8.6.12/UCSD-2.2-sun Sat,
7 Oct 1995 04:30:27 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id EAA13946 sendmail 8.6.12/UCSD-2.2-sun Sat,
7 Oct 1995 04:30:26 -0700 for ham-homebrew-ddist
Date: Sat, 07 Oct 1995 04:30:25 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #314
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510071130.EAA13946@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Sat, 7 Oct 95 Volume 95 : Issue 314

Today's Topics:
Litz Wire
Looking for Engineering programs (2 msgs)
looking for info on thera
Odd behavior of 4CX1000A
R2 Single Signal Single Conversion Receiver - Experiences?
Vintage Meet - NJ
WANTED: Radio Switch Model 88

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 6 Oct 95 11:52:55 GMT
From: claude@bauv111.bauv.unibw-muenchen.de (Claude Frantz)
Subject: Litz Wire

ddiamond@TRL.OZ.AU (Drew Diamond) writes:

>>Can anyone tell me where I can purchase, mail order or otherwise, Litz
>>wire.

>>Thanks.

>>yeka44a@prodigy.com

>Interestingly, I see Litz type wire now used extensively in HF switched-mode
>power supply transformers.

No surprise. They are the best choice for this frequency range.
--
Claude F. (claude@bauv106.bauv.unibw-muenchen.de)

This message may contain opinions which are not shared by my employer.
The facts can speak for themselves.

Date: Wed, 4 Oct 1995 22:50:58 GMT
From: butch@maestro.maestro.com (' ALLAN W. BART)
Subject: Looking for Engineering programs

Hello,

so do any of you hams out there have any good packages for designing
matching networks or doing transmission line matching ala smith chart via
a pc. should have such gems please email them to me.

yours,

allan bart

Date: 5 Oct 1995 09:23:35 -0400
From: a313@Lehigh.EDU
Subject: Looking for Engineering programs

In article <DFy4t0.Kto@maestro.maestro.com>, butch@maestro.maestro.com (' ALLAN
W. BART) writes:
>Hello,
>
>so do any of you hams out there have any good packages for designing
>matching networks or doing transmission line matching ala smith chart via
>a pc. should have such gems please email them to me.
>
>yours,
>
>allan bart
Try checking out the oakland university software repository file
server in Rochester Michigan.

>
>

Date: Wed, 04 Oct 95 07:58:00 -0500
From: bob.roach@sourcebbs.com (BOB ROACH)
Subject: looking for info on thera

SF>-No, not multi-vitamins -
SF>-Can't seem to find any references to these radio/musical instruments
SF>-anywhere. Would anyone know where I can get more information on them
SF>-(I'm not even sure I'm spelling it correctly)? Or better yet, would
SF>-anyone have any plans floating around for building a theramin?

Hi Scott,

This ain't gonna be easy. I remember seeing construction articles for
these a long time ago. You're gonna have to find a library with old
copies or micro film of the construction oriented electronics magazines
of the '60's.

The best first step would be the guide to periodical liturature (ask the
Librarian if you're not familiar with it) you just pick the year, look
up "theramin" and it will tell you every mag where this subject was
addressed.

Good Luck es 73 de KE4QOK
Bob

* SLMR 2.1a * "Hey Worf....I hooked Data up to a modem. Wanna see?

This message originated from: ---------- Selective Source BBS
------- Virginia Beach, Virginia
----- (804) 471 6776

Date: Fri, 06 Oct 1995 15:37:40 GMT
From: kkidd@usit.net (Kevin Kidd)
Subject: Odd behavior of 4CX1000A

wrt@eskimo.com (Bill Turner) wrote:

>I have just finished a homebrew amp using a 4CX1000A and it works fine, with
>one small exception: The plate current drifts a bit depending on the
>temperature of the tube. For example, I have the idling plate current set at
>250 ma as recommended by the Eimac data sheet, but when I drive it to full
>output (1500 watts) and then remove the drive, the plate current drops back to
>about 220 ma and then climbs back up to 250, taking about five seconds or so.
> I can also see this after I have it tuned up -- I apply drive (continuous
>carrier) and the plate current rises to the normal 800 ma or so, then drifts
>down about 20-30 ma and stabilizes there. This drift is NOT in any of the
>supply voltages. It's definitely in the tube itself. The supplies are:
>Plate: 3000 volts loaded, 3400 volts unloaded
>Screen: 355 volts (shunt regulated)
>Control grid: -62 volts (for 250 ma idle)
>Filament: 6.1 volts

>Is this normal behavior or do I have a tube starting to go bad? The tube is
>an old one (1960's era), but the fellow I got it from said he won it at a
>hamfest and it's been mostly sitting on a shelf all this time.

>Anyone have a known good one for sale? Wouldn't hurt to have a spare, I
>suppose.

>73, Bill W7LZP
>wrt@eskimo.com

YOUR FILIMENT VOLTAGE COULD BE DROPING DUE TO EXCESSIVE INPUT VOLTAGE
DROP. IF THE FILIMENT VOLTAGE IS AT OR BELOW THE KNEE OF FULL
EMMISSION AND THEN DROPS AS LITTLE AS .1 VOLT THE PLATE CURRENT WILL
TAKE A SUBSTANTIAL DROP. CHECK THE FILIMENT VOLTAGE WITHOUT TX KEYED
AND WITH TX KEYED. VOLTAGE SHOULD NOT DROP BELOW RATINGS FOR THIS
TUBE. ALSO OPERATING A TUBE WITH INSUFFICIENT FILIMENT VOLTAGE IS
ACTUALLY HARDER ON SAID TUBE THAN OVER VOLTAGE (TO A POINT ANYWAY).

73

KEVIN, WD4RAT
kkidd@usit.net

Date: Thu, 5 Oct 1995 20:57:48 GMT
From: Dave Fifield <fifield@lan.nsc.com>
Subject: R2 Single Signal Single Conversion Receiver - Experiences?

Hi,

Have any of you built an R2 direct conversion receiver at all? This was
published in 1992 in QST: basically it was a "phasing" SSB receiver.

I'd be interested in exchanging experiences with other builders ...
especially on sourcing of components, local oscillators tried (DDS
anyone?) and DSP'ing the backend of the receiver.

PSE KKK

Dave Fifield (ex G8INR)

Date: 27 Sep 95 07:54:00 GMT
From: john.dilks@academia.com (John Dilks)
Subject: Vintage Meet - NJ

>>..... NEW JERSEY ANTIQUE RADIO CLUB
>>..... RADIO SWAPMEET

>>.....Saturday, October 7, 1995

>>.....Hightstown Country Club Ballroom

The New Jersey Antique Radio Club will present its all-outdoors
Fall swapmeet at Hightstown, 7 AM to 1 PM, with seller setup be-
ginning at 6:30 AM. Vendors will be offering a spectrum of col-
lectible old-time radios - table-model, console, transistor,
Bakelite, communications - with related literature and parts.
Food and beverages available. Ample on-site parking for $2.

Everyone is welcome!

Directions: The location is off NJ Route 33, reached from Exit 8
of the New Jersey Turnpike. From the Turnpike exit, go east on Rte.
33 about 200 yards past Mom's Peppermill restaurant. Continue .
mile to the first jughandle and loop west. At the first traffic
light, bear right onto Monmouth St. Look for the white building,
the "Hightstown Country Club Ballroom," about 300 yards on the
left.

For out-of-area visitors, accommodations are available at the
Ramada Inn directly across Monmouth St. [(609) 448-7000]. On Rte
33 nearby are the Day's Inn [(800-DAYS-INN, or (609) 448-3200]
and the Town House Motel [800-922-0622 from out-of-state, or
(609) 448-2400 within New Jersey].

Seller rates are $15 per table ($3 discount to NJARC members).
To reserve a table, please send a check payable to NJARC to:
Onalee Fisher , 344 Harrison Ave., Manville, NJ 08835 by Oct. 3.
Contact: Onalee Fisher at (908) 725-7476.

Formed in mid-1992, NJARC now has a membership above 120. The
club meets at Grace Lutheran Church on Corner of Old Route 33, Park Ave.,
and Rt 537, Main Street, in Freehold, New Jersey on the second Friday
of each month at 7:30 PM. Visitors are welcome. For details, see any
recent issue of Antique Radio Classified or the AWA Old Timer's Bulletin.

... 73' John Dilks, K2TQN

. 1st 2.00n #3514 . The future isn't what it used to be... Where's the Radio?

Date: Thu, 5 Oct 1995 20:51:10 GMT
From: bs872@FreeNet.Carleton.CA (Henry Ian Ross)
Subject: WANTED: Radio Switch Model 88

James Garland (garland@ohstpy.mps.ohio-state.edu) writes:
> I DESPERATELY need a replacement bandswitch for my 8877 homebrew
> amplifier (pictured in the Bill Orr Handbook, last N editions). I'm
> looking for a Radio Switch Model 88 (NOT an 86). The ideal switch would
> have two gangs, 30 degree indexing, 1-12 positions, with at least one
> gang with a shorting wafer (to short 3 or 4 sections). I can piece
> together parts from several switches to make what I want, but the
> essential requirement is at least one 30 degree indexed, shorting wafer.
> Tnx and 73, Jim W8ZR
>

Check Electroswitch (Unit of Electro Switch Corp) (ex Centralab???)
their part no. PA301 (30 deg index, 2-12 position, 4-6 sections) index
with necessary PA-0 (1 pole, 2-12 position, shorting) and PA-1 (1 pole,
2-12 position, non-shorting) sections.

Good luck.

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

End of Ham-Homebrew Digest V95 #314
****

--KAB24375.813080746/ooz.backbone.uoknor.edu--

Article Unavailable

4592. How to Get Free Cable Premium TV .. LEGIT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: md@goodnet.com
Message-ID: <DG2vI5.3uJ@goodnet.com>
Source record: 110301

First I want to say I am sorry that this has nothing
to do with the topic of this group. You may see this
message in other newsgroups, the reason is I am subscribed
to those too so please don't flame me. I have been posting
and reading to this group for a while. I just wanted to
let you people out know there is a way to get Cable TV for
FREE. I recieve this letter in the mail from a friend
that had told me it works. I gave this to one of my friends
and he had free cable in his house within 20 mins. I have not
tried this method yet but may soon try if my cable goes up in
price. If anyone would like a copy send the following to the
address below.

Address Envelope to:

FreeStuff
9393 N. 90th St.
Suite 102-289
Scottsdale, AZ 85258

Enclose in the envelope:

Send...

$1.00 U.S MONEY *** NO COINS *** NO CHECKS ***
inside a sheet of carbon paper or construction paper,
and send a *self-addressed*,*stamped* envelope to the
address above.

Thanxs,
Just think if you pay 30$ + a month. 1$ will save
you 359 + dollars a year.

4593. PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-07 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8007-326281702@humnet.humberc.on.ca>
Source record: 110302

I'm in the process of designing a PLL/VCO to eliminate the need for
crystals on a bunch of lowband GE mobile rigs that my club aquired for
use on 6 meters.
I plan on using the serial MC145157 along with a PIC or 87C750 single
chip micro and a VCO made up of discrete parts.

I'd like to hear from some experienced designers of LPF/VCO circuits
for your suggestions/comments.

Thanks !

Hugh Duff VA3TO Toronto hduff@humnet.humbrec.on.ca

• NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/

4594. Re: Impedance of AM car radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: cunliffe@eznet.net
Message-ID: <4577re$45n@roch3.eznet.net>
Source record: 110303

w8jitom@aol.com (W8JI Tom) wrote:

>In article <456mtm$g4u@usenet1.interramp.com>, mfranks@interramp.com
>writes:

>>
>>Anyone know impedance of AM car radio antenna input ?, is it 50 ohms ?.
>>I am designing a convertor and can not find info I need .
>>
>>Please resond via Email....TNX WB9EZB
>>
>>

>No it's sure not 50 ohms, it's usually very high Z. The antenna it matches
>is a short unloaded voltage probe, so the input of the rx has to be very
>high Z to not load it.

>73 Tom

The cable used on car antennas is 125 ohm's or 93 ohm's dependend what
manufacturer used.
John R. Cunliffe N2NEP
cunliffe@eznet.net
fax# 716-359-9368
http://home.eznet.net/~cunliffe/

4595. Re: Filter synthesis prog.??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: Mike.Czuhajewski@bbs.abs.net
Message-ID: <1995Oct07.204833.21272@abs.net>
Source record: 110304

There is a good freeware filter synthesis program available at lehigh.edu via ftp. It's by Bob Lombardi, titled Filter Design System or something similar, and the filename is something like FDS124. It does low pass, high pass, bandpass, Chebyshev, Butterworth, elliptic, and is a good one. (He won honorable mention several years ago when he submitted an earlier version to RF Design magazine for their annual design contest.) There is no analysis available in the program, but for that I use GPLA, General Purpose Ladder Analysys, by Wes Hayward, W7ZOI. It's part of the software suite that comes with the ARRL reprint of Wes' Intro to Radio Frequency Design. (True Story: at work, one of the other technicians went to a local ham store and bought the Hayward book specifically to get the software. For him, the book was a bonus!)

To get the filter synthesis program, do anonymous ftp to ftp.lehigh.edu, and dig down the directory tree to

pub/listserv/qrp-l/tools [that's QRP-L, not QRP-1, but use lowercase when ftp'ing]

It's been a while since I uploaded a copy of Bobs program there, but I think the filename I used was FDS124 or something like that. (Ignore the short .txt file there; it doesn't say much, and is a very, very brief quote from the "on-disk" documentation.) I think it's a PKZIP'ed file (it's been a while since I uploaded a copy there).

If you use the output to disk function, which in the current version writes files in the Touchstone format, there are a couple warts; I mentioned them to the author. One gives an error which stops Touchstone from doing a sweep, so you know you have a problem. The other will work but give erroneous results, but only involves filters with different input and output impedances.

This is a very good program, well worth taking a look at.

73 de WA8MCQ

4596. Need a power supply person!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: ag001@lafn.org
Message-ID: <1995Oct8.040524.15386@lafn.org>
Source record: 110305

Any problem of using a 13v dc power supply putting out 10.4w
with an HTX-202? It's actually a cell phone intellicharge power
supply; could it double as a p.s. for an HTX-202? Any ideas?
I don't know what the amperage is though, not listed.
Thanks
KE6OCM
--

4597. Re: R2 Single Signal Single Conversion Receiver - Experiences?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDG422x.HDo@netcom.com>
Source record: 110306

Dave Fifield <fifield@lan.nsc.com> writes:

>Hi,

>Have any of you built an R2 direct conversion receiver at all? This was
>published in 1992 in QST: basically it was a "phasing" SSB receiver.

>I'd be interested in exchanging experiences with other builders ...
>especially on sourcing of components, local oscillators tried (DDS
>anyone?) and DSP'ing the backend of the receiver.

>PSE KKK

>Dave Fifield (ex G8INR)

Kits are available from Kanga US -- write kanga@bright.net for information.

Check out my Web page for lots of documentation on my setup with the R2:
http://www.lehigh.edu/lists/qrp-l/k0jd/index.html . The various files are
also ftp accessible.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing
: / Di dah, di dah, di dah, di dah...

4598. Manual for Eico 324 Signal Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: kkoelman@ix.netcom.com
Message-ID: <457tu5$mto@ixnews5.ix.netcom.com>
Source record: 110307

Hi:

Do any of you have a manual for an Eico 324 signal generator? I picked one up at a flea market without a manual.

Of course, I will gladly reimburse you for copying costs and postage. Let me know if you could send me a copy. Thanks.

73/KC6WCI@N0ARY.#NOCAL.CA.USA.NOAM

4599. Re: Mini linier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: clarke@longwood.cs.ucf.edu
Message-ID: <458ia1$l9v@longwood.cs.ucf.edu>
Source record: 110308

paul1@wizard.ucs.sfu.CA (Paul Erickson) writes:

>I was looking through the junk box and came across a 6146b and was
>wondering if anyone has had any experience with or ideas about using
>one of these as a linier for my qrp rig???

That's called a final, son :-)

Should work.

Tom Clarke
KE4VFH

--
People of the same trade seldom meet together, even for merriment
and diversion, but the conversation ends in a conspiracy against
the public, or in some contrivance to raise prices - Adam Smith, WofN

4600. VHF Communications Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: Michael J Wooding <vhf-comm@g6iqm.demon.co.uk>
Message-ID: <69808943wnr@g6iqm.demon.co.uk>
Source record: 110309

Hi There,

To all subscribers issue 3/1995 of VHF Communications magazine will be shipped Monday Oct. 9th. We apologise for the slight delay, but as they say in the best circles, this was due to circumstances beyond our control - in fact our printing house had a major machine failure.

To anyone who is not a subscriber to the magazine, it is a publication for the Radio Amateur Worldwide, especially covering VHF, UHF and Microwaves. 95% of the contents are construction projects with a full backup with PCB's and/or kits. The worldwide subscription rate is UKP15.00 by cheque or UKP15.75 by credit card or bank transfer.

To whet your appetite the contents of the latest issue include:

A Frequency Counter with Harmonic Mixing
200mW GaAsFET Amplifier for 24 GHz
Part-6 of a DIY Receiver for GPS and GLONASS Satellites
Linear Signal Rectification

For further information please send me an email.

Regards ... Mike

--
Michael J Wooding vhf-comm@g6iqm.demon.co.uk
CompuServe: 100441,377
Tel: (0)1788 890365 Fax: (0)1788 891883
KM Publications, 5 Ware Orchard, Barby, Nr.Rugby, CV23 8UF, UK
VHF Communications Magazine - Especially Covering VHF, UHF and Microwaves

4601. Looking for Hamcomm 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: butch@maestro.maestro.com
Message-ID: <DG5Bv1.1un@maestro.maestro.com>
Source record: 110310

Hello,

I have heard that there is a newer version of Hamcomm that includes amtor, is it available on the internet? should you know please let me know via email.

yours,

allan bart
WA2RZQ

4602. Re: looking for info on theramins

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: Stephens <kens@csra.net>
Message-ID: <a87cb$101d2e.248@news.csra.net>
Source record: 110311

The spelling for the device is theremin. That may help your searches.

Over 20 years ago, I dabbled with theremins. Most of them were based on the idea that a human hand placed near an antenna can change the capacitance of the device, which in turn changed the frequency of the sound.

Most of the flying-saucer sounds from science fiction movies of the 1950's were made with theremins.

4603. Ciruit Board Specialists

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: victorj@fast.net
Message-ID: <458san$gfc@nn.fast.net>
Source record: 110312

Does any one know if Circuit Board Specialists" in Pueblo,co are still in business?

Vic wm3b

4604. Re: Making labels from transparencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: gcouger@jsun.agen.okstate.edu
Message-ID: <457vvl$m27@news.cis.okstate.edu>
Source record: 110313

In article <jathomasDG1s85.CM8@netcom.com>,
John A. Thomas <jathomas@netcom.com> wrote:
>Has anyone had experience making panel labels for projects using laser-
>printed transparencies? With Word for Windows, I can align and print
>very nice labels. The only problem is gluing them to a panel. Nothing I
>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>seems to stick. I assume the plastic is mylar.
>
What I have done is to use plain paper in the printer. I use a deskjet 540
and cover one side with clear packing tape or coat it with clear spray
paint after gluing it to the panel with contact cement or mounting spray.

good luck
Gordon AB5DG
Gordon Couger - Biosystems & Ag Engineering Oklhoma State Univ.
114 Ag Hall, Stillwater, OK 74078
Home 624 Cheyenne, Stillwater, OK 74075
gcouger@master.ceat.okstate.edu 405-624-2855 evenings 405 744 8392 work
I do not speak for my employer

4605. Re: Making labels from transparencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: jimzs1xn@cssa.org.za
Message-ID: <45928i$fkc@grovel.iafrica.com>
Source record: 110314

jathomas@netcom.com (John A. Thomas) wrote:

>Has anyone had experience making panel labels for projects using laser-
>printed transparencies? With Word for Windows, I can align and print
>very nice labels. The only problem is gluing them to a panel. Nothing I
>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>seems to stick. I assume the plastic is mylar.

>Any ideas?

>John A. Thomas
>jathomas@netcom.com
>N5RZP
Get hold of a product called TEC-200 film. It is used to transfer pcb
images onto copper clad board but it will work very well for your
need.
Place the film in the printer, print the designs onto the film, place
the film on your panel and apply heat and pressure (a regular clothes
iron works fine). After a few seconds,and after the panel has cooled,
the film is removed and the image stays behind.
Contact Meadowlake Corp at P O Box 1555 ONECO FL 34264.
James Bestbier ZS1XN jimzsin@cssa.org.za

4606. Re: Impedance of AM car radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct8.104631.13819@ke4zv.atl.ga.us>
Source record: 110315

In article <4577re$45n@roch3.eznet.net> cunliffe@eznet.net writes:
>w8jitom@aol.com (W8JI Tom) wrote:
>>In article <456mtm$g4u@usenet1.interramp.com>, mfranks@interramp.com
>>writes:
>>>Anyone know impedance of AM car radio antenna input ?, is it 50 ohms ?.
>>>I am designing a convertor and can not find info I need .
>
>>No it's sure not 50 ohms, it's usually very high Z. The antenna it matches
>>is a short unloaded voltage probe, so the input of the rx has to be very
>>high Z to not load it.
>
>The cable used on car antennas is 125 ohm's or 93 ohm's dependend what
>manufacturer used.

Yeah, but Tom's right, it is best considered a low capacitance shielded
cable, and not treated as a matched transmission line, because that's
not the way it's used. The input impedance of a Standard Broadcast
receiver using one of these voltage probe antennas is very high.

You can terminate your converter design in any convienent (moderate)
impedance and just *bridge* the AM radio input across that termination.
It will offer practically no loading at all to the circuit. That'll cost
you some voltage gain, of course, but that's not generally a problem at
these frequencies. It'll be easier to boost the voltage gain of the
post-mixer amplifier than to attempt a match to the AM receiver's
front end.

You can attempt a match, but it will be megohms, not 93 ohms, that
you'll wind up with as the match value. That can make for a really
squirrelly unstable converter, and is best avoided. If your converter
is for LF or low to mid HF, atmospheric noise will still set the SNR
of the system.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4607. Re: Need a power supply person!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-08 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct8.105501.13918@ke4zv.atl.ga.us>
Source record: 110316

In article ag001@lafn.org (Abraham Stavsky) writes:
>Any problem of using a 13v dc power supply putting out 10.4w
>with an HTX-202? It's actually a cell phone intellicharge power
>supply; could it double as a p.s. for an HTX-202? Any ideas?
>I don't know what the amperage is though, not listed.

Sure you do, if it's rated at 13 volts at 10.4 watts, then the
formula P=IE can be manipulated to give I=P/E or 10.4/13=0.8 amps.

The real problems you'll face are with regulation and filtering.
In it's original form, the unit had a secondary battery in the
cellphone to act as the regulator and filter. If I remember the
HTX-202 external power circuit correctly, it is diode steered.
So the HTX-202 battery won't serve well as a filter and regulator.

I'd hang an auto courtesy lamp across it as a load and look at
the output with a scope before trusting my HT to it.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4608. easy keyer circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: BRETSKI <bap@storm.atms.purdue.edu>
Message-ID: <Pine.A32.3.91.951009163344.20456A-100000@storm.atms.purdue.edu>
Source record: 110222

Surely there is an easy circuit I can build
to key 700 Hz tones to a speaker.
I want soemthing real simple to practice sending code.

BRET A. PENNINGTON / COMPUTER TECHNICIAN /EARTH AND ATMOSPHERIC SCIENCES
CIVL 4252 317-494-0678 / PURDUE UNIVERSITY / WEST LAFAYETTE, INDIANA 47907
bap@storm.atms.purdue.edu / speaking only for myself.
/\/\/\/\/\/ __... /\/\/\/\/\/\/\/\ N9ZFF /\/\/\/\/\/ ...__ /\/\/\/\/\/\/\/\

4609. Re: R2 Single Signal Single Conversion Receiver - Experiences?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: Dave Fifield <fifield@lan.nsc.com>
Message-ID: <DG79As.Lwz@nsc.nsc.com>
Source record: 110223

I've received a couple of emails in addition top the replies posted here.

There seems to be quite a lot of "extra" information available! I'm glad I asked!

I designed and made my own PCB last week - I added the "other" sideband circuit on-board and put right-angled BNCs on the inputs. I changed the biasing of the audio amp and reduced the quiescent current to 20mA (I heard from others who have done this too). I made the board "double sided", the top is a ground plane...I have always found that this method of construction works best.

It fired up first time and it seems to have pretty decent opposite sideband surpression. I am still playing around with VFOs. I just saw a nice DDS design in October's 73 Amateur Radio Today. I might make a version of this as an experiment.

By the way, Digikey's prices for the inductors for the R1/2 & T2 designs are not the best. I get mine from the UK, a place called Cirkit, who'll do credit card orders and air mail them over. They arrive in about 3 days and it costs about $8 for the shipping (not much more than continental USA!). Anyway, they charge 62p per 10RB inductor, that's $1 approx.....Digikey's price is around $3.50 I think! This place, Cirkit, has lots of other interesting RF things too - they are the main UK outlet for Toko. It's worth getting a catalogue shipped to you. Phone number is 011-44-1992-444-111 (Sales) or 011-44-1992-464-457 (Switchboard).

More later....

4610. Ham Radio Today

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: Steve Lorek <slorek@tcp.co.uk>
Message-ID: <307998F5.1080@tcp.co.uk>
Source record: 110224

Does anyone here read Ham Radio Today magazine? Well, I've just stumbled accross the WWW version - called Ham Radio today On-Line at:

http://www.tcp.co.uk/~slorek

Although it says it's not finished yet, it's already looking very interesting....

4611. Wanted: Info on Microwave Power Devices Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: kbanke@qualcomm.com
Message-ID: <kbanke-091095082524@kbanke-mac.qualcomm.com>
Source record: 110225

I have a couple of military surplus Microwave power Devices Inc amplifiers
I would like to attempt to use for Amateur purposes. The info supplied
indicate its a 960-1215 MHz amplifier/modulator capable of 1 Kw peak pulse.
It appears to run on 115 VAC 400 Hz 3 phase. The model number is
SPWA9612-13/4880. Does anyone have connection information for the control
inputs on this unit or other info?
- Kerry N6IZW kbanke@qualcomm.com -

4612. Re: HELP!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951009162600.5579J-100000@biggulp.callamer.com>
Source record: 110226

You might keep an eye open for some used CB amps. They seem to be all over the swap tables. These amps ordinarily can be operated from at least 20 meter thru ten meters. Far cheaper! 73 Cliff W6HDO

On 9 Oct 1995, Lord Wisp wrote:

> I am trying to built a linear for my 10 meter radio but cannot find any
> schematics... Can anyone help me or email me with schematics and parts
> lists..
> and where to get them,,, Thanks!!!
>
>
>

4613. Re: Impedance of AM car radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: tfugate@pop.uky.edu
Message-ID: <45bn9b$bj9@service2.uky.edu>
Source record: 110227

In article <456mtm$g4u@usenet1.interramp.com>, mfranks@interramp.com says:
>
>Anyone know impedance of AM car radio antenna input ?, is it 50 ohms ?.
>I am designing a convertor and can not find info I need .
>
>Please resond via Email....TNX WB9EZB
>
>
>FROM==>Michael Franks, MD
> mfranks@interramp.com
>
The impedence is rather high, several K ohms. Think of the typical AM
car antenna as a capacitive probe. You can not have much "loading" or
you will drop the rf voltage to nothing. Try terminating the radio
with around 50ohms at the converter output. Years ago I built a sw
converter and it was prone to feedback. A 50 (or 68 or 72 or 75) ohm
resistor cured the feedback. Remember that you can almost alway "bridge"
a hi z load across a low z source(except when actually transferring
real power). The only non antena exception would be with a transformer
output audio amp. If you leave the output open(or nearly so) you can fry
the output devices(either tube or solid state).
If the auto radio is an AM/FM there is most likely a terminating network
inside the radio. Back before I had a good home radio, I went through
several car radios. The AM only where much more sensitive than the AM/FM
combinations.
.....
Terry Fugate
UKTV
University of Kentucky
"The opinions expressed herein are mine, and soley mine. They do not
represent the official view of the University of Kentucky,
the State of Kentucky, or any agency of any government.
If you do not like my opinion, just get on with your life.
I will not change your mind and you damn sure can not change mine."

4614. KR4FC - Trust him at your own Risk!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: Somebody@here.com
Message-ID: <Somebody.31.0035C036@here.com>
Source record: 110228

KR4FC who lives in Georgia is a liar, and an asshole. Watchout for him and for God sake don't trust him to do anything or know any thing. He is a dumb ass!

4615. Re: looking for info on theramins

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: clarke@longwood.cs.ucf.edu
Message-ID: <45beqj$qag@longwood.cs.ucf.edu>
Source record: 110229

Stephens <kens@csra.net> writes:

>The spelling for the device is theremin. That may help your searches.

>Over 20 years ago, I dabbled with theremins. Most of them were based on the idea that a human hand placed near an antenna can change the capacitance of the device, which in turn changed the frequency of the sound.

>Most of the flying-saucer sounds from science fiction movies of the 1950's were made with theremins.

Try this web page:

http://www.vuse.vanderbilt.edu/~jbbarile/theremin.html

If you can't web, the owners address is

jbbarile@vuse.vanderbilt.edu

He can tell you how to ftp file with theremin articles
and schematics etc.

Tom Clarke

--
People of the same trade seldom meet together, even for merriment
and diversion, but the conversation ends in a conspiracy against
the public, or in some contrivance to raise prices - Adam Smith, WofN

4616. Minicircuit VCO's ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8009-204357603@humnet.humberc.on.ca>
Source record: 110230

Wondering if anyone has any experience with the new line of
Minicircuits (MCL) VCO's ?

I understand that they come in a variety of ranges.
What is the supply voltage requirement ? What type of package ?
What are the pinout definitions ?
Do they have one in the range of 23 to 26 MHz ?
How much are they and can they be bought in single qty ?

Thanks..Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/

4617. Land Mobile Radio FAQ needs your input!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <45bbhi$29s@mrnews.mro.dec.com>
Source record: 110317
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

The Land Mobile Radio FAQ is now under way... I need your support!

What is it?

A listing of those surplus police and taxicab radios from the various manufacturers, how to identify them, what band they're on, how easy it is to tweak them into the ham bands, average price used, etc., all in one file for your flea market shopping convenience!

What it's not is a mod manual. You won't find out HOW to do the mods in the FAQ. That's up to you. You will find out where to get the manufacturer's manuals, most of which have detailed tuning procedures. Some of the radios can only be programmed by the manufacturer, and/or by using the manufacturer's proprietary software. Such details will be in the FAQ.

I'd like to include any and all mobile or handheld radios aimed at the commercial or public service market. Many of these out-perform the imported synthesized units by a long shot, are cheaper, and make great ham rigs! Let's put these great radios back to work and on the air!

I NEED YOUR INPUT TO MAKE THIS A REALITY!

You don't need to mail me manuals or anything like that, unless you WANT to. All I ask is a few bits of data for any of these radios you or your friends may have worked on in the past. If you've put one on the air, you've had to answer these questions, so fill 'em out and send 'em in!

Model? Manufacturer, model name (like Mastr II, Syntor, Delta, etc.), model number

Band? These radios are usually made for use in a specific band of frequencies, like 30-50 MHz, 150-170 MHz, 450-470 MHz, etc.

Freq control? Crystal, synthesized/ROM programmed, synthesized/microprocessor programmed

Average price? What did you pay? What prices did you see when shopping? New or used?

Manual price? How much did the manual cost?

Mod difficulty? How hard was it to get it tuned to ham band?
Easy: re-crystal, tweak a few tuning screws
Difficult: program a new ROM, swap a few parts
Extremely difficult: Major modification and re-design of some circuits, you must pay

authorized technician to use
manufacturer's software

How to indentify? What details do you need to know to tell these radios
apart? Does the serial number tell you anything? Does
the Model number? Are there physical differences?
This is the stuff you need to know when sorting
through the radios at the flea markets. This
information is usually in the manufacturer's manuals
in great detail.

I will re-post this notice about every other week for a while, until the FAQ
is somewhat filled out.

My net address is: randolph@est.enet.dec.com
All information, network pointers, periodical references, anything, is
appreciated, and thanks in advance!

-Tom R. N1OOQ randolph@est.enet.dec.com

4618. Need technical info on duplexers.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <45b3vm$1oa@crchh327.rich.bnr.ca>
Source record: 110318
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hello

I am taking a graduate course in a local university that requires a 'project'. I would like my project to be a paper design on a 900 Mhz duplexer. Are there any technical papers, articles, books I could use as a reference to complete my project. (The ARRL antenna handbook was a GOOD beginning reference, but I am looking for the 'theory and math' behind the designs).

Thanks...

--
==========

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 991-4769 email: cnc23a@bnr.ca Ham: N4ZBB Packet: n4zbb@n1gmv.nc
DX PacketCluster (tm) Node : W4DW

All opinions are my own and do not necessarily reflect the views of my employer or co-workers, family, friends, congress, or president.

4619. Re: How to Get Free Cable Premium TV .. LEGIT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <45bfon$c9g@unisql.unisql.com>
Source record: 110319

Help stamp out SPAM -- send ten copies of that guy's
offending article to his email address.

And send a copy to postmaster@goodnet.com

Standard disclaimer

4620. Re: Mini linier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: bill.sorsby@dlep1.itg.ti.com
Message-ID: <45bj53$cdb@mksrv1.dseg.ti.com>
Source record: 110320

In article <9510021421.AA12339@wizard.ucs.sfu.ca>,
paul1@wizard.ucs.sfu.CA says...
>
>I was looking through the junk box and came across a 6146b and was
>wondering if anyone has had any experience with or ideas about using
>one of these as a linier for my qrp rig???
>
>cheers, Paul
>VE7CQK
>email: paul1@wizard.ucs.sfu.ca
>

Hi Paul;

I'm planning to use a pair of 6146's as an amplifier for an old CE-20A SSB Exciter I bought at a hamfest last Saturday. I also bought two carcasses of old SB-400 and SB-401 transmitters. In both units the finals, driver stages and power supplies appear complete, although the units had been stripped of most other valuable parts. Should be able to make a dandy amplifier for the old 20A.

I guess I'm doing it the lazy way instead of building the whole thing from scratch. At the same hamfest I saw a carcass of a Yaseau FT-101 available for $5. The owner said the power transformer was good too! In retrospect, I probably should have bought it too. ;-)

Good luck,
Bill, N5BU

4621. Help w/ Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-09 00:00:00 UTC
From: tgoins@accessone.com
Message-ID: <tgoins.15.01146F35@accessone.com>
Source record: 110321

I am in need of some help diagnosing a problem with my Pyramid PS-50 power supply. It is an adjustable 12-15 volt supply capable of about 50 amps. It's about 4 years old.

Here's the problem. When it's first turned on (after sitting for several hours) the voltage will rise to the proper level then immediately (10 - 15 seconds) start to drop off. It will eventually platuea at about 7 or 8 volts. If you turn it off and then cycle it back on immediately then the voltage never does rise to a normal level, it just starts low and stays low.

Here's what I have tried as fixes. It has a 732 voltage regulator chip and I have replaced it. No change. I also changed the 2N3055 regulating transistor which seems to somehow control the other six 2N3771 power transistors. No change.

I am at loss about what to do next. Could it possibly be a filter capacitor (five of them 10,000uf / 25 v)?? Or maybe the transformer? Or maybe one of the six (2N3771) power transistors? All of the parts are available through Digi-K ey and I am willing to replace them myself, but I don't want to have to take the shotgun approach and replace everything until it starts working. I'd prefer to have a more educated guess.

Thanks in advance for your help.

Todd Goins (NOMZT)
Seattle

tgoins@accessone.com

4622. Re: Help w/ Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: jchol@aol.com
Message-ID: <45dcuv$ao3@newsbf02.news.aol.com>
Source record: 110231

It sounds like the zener diode (shown as D3 on my PS-35g) has gone south.
They are cheap-try a replacement and let me know if that doesn't fix it.

73 de John, WA5TWL....

4623. Re: Impedance of AM car radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <45dbbd$9r1@newsbf02.news.aol.com>
Source record: 110232

In article <45bn9b$bj9@service2.uky.edu>, tfugate@pop.uky.edu (Terry Fugate) writes:

>The impedence is rather high, several K ohms. Think of the typical AM
>car antenna as a capacitive probe. You can not have much "loading" or
>you will drop the rf voltage to nothing. Try terminating the radio
>with around 50ohms at the converter output. Years ago I built a sw
>converter and it was prone to feedback. A 50 (or 68 or 72 or 75) ohm
>resistor cured the feedback. Remember that you can almost alway "bridge"
>a hi z load across a low z source(except when actually transferring
>real power). The only non antena exception would be with a transformer
>output audio amp. If you leave the output open(or nearly so) you can fry
>the output devices(either tube or solid state).
>If the auto radio is an AM/FM there is most likely a terminating network
>inside the radio. Back before I had a good home radio, I went through
>several car radios. The AM only where much more sensitive than the AM/FM
>combinations.
>.....
...
>Terry Fugate

That's correct Terry, The input of an AM car radio is usually a very hi z bridging input, because the antenna is a hi z voltage probe. It's nowhere near the impedance of the line feeding the antenna, and nowhere near 50 or 100 ohms.

The suggestion of a load resistor is excellent. If it detunes the input of the radio and causes problems he could load the converter with a low z load, and bridge the RX in with a low value cap.

73 Tom

4624. Re: Help w/ Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <45ceap$m8i@tierra.santafe.edu>
Source record: 110233

A voltage regulator works by developing an error signal derived from the diference between a voltage reference (usually a zener diode) and some fraction of the supply output voltage, derived from a voltage divider. One possible explanation of your problem is that the zener or the voltage divider components are changing value with temperature.

The fact that it starts low and stays low when you turn it off and on after a failure suggests a problem with the current overload circuit. Many supplies have a "foldback" current limit that takes the output voltage low when it thinks the current limit is exceeded. I didn't notice if yopu mentioned the load conditions for the failure.

it would be helpful if you had a schematic. The you could go through with a voltmeter and try to get more information.

Good luck,

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

4625. Re: Cascade QRP Kit Supplier Contact Details????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: eric@sierra.net
Message-ID: <45dbvu$g4o@jobes.sierra.net>
Source record: 110234

On Mon, 9 Oct 1995 15:05:30 LOCAL, Ron.Cruikshank@anu.edu.au (Ronald Cruikshank) wrote:

>Hello,
>Can anyone give me the contact details (address, phone etc) for the suppliers
>of the Cascade QRP Kit.
>Thanks, 73 VK1NRC.
>
>_____
>Ron Cruikshank

The Cascade was produced earlier this last year by the NorCal QRP Club. I am not sure if you can still get one from the "first" run. Orders had to be in by last June. I don't know what the future holds for the rig, but I have the following info for you and any others:

The Cascade was designed by John Liebenrood, K7RO. And only one run was planned. John may make them available again through a commercial company {See below}.
John Liebenrood, K7RO
1650 NW 130 AVE
PORTLAND, OR 97229

Two earlier 'projects' by the NorCal QRP Club are now produced by a new company started by Bob Dyer, KD6VIO. The company is known as:

Wilderness Radio
P.O. Box 734
Los Altos, CA 94023-0734
(415) 494-3806

They have the NorCal 40A and the multiband CW transceiver called the NorCal Sierra. Both are QRP kits. They may be offering the Cascade sometime.

The last resort would be to contact:

Jim Cates, WA6GER
3241 EASTWOOD RD
SACRAMENTO, CA 95821

Jim will probably know about the status of the Cascade. Also if anyone would like join the NorCal QRP Club and get the journal of the NorCal QRP Club known as 'QRPp' which discusses these radios, etc. and is published professionally four times a year, contact Jim at the above address. If you would like to call him you can E-mail me for the phone number.

Also, the NorCal QRP Club will meet and display all kinds of QRP
kits and equipment at:

Pacificon '95 Amateur Radio Convention
October 20, 21 & 22
Concord Hilton Hotel
Concord California
For more info: (510) 932-6125

Good luck!

73 de KE6IIY

>>>>>>>>>>>>>>>>>>>
Eric Hutchins KE6IIY
eric@sierra.net
>>>>>>>>>>>>>>>>>>>

4626. Impedance of AM car radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: MUENZLERK@uthscsa.edu
Message-ID: <01HW9OJIH78Y005E8U@uthscsa.edu>
Source record: 110235

In article <456mtm$g4u@usenet1.interramp.com>, mfranks@interramp.com
writes:
>Anyone know impedance of AM car radio antenna input ?, is it 50 ohms ?.
>I am designing a convertor and can not find info I need .

Generally the impedance of an AM/FM car radio is about 75 ohms.
Impedance of the "old" AM only radios (transistor) was also about 75
ohms. The really old (tube) AM radios had an impedance of between
75 and about 95 ohms.

Kevin, WB5RUE
muenzlerk@uthscsa.edu

4627. Re: easy keyer circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <45e0ur$qbe@unisql.unisql.com>
Source record: 110236

Radio Shack has a couple of experimenter's books, and I'm pretty sure
they ALL show how to use a 555 timer IC as a free-running oscillator.

This is about as easy as it gets. As I recall, you'll need the IC, a 9V
battery, a speaker, two resistors and two capacitors. Key the Vcc
for cheapest results.

They used to sell a straight key with an audio oscillator, as a Morse
practice set -- but I thought you might like to build something....

Jim N6OTQ
Standard disclaimer

4628. Re: Help w/ Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct10.135142.25653@ke4zv.atl.ga.us>
Source record: 110237

In article <tgoins.15.01146F35@accessone.com> tgoins@accessone.com (Todd Goins) writes:
>I am in need of some help diagnosing a problem with my Pyramid PS-50 power
>supply. It is an adjustable 12-15 volt supply capable of about 50 amps. It's
>about 4 years old.
>
>Here's the problem. When it's first turned on (after sitting for several hours
>) the voltage will rise to the proper level then immediately (10 - 15 seconds)
>start to drop off. It will eventually platuea at about 7 or 8 volts. If you
>turn it off and then cycle it back on immediately then the voltage never does
>rise to a normal level, it just starts low and stays low.
>
>Here's what I have tried as fixes. It has a 732 voltage regulator chip and I
>have replaced it. No change. I also changed the 2N3055 regulating transistor
>which seems to somehow control the other six 2N3771 power transistors. No
>change.
>
>I am at loss about what to do next. Could it possibly be a filter capacitor (
>five of them 10,000uf / 25 v)?? Or maybe the transformer? Or maybe one of the
>six (2N3771) power transistors? All of the parts are available through Digi-K
>ey and I am willing to replace them myself, but I don't want to have to take
>the shotgun approach and replace everything until it starts working. I'd
>prefer to have a more educated guess.

There's no need to guess, and there's no need for shotgunning.
Troubleshoot the supply, find the defective component, and
replace it. Take a systematic approach. A divide and conquer
binary search is a good plan. First take a voltage reading
across the filter capacitors. It should be between 16 and
18 volts with no more than a volt of AC ripple (should be
less). If that's Ok, then the problem is in the regulator
circuit.

If the voltage across the filters is low, or has excessive ripple,
then the problem is either an open filter, a bad rectifier diode,
or a bad transformer. Read the AC voltage across the transformer
secondary. It should be 14-16 volts AC or a little more. If it's
less, then disconnect the wires going to the rectifier bridge
and measure the secondary again. If it's still low, check the
voltage across the primary (careful 110 volts AC here). If that's
Ok, then the transformer is bad. If the 110 is low, look for
an ohmic fuse or switch in the primary circuit.

Now lets assume that the transformer secondary voltage is good
when disconnected from the bridge. The most likely culprit is
a shorted bridge diode. Check them with the ohmmeter. You should

measure a good front to back ratio on the diode test scale of
a DVM, or see a marked difference in forward and backward ohms
readings with an analog meter on a low ohms scale. If you find
a diode that reads the same both ways, it's probably bad, but
you have to take it out of circuit to be sure. If it reads
the same both ways out of circuit, it *is* bad. (Be sure you
know how to identify the leads of a diode bridge package so
that you really are reading the individual diodes.)

Ok, now lets assume you had a good secondary voltage reading
and the diode bridge is good. If the voltage across the filter
capacitors reads low, and/or has lots of AC ripple, then a filter
capacitor is probably bad. Power supply filters *can* fail shorted,
but you'll usually notice that from the spewed electrolyte and
the bad smell, so we'll assume the filter has failed open.

Here's a quick and nasty way to test a filter capacitor. Disconnect
the load side from the capacitor, turn on the supply and let the
capacitor charge (less than a second should be long enough), turn
off the supply, and short the capacitor with a clip lead or a
screwdriver (directly across its terminals, *not* to "ground".
A spark should jump. If it doesn't, the capacitor is probably open.
(Note: there are *lots* of caveats to this quick and dirty test,
but it should be safe enough in this case at this voltage. Don't do
stupid things like trying to short the filter with the power supply
still on, and that spark should be *hot*, so don't burn yourself,
short it while holding only an *insulated* part of the tool.)

The preferred method is to use a capacitor tester, or to use judgement
and experience with an analog ohmmeter, looking for a "kick" after
you've charged the capacitor with the meter in one direction and
quickly reversed the leads of the meter. It takes experience to know
how much "kick" signifies a good capacitor. The spark test is almost
surefire.

If there are several capacitors in parallel as there are here, you'll
have to test each one separately, *out of circuit*, otherwise you won't
know which one(s) is/are at fault.

Ok, lets assume you found a good voltage at the filters, so now
you know the problem is in the regulator circuit. This is a simple
pass regulator, so the base drive to the 2N3771s should be about
0.6 volts higher than the desired output voltage. Measure between
supply negative and the base of any of the 2N3771s and see if you've
got 14.4 volts at the transistor base. Since you've already replaced
the voltage regulator IC, and since you've swapped out the 2N3055
driver transistor, we can assume that they aren't a problem. So
if you get a low base voltage reading on the 2N3771s you need to
back up and look at the reference voltage to the IC, you may have
a bad resistor in the reference circuit, or one of the little
electrolytics in that circuit has gone South. If you get here,
come back for more help.

Ok, lets assume that you had good base drive voltage on the 2N3771s but that the output voltage under load is still low. That probably means one or more of the 2N3771s is bad. Pull each out of circuit and check it. You can do that with a transistor checker, or with an analog ohmmeter, or a DVM with a diode test scale. If you don't know how to test a transistor with an ohmmeter, speak up, and we'll tell you how.

If all the transistors check good, check their current equalizing resistors. One or more may be open.

At this point, you should have found the bad component, and all you have left to do is replace it.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4629. Re: easy keyer circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct10.140103.25755@ke4zv.atl.ga.us>
Source record: 110238

In article <Pine.A32.3.91.951009163344.20456A-100000@storm.atms.purdue.edu> BRETSKI <bap@storm.atms.purdue.edu> writes:
>
>Surely there is an easy circuit I can build
>to key 700 Hz tones to a speaker.
>I want soemthing real simple to practice sending code.

A 555 timer chip running in astable mode will get you the tone, though it may be a touch raspy. Or you could wire up a Twin-Tee transistor audio oscillator if you are a purist. Circuits in the Handbook. But if you aren't so picky about the tone frequency, then just go to Rat Shack and get a piezo buzzer. Key the B+ and instant code practice oscillator.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4630. Hallicrafter S-108

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: jaggi@cvrc.med.upenn.edu
Message-ID: <45e4q2$159@netnews.upenn.edu>
Source record: 110239

Hi folks,

I am new at this and almost to embarassed to ask the question. I've gotten a Hallicrafter S-108 at a swap meet recently and was was wondering if somebody still has manual / schematics of this radio. If so, please send me e-mail.

Thanks,

JJ

4631. H.R.T

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: 100271.1747., <>
Message-ID: <45emvm$9sh@dub-news-svc-3.compuserve.com>
Source record: 110240

Is the on-line version produced by yourselves?
WIll take a look.
regards, Mike G4GER (subscriber)

4632. Re: Help w/ Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: jgoecks <jgoecks@pacifier.com>
Message-ID: <45efmr$nbo@news.pacifier.com>
Source record: 110241

tgoins@accessone.com (Todd Goins) wrote:
>
> I am in need of some help diagnosing a problem with my Pyramid PS-50 power
> supply. It is an adjustable 12-15 volt supply capable of about 50 amps. It's
> about 4 years old.
>
> Here's the problem. When it's first turned on (after sitting for several hours
>) the voltage will rise to the proper level then immediately (10 - 15 seconds)
> start to drop off. It will eventually platuea at about 7 or 8 volts. If you
> turn it off and then cycle it back on immediately then the voltage never does
> rise to a normal level, it just starts low and stays low.
>
> Here's what I have tried as fixes. It has a 732 voltage regulator chip and I
> have replaced it. No change. I also changed the 2N3055 regulating transistor
> which seems to somehow control the other six 2N3771 power transistors. No
> change.
>
snip
> Todd Goins (NOMZT)
> Seattle
>
> tgoins@accessone.com
You can poke around with a volt meter to help isolate the problem
(as long as there is no smoke pouring out). To see if it is the
transformer, measure the stored voltage on the secondary filter caps
and make sure they are above 15V.

If something is getting very hot, it may be sucking the current out.
You can usually hear buzzing sounds if a lot of current is going
somewhere.

Check the base voltage of the pass transistors and see if it is in
the 12.5V+ range. If it is too low, then the drive to it is suspect.
I don't know how this PS works, but it sounds like a linear regulator
that uses a 3 terminal regulator to control pass transistors. If too
much current is taken from the 3 terminal regulator, it will shut down
in a way similar to what you describe.

Hope this helps,

Jim Goecks

4633. JOTA HELP!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: Bobc@woodhill.demon.co.uk
Message-ID: <813344571.26513@woodhill.demon.co.uk>
Source record: 110242

Can anyone please help me?

On the weekend of October 21st the Scout movement is involved in the Jamboree On The Air (JOTA). We at the Phoenix Venture Unit (Kenton & Kingsbury District) North West London, had arranged for a licenced radio operater an a few of his collegues to use our Unit Den as a base for a radio station. We have made all the arrangements for masts and wires to be strung for aerials telephone lines etc. but he has just been given the completion date for moving house and it is that weekend, therefore we are without a licenced operator. Is there anybody or a radio group that would like a change of venue with opportunities for new contacts that would be willing to help us out, time is of the essence with regard to arrangements and licences etc. If you can help or require any further details please reply asap.

Bobc@woodhill.demon.co.uk
Bobc@roverden.demon.co.uk
Robert.Carter@dos.us-state.gov

4634. Re: Mods to HR2600!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: vk3jma@ozemail.COM.AU
Message-ID: <199510101411.AAA12923@oznet02.ozemail.com.au>
Source record: 110243

While reading Ham-Homebrew I noticed.....

>==========DAVID J. DICENSO, 9/29/95==========
>
>
>Anybody got a mod for the HR2600 that'll let me reduce power
>below the
>accepted QRP 5 watt level?
>
>I wrote Uniden, but got a rather impolite nasty-gram that implied
>serious repercussions if I were to modify my radio in any way...
>
>Same punishment as tearing that little tag of your matterss, I
>guess.
>
>Thanks for any suggestions!
>
>- Dave WB1CDG / 7J6CCH
>
>

Tell 'em to shove it! You own the thing and experimentation is what Ham Radio is all about. I had a HR2510 and I remember nothing about a warning about repercussions if working/modifying on the radio, apart of course about out of band transmission!

73

Mark

Mark Aitken Amateur Radio Operator VK3JMA

AX25net : VK3JMA @ VK3BLW.#MEL.VIC.AUS.OC
AX25ip : vk3jma@44.136.73.96
Fidonet : Mark Aitken @ 3:635/502
Internet: vk3jma@ozemail.com.au

4635. Re: HELP!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <45esbnINN31r@sepia.wv.tek.com>
Source record: 110244

In article <45aql3$3nu@newsbf02.news.aol.com> lordwisp@aol.com (Lord Wisp) writes:
>I am trying to built a linear for my 10 meter radio but cannot find any
>schematics... Can anyone help me or email me with schematics and parts
>lists..
>and where to get them,,, Thanks!!!
>

Gee, no real name posted, no call sign, and aol account (not that that
means anything) and for 10 meter (or was that 11 meter?)
No thanks...
I like helping folks when I can, I just kind of like to know who the
other person is before I do....

Ed Burress
KC7GFX

4636. Re: Impedance of AM car radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <45efhr$oua@newsbf02.news.aol.com>
Source record: 110245

In article <01HW9OJIH78Y005E8U@uthscsa.edu>, MUENZLERK@uthscsa.edu
(Muenzler, Kevin) writes:

>
>Generally the impedance of an AM/FM car radio is about 75 ohms.
>Impedance of the "old" AM only radios (transistor) was also about 75
>ohms. The really old (tube) AM radios had an impedance of between
>75 and about 95 ohms.
>
>Kevin, WB5RUE

What is the source of your data Kevin? That's contrary to everything I've
ever heard.

73 Tom

4637. Re: easy keyer circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-10 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDG93oF.371@netcom.com>
Source record: 110246

BRETSKI (bap@storm.atms.purdue.edu) wrote:
: Surely there is an easy circuit I can build
: to key 700 Hz tones to a speaker.
: I want soemthing real simple to practice sending code.
: BRET A. PENNINGTON / COMPUTER TECHNICIAN /EARTH AND ATMOSPHERIC SCIENCES

If you are really lazy, why not set your digital volt meter to its
continuity function and attach the probes to your key? Beep, beep.

Thomas
KI4N

4638. ** FLEA at MIT ** Sunday 15 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-11 00:00:00 UTC
From: w1gsl@ATHENA.MIT.EDU
Message-ID: <45g8pn$b8k@senator-bedfellow.MIT.EDU>
Source record: 110247
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics,ne.forsale,ne.general,rec.radio.amateur.homebrew

This comming Sunday the seasons last and usually bigest....

********* $1 buyers discount with hardcopy of this notice ********

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Harvard Wireless Club (W1AF)

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****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

4639. Cooling A 3-1000 Tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-11 00:00:00 UTC
From: dsnowden@ccd.harris.com
Message-ID: <45h3tg$7qil@rs2.ccd.harris.com>
Source record: 110248

Has anyone seen successful application of muffin fans as a cooling source for the 3-1000 ? I realize that one might need a larger size fan. Since the 3-500Z tube likes this method and the 3-1000 is just a bigger version I thought the same methods would work - that is raising the socket slightly to cool the pins, etc. Blowers take a lot of room...

Doug N4IJ dsnowden@ccd.harris.com

--
Doug Snowden
dsnowden@ccd.harris.com

4640. Re: H.R.T

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-11 00:00:00 UTC
From: Steve Lorek <slorek@tcp.co.uk>
Message-ID: <307BFCC6.537D@tcp.co.uk>
Source record: 110249

Er, yes, we are producing an on-line version of Ham Radio today - but
where did you find out about the address? You shouldn't know about it yet!

4641. Re: Cascade QRP Kit Supplier Contact Details????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-11 00:00:00 UTC
From: erics@cruzio.com
Message-ID: <DG9LyF.G7o@cruzio.com>
Source record: 110250

Contact Bob, KD6VIO, at Wilderness Radio. PO BOX 734, Los Altos, CA 94023-0734.

Its a great rig, as are the others that Wayne, N6KR has designed.

Wilderness also has the NorCal40a Rig and the KC1 Keyer / Freq Counter. (The KC1 reads rig freq out in morse code!)

Eric WA6HHQ erics@cruzio.com

4642. Re: HELP!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-11 00:00:00 UTC
From: DICENSODJ%DFL@pcmail.usafa.af.mil
Message-ID: <45glna$3qs@usafa2.usafa.af.mil>
Source record: 110251

lordwisp@aol.com (Lord Wisp) wrote:

>I am trying to built a linear for my 10 meter radio but cannot find any
>schematics... Can anyone help me or email me with schematics and parts
>lists..
>and where to get them,,, Thanks!!!

No! Don't E-Mail!!! Post for other inquiring hams who want to know!!!
(I've got an old homebrew 10m tube-type exciter that I'd like to beef
up, and a converted CB (now 10m) radio that needs oompf, too!)

Post 'em for the rest of us!

Thanks.
73,
Dave WB1CDG / 7J6CCH

4643. Re: HELP!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-11 00:00:00 UTC
From: ssampson@icon.net
Message-ID: <ssampson.141.0014D366@icon.net>
Source record: 110252

In article <45ga8p$qc2@vivanews.vivanet.com> mulveyr@vivanet.vivanet.com (Rich Mulvey) writes:
>From: mulveyr@vivanet.vivanet.com (Rich Mulvey)
>Subject: Re: HELP!!!!
>Date: 11 Oct 1995 11:36:57 GMT

>Lord Wisp (lordwisp@aol.com) wrote:
>: I am trying to built a linear for my 10 meter radio but cannot find any
>: schematics... Can anyone help me or email me with schematics and parts
>: lists..
>: and where to get them,,, Thanks!!!

> Was that 10M or 11M you were interested in?

>:-)

There's a nice solid state amplifier in the 1986 ARRL Handbook. I have a Truckers AMP that is almost identical, and used it to get my 10m rig into the 100 watt range. Should be easy to duplicate.

But if you're interested I have a nice tube amp that will fit the bill, I think it's a 100 watts out for 4 watts in. Now that I have a real HF rig, I don't need this converter stuff :-)

4644. Re: FM Transmitter Schematic Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-11 00:00:00 UTC
From: ssampson@icon.net
Message-ID: <ssampson.142.00169C90@icon.net>
Source record: 110253

In article <DGB1rs.MCp.0.net@indra.com> rainman@indra.com (David G Cole) writes:

>I'm looking for a schematic to build a legal, low-power, FM broadcast band
>(88-108 MHZ) transmitter. The transmitter should be capable of high-quality
>audio, approaching 20Hz -20Khz with low distortion, and preferably stereo.
>While I'm on the subject, can someone enlighten me about what is and is not
>legal to transmit in the FM band in the U.S.?

Most of the chip Stereo transmitters don't have good audio quality. You
should be able to transmit anything you like. You can even transmit stereo
in the ham bands if you want. The city library should be visited to learn all
the regulations under Part 15. It mostly regulates power, not content. You
can't cause interference of course. If you decide to broadcast phone sex,
then that probably wouldn't be allowed. There are limits to everything.

I don't know of any schematics, but you probably want to start with the RF
section and work back. You need a very linear, high bandwidth capable
transistor. Otherwise all that quality audio before it goes right into the
dumpster.

Anyone know of a good choice?

4645. Re: Crystals in cordless phone

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-12 00:00:00 UTC
From: mgarrett@prairienet.org
Message-ID: <45hmet$3em@vixen.cso.uiuc.edu>
Source record: 110254

In a previous article, calhoun@gorge.net (Dave Calhoun) says:

>How do you retune a pilot tone? Thanks for the reply,
>dave

Dave:
First of all, make sure that everything else is working on the phone before you try this. Confirm that the phone is transmitting on both the base and handset. This can be done most easily with the help of a programmable scanner.
Second, confirm that the recievers are working on both the base and handset. Best thing to do there is to use a scope and go in on the IF/ decoder IC and probe around for white noise on the hand held portion while the base has no power applied to it and the base when the hand held is shut off. Then, turn on the unit when you find it and see if you see the white noise quiet down and possible look for audio when either the handset is talked into on the base or on the handset when the page or intercom button is pressed. If you dont have a page or intercom on the base unit, then look for quieting on the handset and leave it at that.
If you have all of this and your phone does not work, then and only then you may need to adjust the pilot tone. If you adjust anything in a phone be sure to note the position on the pots inside either the base or handset. Go thru the phone and determine what does what. For examble in the handset there will be a pot for deviation and earphone volume as well in some phones for compression. If you have one of the secure phones then there may be more adjustments (I have yet to run into one of these). Once you feel that you have found the adjustment pot for the pilot, say in the handest, note where it is and adjust with the base unit powered up and connected to the phone line, antenna fully collapsed on the handset and base and at least 10 feet away from the base but not more than 50 feet. Adjust slowly and see if you can bring up a dialtone. If you cannot, reset the pot back where it was and move on.
Now Dave I am assuming that you know a little bit about transmitters and recievers and that you know a pot from a coil. If you have a schematic great but you probably don't. This takes a lot of thought in understanding some of the workings of the cordless phone and where some of the controls are in one of these units.
I have mostly experimented with cordless phones including a whole boxfull that I recently picked up at a hamfest. I do not fix cordless phones for a living and just find them interesting devices so I am not a expert.
If you wish to write me direct, feel free to do so. I posted this so that others might be interested and post a reply on this. I might have missed something (very possible) or have a hint that may aid you in repair.
Good luck Dave
>

--
Mark Garrett mgarrett@prairienet.org
KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM

4646. Re: HELP!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-12 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <45jdq9$r6k@unisql.unisql.com>
Source record: 110255

Ham Radio published a short article on using the 4CX250-series
tubes withOUT forced air cooling. Used a loctal socket
instead of a Eimac mondo-dollar socket. Sep. 76?? I don't have
the reference handy, but I have a photocopy of the article.

Seems this tube works nicely to about 80 watts plate dissipation without
requiring any forced air cooling, just plenty of room for convection.
I don't recall if this was grounded-grid, but it wanted to see about
5 watts input for about 100 watts out on SSB. They tested on 20m,
but a 10m network for this tube is trivial.

Power supply was from an old TV set transformer and gave about 800 V Ep
and provided filament for the final as well. Pi network output,
untuned input. It was so simple I don't know why it never made
the Handbook -- oh, wait, maybe I just figured it out.

The best part of this amp was that if you used the right socket and chimney
you could provide forced-air cooling, and QRO by simply providing a
hotter plate supply.

Jim N6OTQ

4647. "SINADDER" signal+noise+distortion meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-12 00:00:00 UTC
From: P.Dalliessi@massey.ac.nz
Message-ID: <45ju7l$f31@cc-server9.massey.ac.nz>
Source record: 110256

Does anyone know where I can find the design for a s/n+dist. measuring instrument?

Such a device was made by a US company many years ago, and named a "SINADDER3".

There must be any amount of designs out there somewhere. Any help would be greatly appreciated.

Thanks in advance.

Peter Dalliessi, ZL4MS,
Massey University,
Palmerston North, New Zealand.

4648. Re: FM Transmitter Schematic Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-12 00:00:00 UTC
From: ssampson@icon.net
Message-ID: <ssampson.146.0015ACEF@icon.net>
Source record: 110257

In article <45kcp6$haa@nntp.Stanford.EDU> stevem@w6yx.stanford.edu (Steve Muther) writes:
>In article <ssampson.142.00169C90@icon.net> ssampson@icon.net (Steve Sampson)
writes:
>>In article <DGB1rs.MCp.0.net@indra.com> rainman@indra.com (David G
Cole) writes:>>
>>>I'm looking for a schematic to build a legal, low-power, FM broadcast band
>>>(88-108 MHZ) transmitter. The transmitter should be capable of high-quality
>>>audio, approaching 20Hz -20Khz with low distortion, and preferably stereo.
>>>While I'm on the subject, can someone enlighten me about what is and is not
>>>legal to transmit in the FM band in the U.S.?
>>
>>Most of the chip Stereo transmitters don't have good audio quality. You
>>should be able to transmit anything you like. You can even transmit stereo
>>in the ham bands if you want. The city library should be visited to learn all
>>the regulations under Part 15. It mostly regulates power, not content. You
>>can't cause interference of course. If you decide to broadcast phone sex,
>>then that probably wouldn't be allowed. There are limits to everything.
>>
>>I don't know of any schematics, but you probably want to start with the RF
>>section and work back. You need a very linear, high bandwidth capable
>>transistor. Otherwise all that quality audio before it goes right into the
>>dumpster.
>>
>>Anyone know of a good choice?
>>

>The Ramsey Kit Model FM10A does what you need. The price is about $35.
>for the board and parts.

>I am not sure what the comments about linearity are all about. We are
>talking about an FM transmitter here - unless you are talking about
>voltage vs. frequency linearity of the FM modulator. Amplitude linearity
>is not a factor for the oscillator transistor.

I was thinking about the modulator. The linearity of the deviation. Instead
of folding at the edges like the Ramsey kit does.

4649. Help! Need Silver Plated SO-239

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-12 00:00:00 UTC
From: lager@primenet.com
Message-ID: <45je39$3jj@nnrp2.nfs.primenet.com>
Source record: 110258

I want to build the 800MHz antenna profiled in the November, 1995 Popular Electronics but cannot find a source for SILVER plated panel mount SO-239 connectors. I have nickel plated ones available but the plans call for silve plated components. I need a source. Help!!!

--

Home Page: http://www.primenet.com/~lager

4650. Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-12 00:00:00 UTC
From: lager@primenet.com
Message-ID: <45jjuu$5cd@nnrp2.nfs.primenet.com>
Source record: 110259
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Ok, here's a newbie question for today.

The November 1995 Popular Electronics has a pretty neat project I want to build. The project is a 1/4 wave ground plane antenna. The main component in the antenna is an SO-239 panel mount connector. The author of the article claims that the connector must be silver plated as nickel plating will not work. Why? I am having a devil of a time finding silver plated SO-239 connectors in Phoenix, but can get nickel plated for $5.00 at Radio Shack. The author does not explain why he feels that only silver will work and I have no clue. Thanks in advance for any help.

--

Home Page: http://www.primenet.com/~lager

4651. 8873 tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-12 00:00:00 UTC
From: axxon@third-wave.com
Message-ID: <45hogp$lud@news.third-wave.com>
Source record: 110260

Any one have a 8873 a less than poor house price...even used!
If i can locate one I will have to punch a hole in the back of
this old SB230 and add air I guess.....Thanks Gary ...K3SJX

4652. Unknown tube: CX1622 by EEV

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: SCHOEN@REZE-1.RZ.RWTH-AACHEN.DE
Message-ID: <45m9q6$dk4@news.rwth-aachen.de>
Source record: 110123
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

I've just found a impressive looking vacuum tube named CX1622
manufactured by EEV. Does anyone know the original purpose of this
device? EEV?

Elektronik Gruppe Aachen e.V.
Klaus Sch&#65533;nhoff Tel: 0241-23390
SCHOEN@REZE-1.RZ.RWTH-AACHEN.DE

4653. Re: Help w/ Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <b94_9510131330@mba.mba.org>
Source record: 110124

tgoins@accessone.com (Todd Goins) is trying to fix
a commercial power supply that uses a 723 voltage
regulator and a bunch of pass transistors.

jgoecks <jgoecks@pacifier.com> responded with some help
but added that "it sounds like a linear regulator that
uses a 3 terminal regulator to control pass transistors".

I just want to point out that the 723 IS NOT a 3-terminal
regulator. The 723 is actually a much more complicated
voltage regulator IC. It comes in a TO-5 package with10
pins, or a 14pin DIP. I seem to recall that it predates
3-terminal regulators. It is a quite common IC; probably
made by many different manufacturers. I know National made
it, and I would assume they still do. By itself, it can
supply only 150mA of output current. It was intended for use
with an external pass transistor. Probably in the very early
days it saw use as a low current regulator without pass transistor,
but ever since 3-terminal regulators hit the scene there's no
sense using the 723 for low current applications since it
requires external parts. On the other hand, since you can
do things with those external components to change it's operation
(there's little that you can do to a 3-terminal regulator), the
723 can be used for quite a few different things.

It is worth having the data sheet for the 723, since you may
come across it in circuits. Certainly if you are servicing a supply
that has one, it's worth getting the data sheet. If you don't have
a schematic, it's a whole lot easier to figure out the circuit by
comparing the circuit on the board with the "standards" in the data
sheet than to trace out the circuit on the board and then try to
figure out how it works.

Michael VE2BVW
--
| InterNet: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

4654. Motorola Engineering Brief Help Needed!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: jason goldring <jason.goldring@sheridanc.on.ca>
Message-ID: <DGEJEB.EH1@eclipse.sheridanc.on.ca>
Source record: 110125

I recently aquired Motorola Engineering Brief number 63, which is a 140 watt 2-30 Mhz Broadband RF Amplifier, which is built around the MRF454's.

After waiting patiently to get a hold of an engineer at Motorola regarding the substitution of RF devices in this circuit, I was told that the MRF455 could be substituted for the MRF454. (The 454 is a hard part to get around here, but the 455 is readily available.)

My problem is that when I connect power to the unit, the transistors get hot very quickly, and my meter shows a current draw of 11 amps. I have gone over my wiring several times, and I have tested every single part for defects, and everything is ok. There are no shorts to ground. According to the engineering brief, the unit is supposed to draw only 500 ma. max per transistor during idle periods, and I am wondering if something has to be changed on the circuit board to allow the 455's to run properly, rather than drawing tons of current like it does now. Does anyone have any ideas? I get a feeling it has something to do with the bias resistor, which is a 33 ohm 5 watt wirewound unit, which feeds directly to the base of both transistors. Maybe the value has to be changed??

Any information would be greatly appreciated!!.

4655. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <45mgk5$4dg@hpscit.sc.hp.com>
Source record: 110126

In article <8007-326281702@humnet.humberc.on.ca>,
<hduff@humnet.humberc.on.ca> wrote:
>
>
>
>I'm in the process of designing a PLL/VCO to eliminate the need for
>crystals on a bunch of lowband GE mobile rigs that my club aquired for
>use on 6 meters.
>I plan on using the serial MC145157 along with a PIC or 87C750 single
>chip micro and a VCO made up of discrete parts.
>
>I'd like to hear from some experienced designers of LPF/VCO circuits
>for your suggestions/comments.
>
>Thanks !
>
>Hugh Duff VA3TO Toronto hduff@humnet.humbrec.on.ca
>
>
>---
> • NFX v1.3 [000]
>
>--
>---
> HumberNet LSS (Learning Support System) - Humber College, Toronto
> "Tomorrow's communication and learning environment, today"
> Visit our Website at http://humnet.humberc.on.ca/
>

Trying to replace a multiplied-up crystal oscillator with a simple
minded synthesizer consisting of a '157 and VCO is asking for trouble
with spurious sidebands. Unless you really need a lot frequency
agility, you would be far better off negotiating a group purchase
of crystals by the club. This is one of those projects where anyone
who knows enough about the technology to know what is involved wouldn't
want to do it. (BTW, if you "want to learn about synthesizers", pick
an easier neophyte project).

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4656. Re: Motorola Engineering Brief Help Needed!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: RLS@psu.edu
Message-ID: <45mkvu$vpg@hearst.cac.psu.edu>
Source record: 110127

In <DGEJEB.EH1@eclipse.sheridanc.on.ca>, jason goldring <jason.goldring@sheridanc.on.ca> writes:
>I recently aquired Motorola Engineering Brief number 63, which
>is a 140 watt 2-30 Mhz Broadband RF Amplifier, which is built
>around the MRF454's.
>
>After waiting patiently to get a hold of an engineer at Motorola
>regarding the substitution of RF devices in this circuit, I
>was told that the MRF455 could be substituted for the MRF454.
>(The 454 is a hard part to get around here, but the 455 is
>readily available.)
>
>My problem is that when I connect power to the unit, the
>transistors get hot very quickly, and my meter shows a current
>draw of 11 amps. I have gone over my wiring several times,
>and I have tested every single part for defects, and everything
>is ok. There are no shorts to ground. According to the engineering
>brief, the unit is supposed to draw only 500 ma. max per
>transistor during idle periods, and I am wondering if something
>has to be changed on the circuit board to allow the 455's to
>run properly, rather than drawing tons of current like it does
>now. Does anyone have any ideas? I get a feeling it has
>something to do with the bias resistor, which is a 33 ohm 5 watt
>wirewound unit, which feeds directly to the base of both
>transistors. Maybe the value has to be changed??
>
>Any information would be greatly appreciated!!.
>
If you're using a wirewound bias resistor, I hope it is well isolated for RF from the rest of the circuit, otherwise the inductance may be causing a parasitic oscillation, which could explain the high current!

Robert L. Spooner Applied Research Laboratory
(814) 863-4120 PO Box 30
RLS19@PSUVM.PSU.EDU State College, PA 16804-0030

4657. Re: Motorola Engineering Brief Help Needed!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <45mmf8$b70@unisql.unisql.com>
Source record: 110128

Replace the 33 ohm bias resistor with a NON-INDUCTIVE unit (what the
other poster said).

I built one of these amps some years ago and used a 2-watt carbon resistor,
raised about 3/4 inch off the PCB. It worked fine.

Although it probably wasn't necessary, I added a couple of slip-on round
aluminum heatsinks, w/ heatsink compound, on the body of the resistor.
They were loose enough to slip and slide, so I doubt they gave any added heat dissipation.

The resistor never discolored, so it was well within its power range.

This is the cheap way. I think Vishay now owns Carborundum, who makes
leaded non-inductive resistors. You can also get planar thick-film
non-inductive resistors (they look like a TO-220 transistor with 2 leads)
but I don't have a source. Both these are expensive.

In a pinch you could substitute a bunch of paralleled 1/2 W resistors.
Since you're building a CB lee-nyar amplifier, I'll leave the determination
of values to you.

good luck, you're on the right track.

Jim N6OTQ

4658. Re: Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: wdr@world.std.com
Message-ID: <DGEqq6.7LE@world.std.com>
Source record: 110129
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <1995Oct13.172040.12712@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
> >>The main component
> >>in the antenna is an SO-239 panel mount connector. The author of the
> >>article claims that the connector must be silver plated as nickel plating
> >>will not work. Why? I

> Actually, the author is probably concerned that the nickel plated
> chassis fitting won't take solder well in the flange holes (for

I've seen other versions of the article (the same antenna plan has been published in *every* electronics magazine I've looked at sometime in the last 6 months), the "author" recommends little nuts & bolts through the flange holes to attach the ground-plane elements. Gary's suggestion of scraping down to brass sounds better if you don't plan to give it routine maintenance...

The Radioshack antenna book has a tri-band version of this groundplane; it hangs two L-shaped hooks on the main radiator to tune it to two other bands (one at the base and another at a "node" up the main radiator).

I was thinking of trying one of these but replacing the ground-radials with a miniature actual ground plane. I've got a bulkhead BNC feedthrough that I'm going to install in a pie-plate. The pie-plat won't be a tuned ground-wire, but it also won't poke me & will provide better near-field shielding: I'm going to mount it on a pack-frame (with an adjustable lift) for either/both/one-each my HT and cell-phone. I got the idea from someone who said they used a magmount rubber-ducky antenna on the dinning room table with a pie-plate.

--
Bill Ricker, The Swamp-Castle Press "The freedom of the press belongs
wdr@world.std.com N1VUX to those who own one."--A.J.Lieberman

4659. Re: Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: ranecurl@engin.umich.edu
Message-ID: <45mpir$adb@srvr1.engin.umich.edu>
Source record: 110130
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <1995Oct13.172040.12712@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
[...snips...]
>However, if all you can find is nickel plated fittings, all is not
>lost. Just file that blankety-blank plating off and the brass underneath
>will take solder easily.

I take a 100W iron and acid flux to the nickel plated connectors and
tin them in advance, where I want to solder them later. This works
quite well with plugs too - tin the whole interior where the braid will be
soldered. You might want to connect the mating fitting to hold the
pin/socket in place, if the dielectric is not teflon. [I have another
trick for plugs, but this isn't the place...]

Rane Curl N8REG

4660. Looking to hear from Hams Who Built &3 VLF Calibration Outfit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: butch@maestro.maestro.com
Message-ID: <DGEtM2.Bxu@maestro.maestro.com>
Source record: 110131

Hi,

Last year 73 Magazine published a series of articles on building a complete setup for calibration; receiver, comparator and a oven based xtal calibrator. So if you have put together this setup, please email me and let me know how it works.

allan

WA2RZQ

4661. Re: Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <45ljcm$odc@info4.rus.uni-stuttgart.de>
Source record: 110132
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

>The main component
>in the antenna is an SO-239 panel mount connector. The author of the
>article claims that the connector must be silver plated as nickel plating
>will not work. Why? I

Hi,

Quite simply the answer is, that the author does not know, what he is talking about. Surely the silver plated connector has less loss, but the major concern is the plug that will mate with the connector. Unless you know pretty well how to do it, there is only little chance to mount the cable to the plug without substantial losses.

My suggestion is to ise a N-typt connector if the cable is thick (RG213) or a BNC connector, if the cable is thinn enough.

73, Moritz DL5UH

4662. Looking to hear from Hams Who Built &3 VLF Calibration Outfi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: <>
Message-ID: <f61_9510140903@panda.org>
Source record: 110133

From: butch@maestro.maestro.com (' ALLAN W. BART)
Subject: Looking to hear from Hams Who Built &3 VLF Calibration Outfit
Organization: Maestro Technologies, Inc.

Hi,

Last year 73 Magazine published a series of articles on building a
complete setup for calibration; receiver, comparator and a oven based
xtal calibrator. So if you have put together this setup, please email me
and let me know how it works.

allan

WA2RZQ
--
|Fidonet: ' Allan W. Bart 1:330/204.1
|Internet: '.Allan.W..Bart@'.Allan.W..Bart@*user@*site.*domain.org.org
|
| Standard disclaimer: The views of this user are strictly his own.

4663. TS 520SE HALF POWER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: medlas@mle.ultranet.com
Message-ID: <medlas.1.0068ED8B@mle.ultranet.com>
Source record: 110134

My TS-520SE has dropped to half power output. I,m still able to make DX contacts, though. Is it possible that one final is no good or do they have to work as a pair? .

4664. Re: FM Transmitter Schematic Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <45kcp6$haa@nntp.Stanford.EDU>
Source record: 110261

In article <ssampson.142.00169C90@icon.net> ssampson@icon.net (Steve Sampson) writes:
>In article <DGB1rs.MCp.0.net@indra.com> rainman@indra.com (David G Cole) writes:
>
>>I'm looking for a schematic to build a legal, low-power, FM broadcast band
>>(88-108 MHZ) transmitter. The transmitter should be capable of high-quality
>>audio, approaching 20Hz -20Khz with low distortion, and preferably stereo.
>>While I'm on the subject, can someone enlighten me about what is and is not
>>legal to transmit in the FM band in the U.S.?
>
>Most of the chip Stereo transmitters don't have good audio quality. You
>should be able to transmit anything you like. You can even transmit stereo
>in the ham bands if you want. The city library should be visited to learn all
>the regulations under Part 15. It mostly regulates power, not content. You
>can't cause interference of course. If you decide to broadcast phone sex,
>then that probably wouldn't be allowed. There are limits to everything.
>
>I don't know of any schematics, but you probably want to start with the RF
>section and work back. You need a very linear, high bandwidth capable
>transistor. Otherwise all that quality audio before it goes right into the
>dumpster.
>
>Anyone know of a good choice?
>

The Ramsey Kit Model FM10A does what you need. The price is about $35.
for the board and parts.

I am not sure what the comments about linearity are all about. We are
talking about an FM transmitter here - unless you are talking about
voltage vs. frequency linearity of the FM modulator. Amplitude linearity
is not a factor for the oscillator transistor.

Steve Muther

WF6R

stevem@w6yx.stanford.edu

4665. QEX and QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: "Robert J. Schneider" <schneide@wrds1.urz.uni-wuppertal.de>
Message-ID: <307E28F9.41C6@wrds1.urz.uni-wuppertal.de>
Source record: 110262

Hi.
Did the September issue of QEX ond the October issue of QST
arrive somewhere?

Regards
Robert Schneider DB1JJ
schneide@wrds1.urz.uni-wuppertal.de

4666. Re: Impedance of AM car radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <45ld32$kbu@newsbf02.news.aol.com>
Source record: 110263

In article <45h55u$kq@netnews.upenn.edu>, depolo@red.seas.upenn.edu (Jeff DePolo) writes:

>
>I've seen 50 ohm, 75 ohm, 93 ohm, and other cable impedances on car
>broadcast antennas. I'm not sure there is a standard. Like Mark
>said, it really doesn't matter. It's just assumed to be very high-Z
>for AM. Consider the length of the coax compared the wavelength of
>broadcast band AM and you'll see that the type of coax is really
>meaningless as is the short antenna. Just assume very high Z at
>the input terminals.
>
>
>
>--

I'll disagree with a little bit of that. The capacitance per foot of the feedline MUST be low, because the antenna is so short. So the feedline length isn't as important as the total feedline capacitance, since it shunts the antenna. That's why in the days when AM reception was paramount, the feeder had a single teeny tiny hair like conductor in a mostly air insulated cable.

An earlier statement that said "adding a few feet of regular 50 or 75 ohm cable will kill AM sensitivity" is very true. It becomes a capacitance voltage division problem. The input of a standard WELL DESIGNED car radio is a very high impedance, and the feedline of a WELL DESIGNED AM system is very low capacitance cable, because the AM antenna is a very high source impedance voltage probe.

73 Tom

4667. Re: HELP!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <45ld3j$kcb@newsbf02.news.aol.com>
Source record: 110264

In article <45hj1g$66b@CUBoulder.Colorado.EDU>, tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:

>>>I am trying to built a linear for my 10 meter radio but cannot find any
>>>schematics... Can anyone help me or email me with schematics and parts
>>>lists..
>>>and where to get them,,, Thanks!!!
>>

Try Palomar Engineering, D+A Raider, or Black Cat. They all make "HAM" amplifiers like the one you're looking for.

73 Tom

4668. Re: Cooling A 3-1000 Tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <45ld46$kco@newsbf02.news.aol.com>
Source record: 110265

In article <45h3tg$7qil@rs2.ccd.harris.com>, dsnowden@ccd.harris.com (Doug Snowden) writes:

>Has anyone seen successful application of muffin fans as a cooling
>source for the 3-1000 ? I realize that one might need a larger size
>fan. Since the 3-500Z tube likes this method and the 3-1000 is just
>a bigger version I thought the same methods would work - that is
>raising the socket slightly to cool the pins, etc. Blowers take a
>lot of room...
>
>Doug N4IJ dsnowden@ccd.harris.com
>
>

If you use this tube be aware that the self neutralizing frequency is very low, so you need very short grounds from the grid pins to the chassis and a very short anode to chassis connection through the plate tuning cap. So elevating the socket may mess up the performance!

A 3-1000A also usually requires a special parallel resonant parasitic choke to stabilize the amp without excessive loss on ten meters or 15 meters.

You can cool the tube with big muffin fans, the back pressure is low. But be sure you use temperature sensitive paint or crayons to check the seal temps if you homebrew a non-standard cooling system. Remember that tube is exactly like a 1000 watt electric heater, and it takes a good volume of properly directed air to keep it cool. Muffin fans "puffing across the tube" will be noisier than a blower or pressurized airflow system for the same amount of cooling.

73 Tom

4669. Re: Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: nj0m@primenet.com
Message-ID: <45kn77$g59@nnrp2.nfs.primenet.com>
Source record: 110266
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

>The author of the article claims that the connector must be silver
>plated as nickel plating will not work. Why?

Good question. The silver version would be easier to solder to. I
would say, make sure the dialectric inside was Teflon as the connector
will probably get fairly hot during soldering and Teflon doesn't melt
too easy. Often but not always, you can only get Teflon dialectric
SO-239's if you buy the silver plated ones. 73, John

4670. Re: Impedance of AM car radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDGDwH4.8o9@netcom.com>
Source record: 110267

Jeff DePolo (depolo@red.seas.upenn.edu) wrote:
: Consider the length of the coax compared with the wavelength of
: broadcast band AM and you'll see that the type of coax is really
: meaningless as is the short antenna.

Good point. In one of National Semiconductor's data books (linear data book?) there is a very good technical analysis of auto radio AM broadcast band antennas complete with math. One interesting point they made was that the auto radio antenna is far more efficient than the ferrite rods typical of portables and table radios. But then again, you can peak or null signals with a ferrite rod. So the table radio probably has potential for better signal/noise ratio but in the absence of interference the whip is a better choice for weak signal reception. Hard core AM DXers often use a combination of open loop and whip "sense" antenna. The combination can be tuned for a cardioid type pattern.

Thomas
KI4N

4671. Re: Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: a313@Lehigh.EDU
Message-ID: <45lo53$51ut@ns2-1.CC.Lehigh.EDU>
Source record: 110268

In article <45jjuu$5cd@nnrp2.nfs.primenet.com>, lager@primenet.com (Woody Harper
) writes:
>Ok, here's a newbie question for today.
>
>The November 1995 Popular Electronics has a pretty neat project I want to
>build. The project is a 1/4 wave ground plane antenna. The main component
>in the antenna is an SO-239 panel mount connector. The author of the
>article claims that the connector must be silver plated as nickel plating
>will not work. Why? I am having a devil of a time finding silver plated
>SO-239 connectors in Phoenix, but can get nickel plated for $5.00 at
>Radio Shack. The author does not explain why he feels that only silver
>will work and I have no clue. Thanks in advance for any help.
>
>--
>---
>Home Page: http://www.primenet.com/~lager
>
I would suspect that silver was specified over nickel due to outdoor
application. The silver will give better conductivity over nickel when
corrosion occurs. However when you do put dissimilar metals together, galvanic
corrosion can exist at the interface. This would be dependent upon the two
metals and their respective positions in an electonegativity series.

Two dissimilar metals can also form a simple diode circuit. It would not be
unusual to get rf rectification off such an interface with subsequent tvi.
We do have a tendency to get hung up on the details and loose sight of the big
picture. I suspect the rest of the antenna is not silver plated so why worry
about dissimilar metals ???

My reccommendation is go with the Nickel and adequately weatherproof the
installation which is simply good engineering practice anyway. If you don't
get good results, don't be surprised if silver doesn't work any better.

Good Luck 73's Dick K8WHA
>

4672. IF Notch Filter Designs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: Me@racist.com
Message-ID: <45lu22$db3@ddi2.digital.net>
Source record: 110269

Does anyone know of a good 455kHz IF notch filter design they can recommend?

4673. Re: Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <45m24i$94u@solaris.cc.vt.edu>
Source record: 110270
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <45ljcm$odc@info4.rus.uni-stuttgart.de>,
moritz@ipers1.e-technik.uni-stuttgart.de () wrote:
>>The main component
>>in the antenna is an SO-239 panel mount connector. The author of the
>>article claims that the connector must be silver plated as nickel plating
>>will not work. Why? I
>
>
>Hi,
>
>Quite simply the answer is, that the author does not know, what he is
>talking about. Surely the silver plated connector has less loss, but the
>major concern is the plug that will mate with the connector. Unless you
know
>pretty well how to do it, there is only little chance to mount the cable
to
>the plug without substantial losses.
>
>My suggestion is to ise a N-typt connector if the cable is thick (RG213)
>or a BNC connector, if the cable is thinn enough.

Absolutely. 239-type connectors are not too good at either maintaining a
good connection or handling high frequencies. Their only "advantage" is
low cost. Especially at 800 MHz, N or BNC connectors should be used,
depending on the size of the cable to be used (which should be large if it
is more than a few feet long).

If this is one of those 1/4 wave pyramid-like antennas, the author probably
specified a silver connector because it is easier to solder the radial
wires on. A connector with a Teflon center insulator is pretty much
essential for this as well as the other plastics tend to melt under
moderate heat. The least expensive (Radio Shack grade) connectors are made
of plated zinc or brass; if you file the plating off the base metal
underneath can be soldered, but there may be problems with the insulator
melting. Some of the mid-grade ones are nickel (or stainless?) throughout
and difficult to solder, even if filed. The author may have had a bad
experience with one of those. Silver or gold plated connectors are easiest
to solder and usually have the Teflon insulator. Since an 800 MHz 1/4 wave
antenna is quite small, a gold-plated SMA may be a viable choice.

When soldering the radials on, it works best to heat the connector up first
and tin it, flowing solder around and through the holes. Even with a
Teflon insulator, be careful not to overheat it. A 100 Watt solder gun is
barely adequate. If you use a torch do it carefully, keeping the flame

only on the flange of the connector and not the center where it could damage the insulator. After the connector is prepared, tin the ends of the radial wires. Then re-melt the solder on the connector one hole at a time and join the radials on. Careful heating is again required so only one corner of the connector is hot enough to melt, but at the same time the joint is not 'cold'. If that seems impossible to do, some sort of jig could be built to hold the radial wires in place while all the solder is melted.

If the antenna is to be used outdoors, be sure to seal up the top side of the connector (unless you have found a hermetically sealed military one) and cable attachment to keep water out. Silicone sealant should work for this, though it may detune the antenna slightly. It's also a good idea to remove all solder flux before sealing.

This is probably entirely too many words about such a simple subject. At the same time, I've undoubtably left out much essential information. Do I qualify to write a magazine article yet?

-Mike KD4QDM

4674. Re: Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct13.172040.12712@ke4zv.atl.ga.us>
Source record: 110271
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <45ljcm$odc@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>The main component
>>in the antenna is an SO-239 panel mount connector. The author of the
>>article claims that the connector must be silver plated as nickel plating
>>will not work. Why? I
>
>Quite simply the answer is, that the author does not know, what he is
>talking about. Surely the silver plated connector has less loss, but the
>major concern is the plug that will mate with the connector. Unless you know
>pretty well how to do it, there is only little chance to mount the cable to
>the plug without substantial losses.

Actually, the author is probably concerned that the nickel plated
chassis fitting won't take solder well in the flange holes (for
the groundplane elements). Nickel plate is a pain in the a** to
get to take solder. Silver, OTOH, takes solder nicely.

However, if all you can find is nickel plated fittings, all is not
lost. Just file that blankety-blank plating off and the brass underneath
will take solder easily.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4675. Re: Motorola Engineering Brief Help Needed!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-14 00:00:00 UTC
From: cunliffe@eznet.net
Message-ID: <45ncas$hb1@roch3.eznet.net>
Source record: 110135

RLS@psu.edu (Robert L. Spooner, AD3K) wrote:

>In <DGEJEB.EH1@eclipse.sheridanc.on.ca>, jason goldring <jason.goldring@sheridanc.on.ca>
writes:
>>I recently aquired Motorola Engineering Brief number 63, which
>>is a 140 watt 2-30 Mhz Broadband RF Amplifier, which is built
>>around the MRF454's.
>>
>>After waiting patiently to get a hold of an engineer at Motorola
>>regarding the substitution of RF devices in this circuit, I
>>was told that the MRF455 could be substituted for the MRF454.
>>(The 454 is a hard part to get around here, but the 455 is
>>readily available.)
>>

>>Any information would be greatly appreciated!!.
>>
>If you're using a wirewound bias resistor, I hope it is well isolated for RF from the
>rest of the circuit, otherwise the inductance may be causing a parasitic oscillation,
>which could explain the high current!

Is the bias somewhere adjustable?
Is there a diode to ground (check polarity and diode for function) you
should have no more then abt .7-.8 volts on the resistor on both
sides!

>
John R. Cunliffe N2NEP
cunliffe@eznet.net
fax# 716-359-9368
http://home.eznet.net/~cunliffe/

4676. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-14 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <45npt1$5v8@abyss.West.Sun.COM>
Source record: 110136

In article <45mgk5$4dg@hpscit.sc.hp.com>,
Richard Karlquist <rkarlqu@scd.hp.com> wrote:
>In article <8007-326281702@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>>
>>
>>
>>I'm in the process of designing a PLL/VCO to eliminate the need for
>>crystals on a bunch of lowband GE mobile rigs that my club aquired for
>>use on 6 meters.
>>I plan on using the serial MC145157 along with a PIC or 87C750 single
>>chip micro and a VCO made up of discrete parts.
>>
>>I'd like to hear from some experienced designers of LPF/VCO circuits
>>for your suggestions/comments.
>>
>>Thanks !
>>
>>Hugh Duff VA3TO Toronto hduff@humnet.humbrec.on.ca
>>
>>
>>---
>> NFX v1.3 [000]
>>
>>--
>>--
>> HumberNet LSS (Learning Support System) - Humber College, Toronto
>> "Tomorrow's communication and learning environment, today"
>> Visit our Website at http://humnet.humberc.on.ca/
>>
>
>Trying to replace a multiplied-up crystal oscillator with a simple
>minded synthesizer consisting of a '157 and VCO is asking for trouble
>with spurious sidebands. Unless you really need a lot frequency
>agility, you would be far better off negotiating a group purchase
>of crystals by the club. This is one of those projects where anyone
>who knows enough about the technology to know what is involved wouldn't
>want to do it. (BTW, if you "want to learn about synthesizers", pick
>an easier neophyte project).

Though I don't claim to hold a candle to Rick's experience, I have
a couple of comments. I essentially agree with him; synthesizing
at a lower frequency and multiplying up is asking for trouble with
reference sidebands. The problem is, the '157 is limited to around

15 or 16MHz (lemme guess; the radios use rocks multiplied by 3, and therefore look reasonable for the '157 to synthesize). Suppose you have a x3 chain after your transmit oscillator; to get a 5KHz channel spacing, you need to run the PLL with a reference of 5KHz/3, or about 1700Hz. Getting adequate suppression of this reference component in the output of the phase detector will be a pain in the butt, not to mention the PLL will likely take a lot longer to lock up than you really want. So, you _could_ use an adaptive loop filter to widen the PLL loop bandwidth until you start to detect lock and then narrow it considerably, but you'll never be happy with it.

If you're willing to select another PLL chip, I suspect you can get better results. To start with, I suggest you select a PLL that can synthesize directly on frequency; the MC145170 immediately springs to mind, this chip is good to at least 160MHz (and it is easier to program than the '157). Using a '170, you could run the VCO at the 1/3 frequency and take the feedback frequency from the multiplier chain after it has been multiplied to on frequency. Here, your reference is whatever the desired channel spacing is, say 5KHz. There's something else that happens that you may not expect, though; the reference sidebands will be at 5KHz intervals at the VCO output which is then multiplied by 3. You'll have a radio with a 5KHz reference PLL but the transmitted reference sidebands will be at 15KHz intervals! If you can do a decent job of suppressing them in the loop filter, they may not be objectionable in the transmitter output and will be outside the passband of most receivers; your synth won't exhibit the 5KHz whine that virtually every Japanese FM radio does today. You'll have a 15KHz whine but no one will normally here it. The risk is that these sidebands will cause more interference to adjacent channel users than you want to live with.

With all this said, Rick is right; buy the crystals. You see, even if you build a PLL that generates a decent carrier, you've still got to modulate it. If the radio is a phase modulated type, this isn't a problem, it would just work. However, if this is a radio that modulates the rock, you'll have to develop a VCO with decent linearity and reasonably constant modulation sensitivity across the band. This isn't easy at all.

If you have some '157s, build a few 10-15MHz synthesizers and experiment with loop filters, if you haven't already. It is novel to see that the reference sidebands are clearly there when tuning around on your HF receiver, and it is novel to hear the PLL bounce onto frequency.

Take care!

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *

* Dana.Myers@West.Sun.Com | reflect those of my employer *

4677. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-14 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <45obg0$kg1@netaxs.com>
Source record: 110137

>There's something else that happens that you may not expect, though;
>the reference sidebands will be at 5KHz intervals at the VCO output
>which is then multiplied by 3. You'll have a radio with a 5KHz
>reference PLL but the transmitted reference sidebands will be at
>15KHz intervals! If you can do a decent job of suppressing them
>in the loop filter, they may not be objectionable in the transmitter
>output and will be outside the passband of most receivers; your
>synth won't exhibit the 5KHz whine that virtually every Japanese
>FM radio does today. You'll have a 15KHz whine but no one will
>normally here it. The risk is that these sidebands will cause
>more interference to adjacent channel users than you want to live
>with.

This is absolutely wrong! If it were true, you would never be able to
accomplish voice modulation at the rock frequency then multiply up. The
voice sidebands, by this argument, would be spaced 3x apart from where
they should be! Clearly, this doesn't happen.
What really would happen is that the incidental modulation from the 1700
hz sidebands would be 3x as great at the output frequency as it was
coming out of the synthesizer. 1700 hz is a workable reference frequency
for x3 post multiplication... you just have to be careful with the loop
filtering. It's done all the time. If you want the 1700 hz whine at the
output frequency to be 40db down, then it has to 50 db down at the
Fo/3 input frequency.
>
>With all this said, Rick is right; buy the crystals. You see,
>even if you build a PLL that generates a decent carrier, you've
>still got to modulate it. If the radio is a phase modulated
>type, this isn't a problem, it would just work. However, if this
>is a radio that modulates the rock, you'll have to develop a VCO
>with decent linearity and reasonably constant modulation sensitivity
>across the band. This isn't easy at all.

This is partially true. If the radio employed phase modulation of the
crystal oscillator output, then it will modulate the synthesizer output
equally well...a CW carrier is a CW carrier - the modulator doesn't know
where it came from. On the other hand, if the radio modulated the
oscillator directly by 'pulling' the crystal, then you'll have to put the
modulation audio into the VCO. This is easily done by using an op-amp
mixer to AC couple the modulation into the DC contol voltage.
There are also plenty of other clever ways to get the same result. The
important goal is that the coupling must not upset the bandwidth and
performance of the loop filter.
Practically any VCO you build will have plenty of linearity to allow +/-
1.6 Khz of deviation.If you want a VCO design that will cover up to an

octave tuning range and is virtually foolproof, E-mail me. The real trick will not be getting the synthesizer to work properly, but in solving the subtle problems related to driving the radio properly. Of course, you'll never get more of an agile range than the radio tuned circuits are designed for, but you can become independent of pesky crystals over the limited design range of the radio.
>

4678. Ic-245 Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-14 00:00:00 UTC
From: n0nas@hamlink.mn.org
Message-ID: <813655270.AA03883@hamlink.mn.org>
Source record: 110138

I have an old Icom IC-245 2 meter FM rig with an AM/SSB adaptor.
Last week the LED frequency display went dark and it hasn't come
back on. This naturally makes it difficult to tell what frequency
I'm on or if the radio even happens to be working.
.
I took it apart and found someone had already been soldering jumper
wires on the PLL board. Makes it sound like this radio previously
exhibited similar difficulties. I've seen several old Icom's that
had problems because of the lousy solder joints on the rivets they
used to connect traces on the double sided board.
.
Since this is the only SSB rig I have access to, I'd like to fix
it but don't have any schematic or documentation at all. I tried
our local ham radio store but their service dept had no manual.
If you have a service manual or schematic for this radio, please
send me email and let me know what it will cost to get a copy.
If you have access to a FAX machine, you could FAX it to me at
work. Just be sure to put my name on the cover sheet.
Thanks for your help.

73's.
.
Doug Reed, N0NAS email: doug.reed@hamlink.mn.org
2014 Radatz Ave voice: 612-777-0064
St Paul, MN 55109-1413 FAX: 612-773-2202

4679. Re: Ic-245 Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-14 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <45oir6$6rk@usenet1.interramp.com>
Source record: 110139

n0nas@hamlink.mn.org (Doug Reed) wrote:
>I have an old Icom IC-245 2 meter FM rig with an AM/SSB adaptor.
>Last week the LED frequency display went dark and it hasn't come
>back on. This naturally makes it difficult to tell what frequency
>I'm on or if the radio even happens to be working.
>.

Have you tried contacting Icom directly?

They can be reached at www.icomamerica.com (look at the menu once you get to that page), or direct to Icom customer/tech support at 75540.525@compuserve.com. Gary Fiber is the normal contact point at the latter and is very helpful.

Grant/NQ5T

4680. Re: Impedance of AM car radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-14 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <45ot65$55s@detroit.freenet.org>
Source record: 110140

Years ago, the input impedance for auto radios was designed for
600 ohms. That was prior to FM being included as a standard
feature. But I seem to recall that it has not changed, for several
reasons.
--

4681. Re: Zenith Transoceanic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-14 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <45p8fs$f74@nntp.Stanford.EDU>
Source record: 110141

In article <978_9510121153@woodybbs.com> Thom.LaCosta@f1352.n261.z1.fidonet.org (Thom LaCosta) writes:
>Hello All!
> Anyone have a diagram, etc to build a bfo unit to fit inside a
>Zenith Transoceanic ??
> Thanks
>
>Thom LaCosta
>--
>|Fidonet: Thom LaCosta 1:261/1352
>|Internet: Thom.LaCosta@f1352.n261.z1.fidonet.org
>|
>| Standard disclaimer: The views of this user are strictly his own.
>

I remember, as a teenager, taking an off the shelf AM wireless microphone kit (one transistor) and adding more C to lower the frequency to 455KHz. It worked fine as a BFO. Just placing it close to the receiver with no direct connection worked fine.

The problem you will have with the Transoceanic is that it tunes such a wide frequency range over such a small dial span that the stability is probably not there for CW or SSB reception. It might be difficult, if not impossible, to use the radio for that purpose.

Steve Muther (WF6R)
stevem@w6yx.stanford.edu

4682. Re: Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-14 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <45ngcg$lp0@news.azstarnet.com>
Source record: 110142
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

wdr@world.std.com wrote:

[snip]

>I was thinking of trying one of these but replacing the ground-radials with
>a miniature actual ground plane. I've got a bulkhead BNC feedthrough that
>I'm going to install in a pie-plate. The pie-plat won't be a tuned
>ground-wire, but it also won't poke me & will provide better near-field
>shielding: I'm going to mount it on a pack-frame (with an adjustable lift)
>for either/both/one-each my HT and cell-phone. I got the idea from
>someone who said they used a magmount rubber-ducky antenna on the
>dinning room table with a pie-plate.

In the "good ol' days" back in 1960 something, we used to acquire aluminum transcription disks
from radio and TV stations and use them for ground planes for two meter verticals. As I recall, these were about 16" in diameter with a hole in the middle that could be enlarged for
a (gasp) SO-239. These were ALL silver-plated in those days <g>. I even used one as a GP in my
1956 Corvette (how I wish I had that back, sigh)

Regards,

Wes -- N7WS

4683. Old radio repairs near Dallas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-14 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <45pe66$hca@news.iadfw.net>
Source record: 110143

Does anybody know where I can get an old tabletop shortwave rx
repaired in/near Dallas, TX? I have a friend who is not technically
inclined, but is attatched to the old radio and would like to have it
fixed.
Thanks,
Kerry Miller
WD5ABC

4684. Re: QEX and QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: jbaltz@watsun.cc.columbia.edu
Message-ID: <45pogg$jqv@apakabar.cc.columbia.edu>
Source record: 110144

In article <307E28F9.41C6@wrds1.urz.uni-wuppertal.de>,
Robert J. Schneider <schneide@wrds1.urz.uni-wuppertal.de> wrote:
>Hi.
>Did the September issue of QEX ond the October issue of QST
>arrive somewhere?

I got my October (and November) QST's but I haven't yet seen my September
QEX.

>Robert Schneider DB1JJ

//jbaltz
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

4685. RC Ham Technical?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: gledrew@nlnet.nf.ca
Message-ID: <45prg9$jh0@coranto.ucs.mun.ca>
Source record: 110145

Hello to any Radio amateur model flyers....
Trying to modify radios to make JR and hitec more
compatible....Would appreciate any info....

Thank you....& 73's
De VO1ET Jerry

4686. Re: QEX and QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <45pvhv$fuu@news.azstarnet.com>
Source record: 110146

jbaltz@watsun.cc.columbia.edu (Jerry B Altzman) wrote:
>In article <307E28F9.41C6@wrds1.urz.uni-wuppertal.de>,
>Robert J. Schneider <schneide@wrds1.urz.uni-wuppertal.de> wrote:

>I got my October (and November) QST's but I haven't yet seen my September
>QEX.

Ditto

N7WS

4687. Balanced Line Microphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: rgm@bilbo.baylor.edu
Message-ID: <45q1km$lrc@BUDS1.baylor.edu>
Source record: 110147

Hey all,
I'm tossing around the idea of buiding a desktop microphone for my radios. Radio Shack sells a fairly inexpensive mike that is unidirectional (seems like a good idea in this application) and is mounted on its own gooseneck. The only signifigant drawback is that it is fed with 3-wire "balanced" line. (This is how Radio Shack describes it.)
My question is: In this context, does balanced mean the same thing as when refering to antenna feedline. If so, what is the third wire for? Does the mike need a DC bias? Also, can I just use a regular balun to convert it back to two wire, unbalanced feed? (R.S. sells adaptors, but they're $14.)

Thanks,
Ross
KB2RVB

4688. Re: Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: n7tcf@primenet.com
Message-ID: <45r5gq$bqs@nnrp1.news.primenet.com>
Source record: 110148
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Although in this case it does not apply...

There is some Mil-spec that I haven't memorized ;) deeming that only silver plated connectors will be used at uhf frequencies. The iron content of the nickel plate causes some magnetic problems.
Can some clear this up? I cannot recall the source or the details.

Jim N7TCF

4689. Re: Anybody used Ramsey FX-440 for 9600?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: "Mark J. Acierno" <acierno@teclink.net>
Message-ID: <45r705$fe8@felix.teclink.net>
Source record: 110149
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Jeff, k9ja

Do you know which copy of qst this was in??? I'm about 95% of the way
through builing my ramsey kit and this does not make me happy to read!

thanx
mark
n2uem

4690. Re: Balanced Line Microphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: jim <gutbang@edge.net>
Message-ID: <45r73g$lb3@excalibur.edge.net>
Source record: 110150

Ross

> I'm tossing around the idea of buiding a desktop microphone for my radios.
> Radio Shack sells a fairly inexpensive mike that is unidirectional (seems
> like a good idea in this application) and is mounted on its own gooseneck.
> The only signifigant drawback is that it is fed with 3-wire "balanced" line.
> (This is how Radio Shack describes it.)
> My question is: In this context, does balanced mean the same thing as when
> refering to antenna feedline.

yes and no...

>If so, what is the third wire for?

the 3rd wire is a ground

> Does the
> mike need a DC bias?

no DC bias is needed

> Also, can I just use a regular balun to convert it back
> to two wire, unbalanced feed? (R.S. sells adaptors, but they're $14.)

I'm not sure what a 'regular' balun would be, but nothing of the sort is needed here. all that is meant by balanced in this case is that neither of the audio lines from the mic element is grounded, and both are available at the connector. the 3rd wire is to ground the case of the mic.

all you need to do is connect one of the two audio leads to the ground and the mic is now unbalanced. don't buy the RS adapters for $14 they are really crap and you're paying mostly for the hardware, not the transformer inside.

the only other area of concern would be impedence matching, which should be easy to take care of...

73 ke4juh
--

I'm never home, so Visit me anytime...
http://edge.edge.net:80/~gutbang/

4691. Re: Unknown tube: CX1622 by EEV

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <813770357snz@lfheller.demon.co.uk>
Source record: 110151
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <45m9q6$dk4@news.rwth-aachen.de>
SCHOEN@REZE-1.RZ.RWTH-AACHEN.DE "Klaus Schnhoff" writes:

> I've just found a impressive looking vacuum tube named CX1622
> manufactured by EEV. Does anyone know the original purpose of this
> device? EEV?

EEV is the trade mark of English Electric Valve Co. Ltd, now part of
GEC.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

4692. Re: Help w/ Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: "Edwin J. Bailen" <n5kzw@eden.com>
Message-ID: <Pine.BSD/.3.91.951015114548.2505B-100000@matrix.eden.com>
Source record: 110152

On 13 Oct 1995, Michael Black wrote:

> tgoins@accessone.com (Todd Goins) is trying to fix
> a commercial power supply that uses a 723 voltage
> regulator and a bunch of pass transistors.
>
> jgoecks <jgoecks@pacifier.com> responded with some help
> but added that "it sounds like a linear regulator that
> uses a 3 terminal regulator to control pass transistors".
>
> <SNIP>
>
> Michael VE2BVW
> --
> | InterNet: Michael.Black@juxta.mba.org
> | Standard disclaimer: The views of this user are strictly their own.
>
>

In March of 1974, Fairchild Published a Voltage Regulator Applications Handbook that devotes 25 pages to the theory of operations and applications for the LM723. I have never found a better discussion of the workings of the LM723. I keep my copy under lock and key. ;=)

73 -- Ed Bailen N5KZW

4693. Re: OK, 49MHZ to 6 meter: HELP!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: Chris Boone <72732.2610@CompuServe.COM>
Message-ID: <45rfld$1ci$8@mhafm.production.compuserve.com>
Source record: 110153

Yep...just re xtal and retune.....they go right onto 6 mtr FM...

WB5HJV in Houston area did several years ago...

73
Chris
WB5ITT

--

Chris Boone WB5ITT Compuserve 72732,2610
PO Box 3102 FIDO 1:106/4267
Conroe, Texas 77305-3102 Sysop WBBS @ 409-447-4267

4694. Re: Balanced Line Microphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <813789902.29281@pinetree.microserve.com>
Source record: 110154

Ross,

The other comments in this thread have pretty well covered the issue, but I just wanted to mention one thing.

The purpose of balanced microphone designs is to eliminate hum that could otherwise result from common mode voltage being picked up on the shield of an unbalanced system.

This isn't at all likely to be a problem in the typical ham shack, so connecting the "Low" side to ground is an acceptable alternative to purchasing a balanced to unbalanced adaptor.

73,

Jack WB3U

4695. Remote mounting RFI ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8015208463501@humnet.humberc.on.ca>
Source record: 110155

I'm in the process of adding a synthesizer to a GE lowband mobile radio
to eliminate the need for 6M crystals. This may lead to a club project
since we have aquired a few skids of these radios, one for each member.
These radios are trunk mounted with a remote head. The synthesizer
consisting of a small single chip micro to program the serial interfaced
PLL chip will be located inside the radio chassis. Channel selection
will be done from a switch located of course at the head (on the car
dashboard). The distance from the head to the radio in the trunk will be
roughly 10 - 15 feet.

I am wondering if RFI from the engine might play havok with the channel
selection lines that lead into the synthesizer micro ? It was suggested
to me that I consider some means of protection on the channel select
lines since the micro may be vulerable to noise (other than simple
bypass caps to ground). My dilema is in trying to keep the design as simple
as possible with minimal parts count, I'd prefer to avoid the extra
hardware if not essential. I observed that some of my other commercially
made Ham gear which is remote mounted uses a 4 wire interface
(pwr/gnd/rx/tx) that runs between the trunk mounted main chassis and the
head. The wiring runs directly from one micro in the head to another micro
in the main chassis (no buffering or protection) and it seems to work just
fine. Should I assume that RFI will not be a problem or should I practice
good design technics and incorporate some protection ?
I presume that running the same wiring through the engine compartment
would definitely require some protection but since I'm going the
other way and further away from the noise that it should not be a real
problem.

Any comments/suggestions welcome.

Thanks..Hugh Duff VA3TO Toronto

NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/

4696. PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-15 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <801523937403@humnet.humberc.on.ca>
Source record: 110156

> In article <8007-326281702@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
> >
> >
> >
> >I'm in the process of designing a PLL/VCO to eliminate the need for
> >crystals on a bunch of lowband GE mobile rigs that my club aquired for
> >use on 6 meters.
> >I plan on using the serial MC145157 along with a PIC or 87C750 single
> >chip micro and a VCO made up of discrete parts.
> >
> >I'd like to hear from some experienced designers of LPF/VCO circuits
> >for your suggestions/comments.
> >
> >Thanks !
> >
> >Hugh Duff VA3TO Toronto hduff@humnet.humbrec.on.ca
> >

> Trying to replace a multiplied-up crystal oscillator with a simple
> minded synthesizer consisting of a '157 and VCO is asking for trouble
> with spurious sidebands. Unless you really need a lot frequency
> agility, you would be far better off negotiating a group purchase
> of crystals by the club. This is one of those projects where anyone
> who knows enough about the technology to know what is involved wouldn't
> want to do it. (BTW, if you "want to learn about synthesizers", pick
> an easier neophyte project).
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com
>

Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
that I would synthesize would be at the crystal fundamentals ?

"This is one of those projects where anyone who knows enough about the
technology to know what is involved" ...would know that bypassing the
multiplication stages in the radio and just generating the highest
and closest to the operating frequency with the PLL/VCO would be best
approach (which IS indeed the way it is going to be done).
I'm operating the PLL/VCO at half the required frequency and running it
through 1 doubler stage within the radio. The doubled frequency runs
through a bandpass filter, spurs are not an big issue.

You might want to brush up on your personability skills...
"...simple minded synthesizer..." and your approach in general ceratinly
don't contribute positively to the spirit of homebrewing !

Hugh Duff VA3TO Toronto

 NFX v1.3 [000]

--

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4697. Re: "SINADDER" signal+noise+distortion meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <45se2l$86r@news.duke.edu>
Source record: 110157

P.Dalliessi@massey.ac.nz (Peter Dalliessi) wrote:

>
>Does anyone know where I can find the design for a s/n+dist. measuring
>instrument?
>
>Such a device was made by a US company many years ago, and named a
>"SINADDER3".

You will need to build a sine wave oscillator and a sharp null filter
to match the frequency of the oscillator. Shoot for about 1 KHz.

The oscillator modulates a signal generator that supplies the
receiver with a test signal. The output of the receiver is connected to
the filter and then to an AC voltmeter.

The voltmeter is used to measure the noise at the receiver output.
The filter can be switched in and out of the circuit.

With the filter switched out, you can measure signal+noise+distortion
and that becomes one of the reference points for the db measurement. With
the filter switched in, you're measuring noise+distortion only and that
becomes the second reference point.

There are quite a few different schematics for oscillators and
filters. Pick one that matches the contents of your junk box or is
easiest for you to understand and get working. There's nothing much to go
wrong. A sinadder is really pretty simple. When I was using one, I never
paid much attention to the absolute readings in db and just used it as a
visual aid to tuning for minimum noise and distortion.

Jim "no sig" Meyer ("sig" = "signature")

4698. Re: TS 520SE HALF POWER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: bb840@scn.org
Message-ID: <DGIqx5.IB1@scn.org>
Source record: 110158

In a previous article, medlas@mle.ultranet.com (Ray Fennessey) says:

>
>My TS-520SE has dropped to half power output. I,m still able to make DX
>contacts, though. Is it possible that one final is no good or do they have to
>work as a pair? .
>
It sounds like the heater for one of the finals blew. Back when novices
were limited to 75 watts input, the way to do it was to remove one of the
finals (actually to remove the matched pair and put in a single 6146B,
then put the matched pair back in after upgrading).

73 de KD7MK
--
Jim Aeschliman bb840@scn.org
Black Diamond, Washington KD7MK

4699. Can I use a 12 volt deep-cycle marine battery to ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: BRETSKI <bap@storm.atms.purdue.edu>
Message-ID: <Pine.A32.3.91.951016133837.17834B-100000@storm.atms.purdue.edu>
Source record: 110159
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

Fellow amateurs.

Can I use a 12 volt deep-cycle marine battery to:

1. Power my HTX202? If so can I use the same guage wire that I use
with the gel cell? Pardon my ignorance but the battery is so big
compared to the HT. The battery runs the 12 volt system in the
camper.

2. Power my Radio Shack 30 watt power AMP? The AMP draws 6 amps
of current continous and I think the in-line fuse is
8 amps. I bought a regulated power supply from Radio Shack
that pops its breaker at 2.5 amps. It is ok for packet
but voice draws too much. The supply gives 13.8 VDC steady.
The battery would give probably 12.5 VDC and slowly drain off, obviously.
Any problem with that? Again does the guage of the wiring
make a difference?

Finally, I built a 2 meter ground-plane antenna from 12 guage wire
and a RO-239(?) connector. It works well off my HT, but would like
to use the AMP to it. Would 30 watt power hurt it? It has one
verticle radiator and two radials.

Thanks de N9ZFF

BRET A. PENNINGTON / COMPUTER TECHNICIAN /EARTH AND ATMOSPHERIC SCIENCES
CIVL 4252 317-494-0678 / PURDUE UNIVERSITY / WEST LAFAYETTE, INDIANA 47907
bap@storm.atms.purdue.edu / speaking only for myself.
/\/\/\/\/\/ __... /\/\/\/\/\/\/\/\ N9ZFF /\/\/\/\/\/ ..__ /\/\/\/\/\/\/\/\

4700. Re: Can I use a 12 volt deep-cycle marine battery to ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: murso@fnalv1.fnal.gov
Message-ID: <45uauv$c5c@fnnews.fnal.gov>
Source record: 110160
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

In article <Pine.A32.3.91.951016133837.17834B-100000@storm.atms.purdue.edu>, BRETSKI
<bap@storm.atms.purdue.edu> writes:
>Fellow amateurs.
>
>Can I use a 12 volt deep-cycle marine battery to:
>
>1. Power my HTX202? If so can I use the same guage wire that I use
> with the gel cell? Pardon my ignorance but the battery is so big
> compared to the HT. The battery runs the 12 volt system in the
> camper.
Absolutely No problem here, but I have been told to take off the battery pack
when using the 202 on External power. Seems to build up less heat.

>2. Power my Radio Shack 30 watt power AMP? The AMP draws 6 amps
> of current continous and I think the in-line fuse is
> 8 amps. I bought a regulated power supply from Radio Shack
> that pops its breaker at 2.5 amps. It is ok for packet
> but voice draws too much. The supply gives 13.8 VDC steady.
> The battery would give probably 12.5 VDC and slowly drain off, obviously.
> Any problem with that? Again does the guage of the wiring
> make a difference?
1st,
of course the amp will pop the breaker, it draws 6 amps, the supply is
rated at 2.5, not really a surprise. On Packet the transmissions are verry
short and the supply handles it, but either use a bigger supply or use the
battery you spoke of with a charger on it. (Even a small 2a trickle cosidering
the duty cycle you will probably run.)
2nd,
The wire does make a difference, and I wouldn't worry about the drop in
voltage. On the 202 all that does is lower the output power until the voltage
drops low enough to drop out the HT altogether. For wire I use polarized lamp
cord at 16 AWG. Good for 8-10 amps with no problem (again - duty % makes a
difference as well as length)
>Finally, I built a 2 meter ground-plane antenna from 12 guage wire
>and a RO-239(?) connector. It works well off my HT, but would like
>to use the AMP to it. Would 30 watt power hurt it? It has one
>verticle radiator and two radials.
You have 1 radiator and 2 radials, I might add a third to bring it closer to
50ohms but it should work just great. Put it this way, it is a heck of a lot
better than a duck!
>
>Thanks de N9ZFF
>

>
Good luck,
73 Mike KB9KFE
>
>BRET A. PENNINGTON / COMPUTER TECHNICIAN /EARTH AND ATMOSPHERIC SCIENCES
>CIVL 4252 317-494-0678 / PURDUE UNIVERSITY / WEST LAFAYETTE, INDIANA 47907
>bap@storm.atms.purdue.edu / speaking only for myself.
>/\/\/\/\/\/ __... /\/\/\/\/\/\/\/\ N9ZFF /\/\/\/\/\/ ...__ /\/\/\/\/\/\/\/\

4701. Re: Can I use a 12 volt deep-cycle marine battery to ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <45ucdd$spb@solaris.cc.vt.edu>
Source record: 110161
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

In article
<Pine.A32.3.91.951016133837.17834B-100000@storm.atms.purdue.edu>,
BRETSKI <bap@storm.atms.purdue.edu> wrote:
>Fellow amateurs.
>
>Can I use a 12 volt deep-cycle marine battery to:
>
>1. Power my HTX202? If so can I use the same guage wire that I use
> with the gel cell? Pardon my ignorance but the battery is so big
> compared to the HT. The battery runs the 12 volt system in the
> camper.

Yes. 12V is 12V regardless of where it comes from. The same gauge wire is
OK as well, since the HT will only draw as much current as it needs. But
it is *vital* to place a fuse or circuit breaker of a size apropriate for
the capacity of the wire right at the battery, so the high short-circuit
current of the large battery won't cause a fire in case of a short.

>
>2. Power my Radio Shack 30 watt power AMP? The AMP draws 6 amps
> of current continous and I think the in-line fuse is
> 8 amps. I bought a regulated power supply from Radio Shack
> that pops its breaker at 2.5 amps. It is ok for packet
> but voice draws too much. The supply gives 13.8 VDC steady.
> The battery would give probably 12.5 VDC and slowly drain off,
obviously.
> Any problem with that? Again does the guage of the wiring
> make a difference?

This will work fine as well. The amp may not output quite as much power
with 12.5 V instead of 13.8, but it won't damage anything. The reason the
power supply works on packet is because the breaker is a thermal type that
does not trip instantly. You are drawing 6A from the supply (actually
less, since the voltage will drop) in either case, but the breaker doesn't
have time to open on packet. Wire of 16 gauge (what probably came with the
amp) is OK for short runs at the 8A level. It is important to keep the
wiring short so the voltage at the amp stays as high as possible. If the
wire must be more than a few feet long, consider going to 14, 12 or 10
gauge, not as a safety concern, but for higher performance. Again, the
fuse should be located right at the battery so any possible shorts in the
wiring will cause it to blow. The best way to tell if your wiring is
adequate is to measure the voltage at the amplifier and at the battery
while transmitting. If this test shows more than 0.5V or so drop, larger
wire will probably get you more RF output.

>
>Finally, I built a 2 meter ground-plane antenna from 12 guage wire
>and a RO-239(?) connector. It works well off my HT, but would like
>to use the AMP to it. Would 30 watt power hurt it? It has one
>verticle radiator and two radials.

This will handle 30W just fine. I have used such antennas at the 100W level and they can probably handle much more. The thing to be careful of is to keep the antenna reasonably away (10' or more, but this is a trade-off with loss in the coax) from the rest of your hardware and 'wetware' when running high power. This is so the RF doesn't feed back in to low-level circuits and cause problems. Moving the antenna straight up is the best direction to take when moving it away.

-Mike KD4QDM

4702. Re: TS 520SE HALF POWER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <45t161$3m4@solaris.cc.vt.edu>
Source record: 110162

In article <DGIqx5.IB1@scn.org>, bb840@scn.org (James Aeschliman) wrote:
>
>In a previous article, medlas@mle.ultranet.com (Ray Fennessey) says:
>
>>
>>My TS-520SE has dropped to half power output. I,m still able to make DX
>>contacts, though. Is it possible that one final is no good or do they
have to
>>work as a pair? .
>>
>It sounds like the heater for one of the finals blew. Back when novices
>were limited to 75 watts input, the way to do it was to remove one of the
>finals (actually to remove the matched pair and put in a single 6146B,
>then put the matched pair back in after upgrading).
>
Several possibilties:

(1) Something is wrong with the radio other than a bad final tube.
(2) One of the final tubes quit working, the other is fine.
(3) Both final tubes are down to about 50% of original capacity.

#1 is not too likely, assuming the power has dropped slowly as would be expected with a tube wearing out. But it could be the driver tube.
#2 is really unlikely, unless the heater or something else became open.
#3 seems most likely. The tubes are connected in parallel, so they should be replaced at the same time so they share the load equally.

As James suggests, you could test the tubes by trying them one at a time, or if it is the heater just look in and see that both light up. This will detect condition #2, but not differentiate #3 from #1. Another poster noted that the high voltage stays present for quite a while after switching off, and it's also important while running one tube not to let the plate lead for the other tube short out on anything. There is about 800 VDC and a lot of RF there. After opening the tube compartment (with the power unplugged, of course), discharge the tube plate caps (the terminal on top of the tube) to ground before touching them.

If you have #2 or #3, the cure is the same: two new tubes. Since they are connected in parallel, it's not a good idea to only change one as they won't share the load equally. Probably using pairs of tubes of the same brand, from the same manufacturer's lot would match well enough, although some places offer (at a higher price), "matched pairs". (As an aside, does anyone know what parameter is measured and 'matched' in these? Cutoff bias?)

Just running one tube in a circuit intended for two might put the driver plate/final grid circuit out of tune without the capacitance of the other tube's grid. Using two weak tubes would be about as good as one good one, and if that's enough to make the contacts you want to, you could stick with that. New tubes are only $12 - $20.00 each though so it's not a bad idea to start looking for a couple to use as replacements or spares. If you're on the rock-cheap budget plan, boxes of these tubes can sometimes be found used from low- (and even a few high-) band VHF commercial mobile radios. The part number 8298A is equivalent to 6146B. Plain 8298 (6146A) tubes have a lower power rating but might do OK in occasional use.

-Mike KD4QDM

4703. Re: HF AMP SCHEMATICS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <813828129.7388@pinetree.microserve.com>
Source record: 110163

ab419@freenet.toronto.on.ca (Randie Kochals) wrote:

> I hope someone out ther can remember... I just got hold of
>a home-built 2-30 Mhz amp that uses two 7094 tubes. I have
>no information on this amp. I think it may have been built
>from a design in an early '70's ARRL book.
>
> Does anyone remember a design using these tubes? If so,
>where did you see it? Any help would be greatly appreciated !

The only schematic I ever remember seeing in the Handbook with that tube was the "Self-Contained 500-Watt Transmitter" in the 1962 edition. The transmitter used a single 7094 for 500 watts CW input on 80-10M. The bias to the driver and final could be switched to Class AB1 for input of a low-level, on-frequency SSB signal.

73,

Jack WB3U

4704. Re: EIMAC 5CX 1500A-Ceramic tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <45tbmj$85h@newsbf02.news.aol.com>
Source record: 110164

Fil; 5v @ 38.5A Bottom two rings.

Class AB1

Control Grid Around -90v (25 w max) third ring up

Screen 500 volts (75w disp) fourth ring up

Suppressor 0 v (25w disp) fifth ring up

Anode 4 kV max (1500w disp) adj bias for zero signal Ip of 250 mA

Grid driven feedback C = 1/4 pF

Cooling requires .76 inch water column at sea level for 1500w disp.

Anything else?
73 Tom

4705. Re: Cooling A 3-1000 Tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: "Gary KF9CM"
Message-ID: <45te75$gh3@sake.wwa.com>
Source record: 110165

I have used a 4" 110 cfm muffin fan in my 4-1000a for 3 years with no heating problems. See the older handbooks(1960s) dealing with 3-1000 amplifiers for details.

73 Gary KF9CM

(G)ot (A)nother (R)adio (Y)esterday

4706. NiCd 12v charger IC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: richer@cambridge.village.com
Message-ID: <45ti0c$o0m@cambridge.village.com>
Source record: 110166

I've recently purchased an older Wilson mobile/portable FM rig for my Land-Rover. Unfortunately, Wilson's idea of charging NiCd cells was to put them across the input 13.8 volt line sans regulation...ICK!

Anybody got a good suggestion for a chip-based NiCad charger circuit? Ideally, i'd like to just float the NiCad charging across the 12-volt auto bus and ignore it until I use the rig mobile...this way, they stay charged for the times Uncle Joe Lucas comes to visit (if you gotta ask, you'e never owned a British car...8*))

Waiting with bated breath - Alan/N1TWY

4707. Re: "SINADDER" signal+noise+distortion meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: parnass@radioman.ih.att.com
Message-ID: <DGJnE5.73M@ssbunews.ih.att.com>
Source record: 110167

In article <45se2l$86r@news.duke.edu>,
James P. Meyer <jimbob@acpub.duke.edu> wrote:

>... A sinadder is really pretty simple. When I was using one, I never
>paid much attention to the absolute readings in db and just used it as a
>visual aid to tuning for minimum noise and distortion.

I have a few instruments which measure SINAD, including a Helper
Sinadder SL105, which is an RMS device. If you want to perform
industry standard SINAD sensitivity measurements, the 12 dB mark
becomes important. Too, I think the current EIA standard for land
mobile specifies an RMS SINAD measurement (vs. the average response
type of measurement available in the SL103 model).

SINAD measuring equipment can also be used to determine the modulation
acceptance of NBFM receivers.

BTW, Helper Instruments, maker of the Sinadder line of SINAD meters,
is still alive and well. They can furnish reprints of informative
articles on SINAD. Sorry, I don't have the address in front of me.
Helper used to advertise in Mobile Radio Technology but I don't
see their ads in most the recent issues.
--
==========
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4708. Re: Ladder Line .. how to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: root@jackatak.theporch.com
Message-ID: <Xce3cD2w165w@jackatak.theporch.com>
Source record: 110168

Ron.Cruikshank@anu.edu.au (Ronald Cruikshank) writes:
> I am looking for any clues on making ladder line (approx 450 ohms or
> thereabouts). What do you use for spreaders, how do you fix them to the line
> etc etc.
Let's see...

An older copy of the Handbook should have all the formulae to allow
you to calc the spacing for whatever impedance you want.

As for spreaders, Popsicle sticks used to make great spreaders when I
was a kid (L-O-N-G time ago! ;^) and there were several wrapping
methods in vogue. Again, a handbook would be a great information
source...
b
Zo = 276 log ---
a

Where:
b is the center-to-center distance between conductors
a is the radius of the conductor (same units as b)

The spreader fastening technique in teh 1959 Handbook is to drill a
small hole in the spreader for the fastening wire, and simply wrap the
fastening wire around the transmission line wire. Popsicle sticks
don't drill too well, so a groove at each end worked for me...

Good luck, and HAVE FUN!!!
--
73,
Jack, W4PPT/M (75M SSB 2-letter WAS #1657/#1789 -- both from the mobile! ;^)

+--*--+
Jack GF Hill	Voice: (615) 459-2636 - Ham Call: W4PPT
P. O. Box 1685	Modem: (615) 377-5980 - Bicycling and SCUBA Diving
Brentwood, TN 37024	Fax: (615) 459-0038 - Life Member - ARRL
root@jackatak.theporch.com - "Plus ca change, plus c'est la meme chose"
+--*--+

4709. Re: Ladder Line .. how to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: bowman@montana.com
Message-ID: <45u03o$rup@maw.montana.com>
Source record: 110169

In article <Ron.Cruikshank.10.01197D80@anu.edu.au>, Ron.Cruikshank@anu.edu.au (Ronald Cruikshank) says:
>. What do you use for spreaders,

polystyrene, plexiglas, phenolic, teflon

> how do you fix them to the line

run the wire through the holes. if using bare wire, put a small bead
of solder on each side of the spreader, or you can use epoxy.

>etc etc.

Z0 = 276 * log(2S/d)

where Z0 = characteristic impedance in ohms
S = distance between conductor centers
d = outer diameter of conductor

12 AWG at 2" would be about 450 ohms.

hope this helps. 73 de kc7dma

4710. More on DDS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9509168138.AA813873166@mails.imed.com>
Source record: 110170

I just called AD to request that they do the only improvement that I think the AD7008 needs: It needs quadrature outputs for image reject receive mixers.

I got a request for the specs for the chip:

2 speed classes: 20 MHz and 50 MHz

on board sine and cosine lookup tables for doing I/Q stuff
two 10 bit multipliers and adder for doing I/Q stuff digitally

serial interface as well as either 8 bit or 16 bit parallel microprocessor interface

32 bit phase accumulator

2 frequency registers so you could for instance set both TX and RX frequencies and switch in one cycle from one to the other

a phase adjust register for doing direct phase modulation

As you can see this device is capable of simultaneously performing all three types of modulation(phase, frequency, and amplitude) all digitally!

They have a Fax Back number: (800)446-6212

request document number 1240, but be ready! It is 17 pages!

The biggest problem with the design in 73 magazine is that the author put all of the computer smarts on the same board as the DDS. If he had put the RF stuff on one board and the computer stuff on another it would allow for one RF design to be used in several system designs.

My favorite computer for control is a 8088 in minimum mode with one ROM and 1 SRAM and maybe an 8255 and 8250. This can be wire wrapped if desired and is still useful and for under $20 (I have a lot of ROMS in the junk box).

Ray Mack
WD5IFS
mack@mails.imed.com

4711. DDS Article in 73

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9509168138.AA813869852@mails.imed.com>
Source record: 110171

There was a thread in one of the groups last week regarding the DDS article in October 1995 73 magazine. Someone on the list erroneously read the AD part of AD7008 as being an AMD part number. It isn't. It's an Analog Devices part. I just talked to Theresa at Allied in Corpus Christi. She said they are out of stock right now but the 20 MHz part is $28.20 in onsies and the 50MHz part is $33.85 in onsies.

I remember seeing the product announcement for the AD7008 last year but didn't pay a lot of attention because of the price at the time.

I don't know about y'all but I can't imagine a discreet design that I could make for $33.85. The cheapest 10 bit DAC is on the order of $50.00.

I took my 1994 AD design catalog home over the weekend to look at the part more closely. This looks like a REALLY nice part. It will do QAM digital modulation, phasing SSB, and other nifty things all digitally! The $5 price difference for the extra 15 MHZ out of the 50 MHz part (you can only get up to about 24 MHZ with the 50 MHZ clock part) seems like a really small difference.

Ray Mack
WD5IFS
mack@mails.imed.com

4712. More on Power Supply Repairs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9509168138.AA813858204@mails.imed.com>
Source record: 110172

>tgoins@accessone.com (Todd Goins) is trying to fix a commercial power supply
>that uses a 723 voltage regulator and a bunch of pass transistors.

In another life I used to repair medical equipment for a living. We had a +/-
15 power supply that used a 723 for each side of the power supply. It was my
experience that 100% (yes REALLY) of the failures of this supply were due to
some type of failure of this IC. A VERY common failure mode was for the 723 to
get REALLY squirrely and oscillate and other nasty manifestations. If you have
a 'scope, look at the output uder a light load with AC coupling and about
100mV/division. You might be surprised at what you see.

It didn't click until I saw someone else's post this morning that a supply using
this chip could very easily exhibit the output rise then fall symptoms
originally described. Any supply I owned that used this IC would have 2 or 3 of
these IC's sitting on the shelf as repair parts.

You can probably tell I am not especially fond of this IC. Consider that this
IC is one of the VERY first analog IC's from the late 60's or early 70's and
that there are many newer and better designed parts to choose from these days.

Ray Mack
WD5IFS
mack@mails.imed.com

4713. 723 REGULATOR

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <45uhpm$13ts@flood.weeg.uiowa.edu>
Source record: 110173

See the 1995 ARRL Handbook, Power Supply Chapter for some
tips regarding the 723 regulator.

4714. Re: Ladder Line .. how to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951016164025.30837A-100000@biggulp.callamer.com>
Source record: 110174

Jack---after many years of making open wire line, some with very strange impedances, I think I have found the most convient, and best spreader material possible! It is rather simple stuff when you think about it---air hose material used to transfer air from a manifold to an air gun! Usually, for no good reason it is yellow in color and retains a coiled shape when relaxed. Not that short lengths would matter. The best construction method is simply to burn a hole in the material some half inch from the ends of the cut off piece whose length you have already determined using log 276 b/a. Then slit the end back to the hole with a knife. Simply press in the spreader with the wire line, into the hole. Insulated or bare wire can be used, just change the size of the hole! Nothing has even come close to the longevity here on the ocean front than this system. luck with it 73 de Cliff W6HDO Morro Bay, CA

4715. Re: "SINADDER" signal+noise+distortion meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <45ur6e$d88@hpscit.sc.hp.com>
Source record: 110175

In article <45se2l$86r@news.duke.edu>,
James P. Meyer <jimbob@acpub.duke.edu> wrote:
>P.Dalliessi@massey.ac.nz (Peter Dalliessi) wrote:
>
>>
>>Does anyone know where I can find the design for a s/n+dist. measuring
>>instrument?
>>
>>Such a device was made by a US company many years ago, and named a
>>"SINADDER3".

I happen to have a schematic for the "SINADDER" that dates back to 1976.
Is that of any use, or must you have "SINADDER 3"?

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4716. re: Zenith Transoceanic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-16 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <d00_9510162218@mba.mba.org>
Source record: 110176

Thom.LaCosta@f1352.n261.z1.fidonet.org (Thom LaCosta) wants
to build a bfo to fit inside his Zenith Transoceanic, and is
looking for a diagram.

This should be extremely easy to do. The most vital bit of
information that you need is the frequency of the IF strip, so
you can get the bfo on the right frequency. I would assume the
IF frequency is 455KHz, but that assumption is based on it being
a very common IF frequency in the old days. SOmebody with more
than passing interest in these old receivers should be able to
answer that question.

As for a circuit, the hills are alive with this sort of thing.
You basically want just a low power oscillator at the proper
frequency. Crystal control might be nice, but getting the crystal
can require a bit more work. I'm quite certain the IF response
of these receivers is not so great that the bfo has to be on an
exact point in the response, so the only value of a crystal controlled
bfo would be that it's stable, and it should be in the right place
without any tuning.

Any edition of the ARRL Handbook would have a circuit useable for this
project. Either in the form of a 455KHz oscillator meant for use
as a bfo, or a generic oscillator that could be applied to this use.

Similar circuits show up in Doug Demaw's less expensive ARRL books,
such as his Design Notebook.

They also show up over the years in plenty of magazines, for the
same purpose you need the bfo. To add one to a shortwave receiver
that doesn't have one. I haven't seen any published lately, though.

In a scheme like this, once you get the circuit built and going, you'll
need to get the signal into the receiver. I've seen articles doing
this that suggest just placing an oscillator at the right frequency
close to the receiver case, and there is enough injection. Putting
the BFO right inside the case, and hoping there is enough coupling,
might also work okay.

The best solution would be to directly couple the output of the bfo
into the receiver's detector. You'd need to trace out the circuitry
around the detector, or have a schematic to know where to inject.

If you start doing something this formally, you would do well
to add a switch to disable the agc line in the receiver.

stevem@w6yx.stanford.edu (Steve Muther) mentioned the lack of
stability in these old receivers, and that's true. There is a
way to get around this. Use a low power oscillator that operates
right on the signal frequency. Hopefully even without much work
you can build one more stable than the local oscillator of the
receiver. You would then tune the receiver to the signal you
want to listen to. Then tune the oscillator to that frequency,
and adjust for the right sound, ie the voice sounds right. This
way, the "bfo" is tuned to the incoming signal. The receiver might
move off frequency, but the only result would be a loss of sensitivity
as the signal moves down in the IF response. Your "BFO" is still
in the same place as the incoming signal (minus the required beat note),
so things are still in tune. The advantage of this method is that
you don't have to worry about coupling to the detector. You do
want a quite low power oscillator, since it will be amplified in
the receiver along with the incoming signal. Making it's output
level variable might be useful. You also don't want the "bfo" to
start radiating out in to space, since then you might end up
interfering with other stations.

Hope this helps.

Michael VE2BVW
--
| Reutrn Address: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

4717. Re: Can I use a 12 volt deep-cycle marine battery to ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: johnmxl@ix.netcom.com
Message-ID: <45v63t$73e@ixnews6.ix.netcom.com>
Source record: 110177
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

In <Pine.A32.3.91.951016133837.17834B-100000@storm.atms.purdue.edu>
BRETSKI <bap@storm.atms.purdue.edu> writes:
>
>Fellow amateurs.
>
>Can I use a 12 volt deep-cycle marine battery to:
>
>1. Power my HTX202? If so can I use the same guage wire that I use
> with the gel cell? Pardon my ignorance but the battery is so big
> compared to the HT. The battery runs the 12 volt system in the
> camper.

Yes. The load (the radio) determines the size of the wire needed.
Since the '202 draws abt 1 amp on high power transmit, light guage wire
will be OK on either power source.

Physical size of the battery isn't the concern...voltage is. The
larger battery will last longer (a lot longer, most of the time.)

>
>2. Power my Radio Shack 30 watt power AMP? The AMP draws 6 amps
> of current continous and I think the in-line fuse is
> 8 amps. I bought a regulated power supply from Radio Shack
> that pops its breaker at 2.5 amps. It is ok for packet
> but voice draws too much. The supply gives 13.8 VDC steady.
> The battery would give probably 12.5 VDC and slowly drain off,
obviously.

It will work fine.

> Any problem with that? Again does the guage of the wiring
> make a difference?

Depends on the length of the run from the amp to the battery. The
longer the run, the larger guage of wire you need to reduce voltage
drop.

>
>Finally, I built a 2 meter ground-plane antenna from 12 guage wire
>and a RO-239(?) connector. It works well off my HT, but would like
>to use the AMP to it. Would 30 watt power hurt it? It has one
>verticle radiator and two radials.

No, the output of the amp will not hurt the ground plane. Make sure
you have a good match (SWR) between the amp, or the protection circuit
of the amp will shut down the amp.

Curious...why didn't you add the other two radials?

>
>Thanks de N9ZFF
>
>
>
>BRET A. PENNINGTON / COMPUTER TECHNICIAN /EARTH AND ATMOSPHERIC
SCIENCES
>CIVL 4252 317-494-0678 / PURDUE UNIVERSITY / WEST LAFAYETTE, INDIANA
47907
>bap@storm.atms.purdue.edu / speaking only for
myself.
>/\/\/\/\/\/ __... /\/\/\/\/\/\/\/\ N9ZFF /\/\/\/\/\/ ...__
/\/\/\/\/\/\/\/\

Have fun...

John
KD6MXL@KM6PX.#NOCAL.CA
johnmxl@ix.netcom.com

4718. Help with HP hybrid ID?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <45uvbq$3hi@ixnews6.ix.netcom.com>
Source record: 110178
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

I recently picked up a Hewlett-Packard 6dB hybrid, but I can't find any information on it in my catalogs. Can anyone help me with its specifications? Its model number is: 15520C

Thanks for your help!

- Jeff

4719. Updated WWW Site

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <NEWTNews.813970745.11764.amsoft@amsoft>
Source record: 110179
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

The AmSoft web page "http://hamster.business.uwo.ca/~amsoft/" has
been reworked. It is now the Mother of all WWW sites for Amateur
Radio. Connect to over 125 ham sites direct from the front page.
New HTML work includes online forms, plenty of color and lots of
FUN! It could be addicting using our page.

4720. Wanted: tube specs for 6146B/W

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: Trummer Egon <ntrume@hasler.ascom.ch>
Message-ID: <1995Oct17.151014.1722@hasler.ascom.ch>
Source record: 110180
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Hi,
I have a Kenwood TS-830 shortwave TRX. This rig has two 6146B
as final tubes. But from another OM I got two 6146W from
GEC (General Electric Canada) instead.
Nobody of our amateur radio clubs could tell me the difference
between the B and the W suffix and if I could replace them
or not. Could you give me any hints ?

Greetings from Switzerland
email: ntrume@hasler.ascom.ch
call: HB9HVI, Egon

4721. Re: NiCd 12v charger IC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: bowman@montana.com
Message-ID: <45v0ev$2mk@maw.montana.com>
Source record: 110181

In article <45ti0c$o0m@cambridge.village.com>, richer@cambridge.village.com (Al Richer) says:
>
>Anybody got a good suggestion for a chip-based NiCad charger circuit?

the MAX713 will do it, with a few discrete transitors, caps, etc. fast charge up to the voltage knee, then a trickle for maintenance.

>charged for the times Uncle Joe Lucas comes to visit (if you gotta ask,
>you'e never owned a British car...8*))

had a Healey about 25 years ago. Lucas still hasn't figured out how electricity works?

4722. Re: Ladder Line .. how to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.220.000C44C8@TRL.OZ.AU>
Source record: 110182

>Hello from down under,
>I am looking for any clues on making ladder line (approx 450 ohms or
>thereabouts). What do you use for spreaders, how do you fix them to the line
>etc etc. Thanks, Ron. VK1NRC.

>_____
>Ron Cruikshank
G'day Ron. Daycom (03) 9543 6444 have 450 ohm ladder line.

However, if you want to make your own open wire line; cut up some 1/8" or 1/4" thick perspex into rectangles, about 1 X 2" . You will need sufficient for one spacer each 24" or so of line.

Drill a 1/16" hole through each end of the rectangle, about 1/8" from each end.

Using a triangular file, form a well-defined v-groove in the centre of each end (corresponding to the 1/16" hole).

Obtain some plain copper wire (not insulated), about # 14 gauge (try non-ferrous metal merchants). Measure out a pair, of required length. No kinks.

Anchor one end of the pair to a solid object, about 1 or 2 feet above ground.

Tie the other end of the pair to the tow-ball of your car.

Use the vehicle to impart just sufficient tension to remove the wrinkles, and maintain a nice tension on the pair. Hand-brake & Park.

One at a time, insert you spacers between the pair so that the spacer is held captive between the v-grooves. Use a single strand of plain #18 copper wire threaded through each 1/16" hole to hold the pair onto the spacer. Wrap the wire around each side, and solder. Repeat for the number of spacers required.

73 Drew, VK3XU.

4723. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: jotterso@st6000.sct.edu
Message-ID: <460541$1nh7@st6000.sct.edu>
Source record: 110183

You could probably achieve better results using a DDS instead of a PLL synth. There have been DDS articles in QST and 73 recently. These would easily triple up to the 6-meter band.

4724. Re: Ladder Line .. how to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <DGLDMM.EJG@freenet.carleton.ca>
Source record: 110184

Drew Diamond (ddiamond@TRL.OZ.AU) writes:
>>Hello from down under,
>>I am looking for any clues on making ladder line (approx 450 ohms or
>>thereabouts). What do you use for spreaders, how do you fix them to the line
>>etc etc. Thanks, Ron. VK1NRC.
>
> Obtain some plain copper wire (not insulated), about # 14 gauge (try
> non-ferrous metal merchants). Measure out a pair, of required length. No kinks.

Why not insulated, other than it's harder to detect breaks?
I prefer to use insulated for both feedlines and antennas;
less corrosion and rain static.

Russ, va3rr/aa8lu

4725. Wanted: BFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: hcohen@analogic.com
Message-ID: <a117cb$8f13.213@bilbo.analogic.com>
Source record: 110185

I would appreciate it if someone could point me to a BFO design
that I could build, so that I can use my conventional sw receiver
for cw and ssb. I have seen older designs, but they contain hard
to get, but once plentiful, components like variable capacitors.

Thank you.

Howard, n1vxs

4726. CQ test

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <460dml$ch0@unisql.unisql.com>
Source record: 110186

CQ test.

I'd type "break for a radio check" but this isn't a CB news group.

Jim

4727. Kenwood on Internet?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: cybercop@com18.com
Message-ID: <RERAAMHO.3967@com18.com>
Source record: 110187

I need to know if I can reach Kenwood via Internet?
I think my TM-742 has a big problem... :(HELP!!!

cybercop@com18.com

4728. Recommendation for a good "Grid Dipper"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: forrerj@ucs.orst.edu
Message-ID: <461aff$h3o@news.orst.edu>
Source record: 110188

Hi All,

I am looking for a professional quality "grid-dipper". Essentially it should have better than average sensitivity and good operating range from say 1 - 500 Mhz (switched ranges/coil packs are OK too). Price is not an object (within reason of course).

This is for remotely detecting the resonance frequency of a passive resonator - remote means a couple of inches away from the resonant circuit which is inaccessable, though not shielded.

I would be most grateful if anyone could recommend a manufacturer/source for such an instrument.

Much thanks,

Johan Forrer, KC7WW

(forrerJ@ucs.orst.edu)

4729. Re: Help with HP hybrid ID?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-1710951839350001@amber1.ultranet.com>
Source record: 110189
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <45uvbq$3hi@ixnews6.ix.netcom.com>, jeffa@ix.netcom.com (Jeff Anderson) wrote:

> I recently picked up a Hewlett-Packard 6dB hybrid, but I can't find any
> information on it in my catalogs. Can anyone help me with its
> specifications? Its model number is: 15520C
>
Jeff,

I found the following info on the 15520*A* in the Tucker catalog:

Freq: 45-95 MHz
Range of return loss measurement: 0 to 40 dB.
Loss between input and side ports: 6 dB.
Loss between output and side ports: 6 dB.
Minimum balance: 56 dB.
Impedance: 75 ohms
Maximum input power: +20 dBm
BNC(F) connectors

I don't know what the differences are between A and C models, but there's a good chance that they're very similar.

Good Luck,

Jon
--

Jon D.Goguen, Ph.D.

"Nothing worth knowing can be understood by the human mind." (Woody Allen)

4730. Re: easy keyer circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: mulveyr@vivanet.vivanet.com
Message-ID: <4617ue$9sb@vivanews.vivanet.com>
Source record: 110190

hduff@humnet.humberc.on.ca wrote:

: >
: >
: > Surely there is an easy circuit I can build
: > to key 700 Hz tones to a speaker.
: > I want soemthing real simple to practice sending code.

: Hi Bret... the simplest thing you could do is to use a battery, a
: sonalert type of pieziolectric sounder and of course a key. These are
: usually fixed at a higher frequency than 700 Hz though.

: If you are hung up on hearing something close to 700 Hz then you might
: want to build up a simple tone generator using a 555 timer IC...
: sample circuits should be easily accessible.

I believe the applications note that comes with the 555's at
Radio Shack include a schematic for a tone generator.

Rich Mulvey, aa2ys Rochester, NY USA
mulveyr@vivanet.com
aa2ys@net.wb2psi.ampr.org
aa2ys@wb2psi.#wny.ny.us

4731. 2N7000's: important information

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-1710952151230001@burdick.interval.com>
Source record: 110191

This is important reading for designers and kit builders about a component that has recently become popular in QRP circles. [Please publish widely.]

The 2N7000 is a DMOS MOSFET transistor that is great for switching uses: it can be used just like an NPN transistor, but requires no current-limit or bias resistor at the base lead (its gate lead draws no current). In fact, in the TO-92 package, its leads are in the same order as a bipolar transistor: S-G-D correspond to E-B-C.

BUT: this part *IS* subject to static damage. Before you handle one, sit down and touch the nearest metal surface that is grounded (rig, scope ground lead, etc.).

Several recent club and commercial kits use 2N7000s. Hopefully, those who pack the kits make sure that their 2N7000 transistors are good when they go into the anti-static bags--after that it's up to the builder. 99% of the time, you won't have a problem even if you handle them improperly (see story at the end of the article). It's the 1% I'm trying to eliminate.

This is a very useful part that won't go away, so here are some strongly recommended guidelines:

1. NEVER buy surplus 2N7000s or similar parts unless they are still on or in their protective anti-static shipping material. Loose parts in bins must be 100% tested before use.

2. NEVER remove them from the shipping material until you're properly grounded. It is then OK to put them into anti-static bags but NOT into ordinary plastic bags.

3. If you suspect one is bad, you can tentatively substitute a 2N2222A or other NPN transistor for it in many cases, BUT you must add a resistor (typically 10K) in series with the base lead. This is necessary because in most circuits, the 2N7000 is driven directly by things like microprocessor output pins, and you'll fry the NPN transistor without base current limiting.

Now, just to confuse the issue, here's an amusing counter-example:

When I designed the 2N7000s into a recent project, I attempted to do "destructive testing" of one of the parts. I held a 2N7000 loosely in my hand, scuffed my feet around on carpet, rubbed the part on my cat, shocked myself on the sliding glass door transistor-first, and other things too horrible to mention. Then I put it back in the circuit. It still worked! Perhaps some of the parts are better than others! After all, they are made by more than one manufacturer.

Hope this clarifies the use of these devices. Assume the worst, despite my good luck with one of them.

73,
Wayne Burdick
N6KR

4732. Re: Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: Bill Harwood <harwood@sirius.chinalake.navy.mil>
Message-ID: <DGLwB3.3FG@avalon.chinalake.navy.mil>
Source record: 110192
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

The real reason for using silver plated connectors below UHF is not electrical performance. The silver connectors will take solder flow well and require less heating and have better wetting characteristics. The use of teflon-silver connectors will insure a good job every time and no shorted, melted wasted connectors. The silver teflon connectors are available at Radio Shack (2 PL-259's per package). Most Ham dealers have them and others. Your time in assembly and debugging makes the extra 50ï¿½ worth it every time.

Bill Harwood
AB6DY

4733. Re: EIMAC 5CX 1500A-Ceramic tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: "m.b.dissanayake" <mbd@bish.demon.co.uk>
Message-ID: <860267418wnr@bish.demon.co.uk>
Source record: 110193

Tom, Many thanks. Details are for a Ham who is trying to build a linear. It is being passed to him via packet and I will come back if more info is requested.--
73' Bish. g0cua
m.b.dissanayake

4734. Re: Balanced Line Microphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct17.145657.2732@ke4zv.atl.ga.us>
Source record: 110194

In article <813789902.29281@pinetree.microserve.com> jackl@pinetree.microserve.com (WB3U) writes:
>
>The other comments in this thread have pretty well covered the issue, but
>I just wanted to mention one thing.
>
>The purpose of balanced microphone designs is to eliminate hum that could
>otherwise result from common mode voltage being picked up on the shield of
>an unbalanced system.
>
>This isn't at all likely to be a problem in the typical ham shack, so
>connecting the "Low" side to ground is an acceptable alternative to
>purchasing a balanced to unbalanced adaptor.

Likely true in many cases, but properly doing the balanced to unbalanced conversion with a transformer at the rig also gets rid of pesky common mode *RF* pickup as well as stray field AC hum. *That* can be important in many ham shacks. With a short mike cable, and good RF bypassing at the rig input, you can usually get away with just tying mike low to ground, but using the transformer is the right way to do it, and can solve RF feedback problems.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4735. Re: Remote mounting RFI ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct17.150651.2851@ke4zv.atl.ga.us>
Source record: 110195

In article <8015208463501@humnet.humberc.on.ca> hduff@humnet.humberc.on.ca writes:
>
>I am wondering if RFI from the engine might play havok with the channel
>selection lines that lead into the synthesizer micro ? It was suggested
>to me that I consider some means of protection on the channel select
>lines since the micro may be vulerable to noise (other than simple
>bypass caps to ground). My dilema is in trying to keep the design as simple
>as possible with minimal parts count, I'd prefer to avoid the extra
>hardware if not essential.

It would be good practice to use a line driver and a line receiver
chip at each end of the link. Going directly to the low current
micro's pins invites noise and spike problems. A line driver/receiver
pair will source/sink enough current to offer decent immunity to
induced noise currents. Differential driver/receivers may be overkill
here, but they don't cost much more. Or you could even opticouple
with a pair of H111 chips. They're dirt cheap, and insure that any
voltage on the wires can't get to the sensitive (and expensive)
chips.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4736. Heathkit CB to 10meters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-17 00:00:00 UTC
From: calhoun@gorge.net
Message-ID: <calhoun-1610952126200001@wsdial1.gorge.net>
Source record: 110196

I have my great grandpa's HeathKit Model MW-34 CB. It can tune variably or by crystal. There are five slots for crystals. Four are internal and one is an external plug. Is it possible to plug a crystal into this that would allow me to listen on 10meters?
dave

--
Dave Calhoun Audio Fanatic
dtpdave@aol.com Landcruiser Fanatic
calhoun@gorge.net

4737. Re: "SINADDER" signal+noise+distortion meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <461l7c$s4@cc.iu.net>
Source record: 110197

In <DGJnE5.73M@ssbunews.ih.att.com>, parnass@radioman.ih.att.com (Bob Parnass, AJ9S) writes:
>BTW, Helper Instruments, maker of the Sinadder line of SINAD meters,
>is still alive and well. They can furnish reprints of informative
>articles on SINAD. Sorry, I don't have the address in front of me.
>Helper used to advertise in Mobile Radio Technology but I don't
>see their ads in most the recent issues.

Helper Instruments Co.
131 Tomahawk Drive
Indian Harbour Beach, FL 32937
(407) 777-1440

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

4738. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <461qql$daa@hpscit.sc.hp.com>
Source record: 110198

In article <801523937403@humnet.humberc.on.ca>,
<hduff@humnet.humberc.on.ca> wrote:

>Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
>that I would synthesize would be at the crystal fundamentals ?

I assumed you wanted to keep as much of the radio intact as possible,
especially since the '157 won't work above 15 MHz.

>"This is one of those projects where anyone who knows enough about the
>technology to know what is involved" ...would know that bypassing the
>multiplication stages in the radio and just generating the highest
>and closest to the operating frequency with the PLL/VCO would be best
>approach (which IS indeed the way it is going to be done).

Yes, I do know that. I designed a marine radio that worked that way
20 years ago. However, you don't want to operate the VCO on the transmit
frequency because of feedback problems.

>I'm operating the PLL/VCO at half the required frequency and running it
>through 1 doubler stage within the radio. The doubled frequency runs
>through a bandpass filter, spurs are not an big issue.

That's a good architecture, but it exceeds the frequency range of the '157.

>You might want to brush up on your personability skills...
>"...simple minded synthesizer..." and your approach in general ceratinly
>don't contribute positively to the spirit of homebrewing !
>
>Hugh Duff VA3TO Toronto

Well, sorry, but what you are talking about *is* a simple minded synthesizer.
If you want to see a sophisticated one, read my 1995 Frequency Control
Symposium paper. I am trying to contribute to homebrewing by saving
people from endless frustration. (BTW, another poster suggested a DDS;
great idea! Far more homebrewable.)

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4739. Re: Wanted: BFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <461qu1$dgh@hpscit.sc.hp.com>
Source record: 110199

In article <a117cb$8f13.213@bilbo.analogic.com>,
Howard Cohen <hcohen@analogic.com> wrote:
>I would appreciate it if someone could point me to a BFO design
>that I could build, so that I can use my conventional sw receiver
>for cw and ssb. I have seen older designs, but they contain hard
>to get, but once plentiful, components like variable capacitors.
>
>Thank you.
>
>Howard, n1vxs
>

Simply replace the variable capacitors with varactor diodes
such as Motorola MV1401, MVAM109, etc.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4740. Re: Cooling A 3-1000 Tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: jfriley@airmail.net
Message-ID: <461te1$3tm@news.iadfw.net>
Source record: 110200

Gary KF9CM wrote:

>I have used a 4" 110 cfm muffin fan in my 4-1000a for 3 years with no heating
>problems. See the older handbooks(1960s) dealing with 3-1000 amplifiers for details.

The main thing is to get enough air over the filament pins. Heat can
take the temper out of the filament contact springs and eventually the
pin will desolder or the base will crack.

JFRILEY@airmail.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

4741. Re: Wanted: BFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <813988853.16179@pinetree.microserve.com>
Source record: 110201

rkarlqu@scd.hp.com (Richard Karlquist) wrote:

>Simply replace the variable capacitors with varactor diodes
>such as Motorola MV1401, MVAM109, etc.

How do you attach the knob to the diode? :)

73,

Jack WB3U

4742. Re: Wanted: tube specs for 6146B/W

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: James Garland <garland@ohstpy.mps.ohio-state.edu>
Message-ID: <463sck$kf2@pacific.mps.ohio-state.edu>
Source record: 110202
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

As I recall, the 6146B should not be used in circuits intended for the 6146 or 6146A. In addition to having higher plate dissipation, the 6146B requires a higher screen voltage to obtain the same operating point. Therefore, if a 6146B is plugged into, e.g., a Viking Ranger, it won't have enough screen voltage to maintain the same power output as a 6146/A. At least that's what I recall from years ago when the 6146B was first released. Someone pse tell me if I"m wrong!

Jim W8ZR

4743. Re: Eimac sockets & chimneys

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: jfriley@airmail.net
Message-ID: <4631cu$7ds@news.iadfw.net>
Source record: 110203

ab419@freenet.toronto.on.ca (Randie Kochals) wrote:
> Is Eimac still in business?

Despite gross and appalling mismanagement by Varian, Eimac survived and is now owned by the same company that owns Victoria's Secret. So you can get tube sockets and boob sockets from the same source! They do not usually sell to the public (that policy is not cast in concrete) but you can buy their products from distributors like Richardson Electronics in Chicago. But you can call Eimac directly at: 415-592-1221 for a list of distributors. Prepare yourself for sticker shock on socket prices. Fair Radio in Lima, Ohio, Slep Electronics in Otto, NC, and many others often market used or surplus sockets at much lower prices.

4744. Re: Anybody used Ramsey FX-440 for 9600?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: lkraft@aa6lk.rose.hp.com
Message-ID: <DGnHos.Fq6@icon.rose.hp.com>
Source record: 110204
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Jeffrey Austen (jra1854@tntech.edu) wrote:
: > In Article <DFty7w.569@sunsrvr6.cci.com>, jdc@cci.com (James D. Cronin) wrote:
<stuff deleted>
: >
: > The transmitter was a
: > disaster! Because they have no shielding anywhere in the radio the
: > transmitter output got back into the PLL and the resultant signal resembled
: > broadband noise. I wasted a lot of time trying to clean that up and never
: > was successful. I believe that taking the time to build a good shield
: > around the PLL would have solved the problem but there are problems with
: > the board layout that make it a difficult thing to do.

I found exactly the same problem. The VCO radiation is so strong
that it affected the operation of the PLL. It created reference spurs
on either side of the VCO out past 200kHz. I was able to fabricate
a shield over the VCO, including the PC inductor, that reduced the
spurs to an acceptable level.

The receiver has very little front end selectivity, and I was plagued
with pager intermod. I was able to replace the front end "tuned"
circuit with a Toko two-section helical filter. Now I don't have
the intermod problem, and the sensitivity seems about the same
(not measured but using off the air signals).

: >
: > My recommendation is to avoid the unit unless they have made major design
: > changes since the original radio (the 2-m version failed the transmitter
: > spurious output test -- see the QST review from about a year ago).
: >

I second this recommendation. Unless you like fiddling with
gadgets and have some nice test equipment.

: > Jeff, k9ja
: > ---
: > Jeffrey Austen | Tennessee Technological University
: > jra1854@tntech.edu | Box 5004
: > +1 615 372 3485 | Cookeville Tennessee 38505 U.S.A.

73,
L
==========
Lyle Kraft AA6LK
########################## Hewlett-Packard
/_ _ ###### System Interconnect Lab -

/ / /_/ ##### Information Networks Division
####### / ####### Roseville, CA 95747-5601
######################### 916-785-5798 FAX 916-785-2875
lkraft@core.rose.hp.com
==========

4745. Re: DDS Article in 73

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: Harvey Sugar <sugarh@ttc.com>
Message-ID: <4637iv$rqq@relay.ttc.com>
Source record: 110205

kirkland@bnr.ca (Bill Kirkland) wrote:
>It does look like an
>excellant part to be used with Rhode's article (he does mention it)
>"A High-Performance Hybrid Frequency Synthesizer"
Where was this article published?

4746. Re: Eimac sockets & chimneys

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <463g5j$1cg@newsbf02.news.aol.com>
Source record: 110206

In article <4631cu$7ds@news.iadfw.net>, jfriley@airmail.net (J. Fred Riley) writes:

>ab419@freenet.toronto.on.ca (Randie Kochals) wrote:
>> Is Eimac still in business?
>
>Despite gross and appalling mismanagement by Varian, Eimac survived
>and is now owned by the same company that owns Victoria's Secret. So
>you can get tube sockets and boob sockets from the same source!
>They do not usually sell to the public (that policy is not cast in
>concrete) but you can buy their products from distributors like
>Richardson Electronics in Chicago. But you can call Eimac directly
>at: 415-592-1221 for a list of distributors. Prepare yourself for
>sticker shock on socket prices. Fair Radio in Lima, Ohio, Slep
>Electronics in Otto, NC, and many others often market used or surplus
>sockets at much lower prices.
>
>
>

And if you don't want to be ripped off by Richardsons, you can call Ameritron or Henry, they are both are direct outlets.

73 Tom

4747. Re: approximation for Green's function of a dielectric slab on a conducting ground plane

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: D_Benzel <benzel1@llnl.gov>
Message-ID: <463hh6$pcb@lll-winken.llnl.gov>
Source record: 110207
Cross-posted to: sci.physics.electromag,sci.math.num-analysis,rec.radio.amateur.homebrew

Try "Microwave Engineering" by David M. Pozar for an analysis using quasi-static approximations.

4748. KVG Xtal Filters - where?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: ted <ted>
Message-ID: <463sbs$ghv@dingo.cc.uq.oz.au>
Source record: 110208

My USA parts supplier info is a bit dated now, so can someone please provide me with a current supplier of KVG xtal filters. I'm looking for the XF-9B together with BFO xtals - prefer USA based, but of course if there is a VK distributor then that would be better!

73 Ted VK1BL

ejg@acslink.net.au

4749. Lucas

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9509188140.AA814030376@mails.imed.com>
Source record: 110209

Since there have been a few posts mentioning Lucas, would the British among us be offended by a few snide comments?

Ray Mack
mack@mails.imed.com

4750. Re: Looking for PIN switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <4644ug$lng@crl8.crl.com>
Source record: 110210

Steve Muther (stevem@w6yx.stanford.edu) wrote:

: I am building an 8 to 12GHz sweep generator using a
: surplus YIG oscillator. I am looking for a SPDT PIN
: switch module which will work in this frequency range
: to implement RF blanking on retrace.

I don't know what kind of test system you have planned, but if it
is something like a diode detector going into an oscilloscope, it
would be easier to put your blanking pulse into the Z axis of the scope
and blank *it*.

Later,

--

Don Miller My opinions are my own!
dmiller@crl.com

4751. Tube info required 8789

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-18 00:00:00 UTC
From: ve6nap@oanet.com
Message-ID: <ve6nap.18.001150C4@oanet.com>
Source record: 110211

Have recently obtained an intresting tube
it looks to be a large triode for use in Grounded Grid Service
a heavy center taped filament rated at 12.6 volts
filament current requirements unkown but appear to be around 20 + amps

Would like to get more info on this tube
ie
Max plate dissipation
Max plate volts
Max plate current
Max grid current
inter element capacitance

Typical operating parameters etc.....

It seems like it should make a good amp for 160 M thru 10 M

Thanks to all in advance

73 de ve6nap @ oanet.com
Fax - 403-434-2111

4752. Re: Looking for PIN switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <465qa9$9sm@nntp.Stanford.EDU>
Source record: 110073

In article <4644ug$lng@crl8.crl.com> dmiller@crl.com (Donald J. Miller) writes:
>Steve Muther (stevem@w6yx.stanford.edu) wrote:
>
>: I am building an 8 to 12GHz sweep generator using a
>: surplus YIG oscillator. I am looking for a SPDT PIN
>: switch module which will work in this frequency range
>: to implement RF blanking on retrace.
>
>I don't know what kind of test system you have planned, but if it
>is something like a diode detector going into an oscilloscope, it
>would be easier to put your blanking pulse into the Z axis of the scope
>and blank *it*.
>
>Later,
>
>
>
>--
>---
>Don Miller My opinions are my own!
>dmiller@crl.com
>---

I am going to be using the sweeper with an old HP8410B Network Analyzer.
It seems to behave much better with RF blanking than with trace blanking.

Steve M. WF6R

4753. Re: IF-amplifier for 71MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <465qq4$9vk@nntp.Stanford.EDU>
Source record: 110074

In article <46520s$5l6@columba.udac.uu.se> mikael.landing@teknikum.uu.se writes:
>Are building a receiver for 1.8GHz with IF at 71MHz. The linear IF-amp
>Im using is a micro-devices 2601 with digitally adjustable
>gain-control.
>Problem is that when the gain is set to a low value the noise figure
>gets real bad (It goes up as much as the gain goes down). When set to
>maximum gain the noise is ok though. But when the gain is set to a
>high value the amp. goes easily into saturation (Input 1dB compression
>gets worse with the same amount that the gain goes up).
>
>Does anyone have some suggestion how to solve the problem or know some
>other better linear IF-amp with AGC-line?
>
>Thankful for answers!
>
>Micke
>
>
I have also found stability and noise problems with the RF Micro parts.
I have also had difficulty getting the attention of competant Applications
staff there to resolve problems.

I have not found a good alternative yet. Currently playing with the old
Motorola MC1350 and 1490. Philips also has some AGC IF amps and I am
trying to get samples.

Good Luck

Steve Muther WF6R

4754. Re: CQ test

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: dstuart@saucer.cc.umr.edu
Message-ID: <465s8m$7r0@hptemp1.cc.umr.edu>
Source record: 110075

Jim Strohm (jstrohm@blazer) wrote:
: CQ test.

: I'd type "break for a radio check" but this isn't a CB news group.

: Jim

I think CQ CQ CQ DE (Throw your name in here) CQ CQ CQ K

--
-- Dave Stuart
dstuart@umr.edu
University of Missouri -- Rolla

KB0SLY

4755. 723 regulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <4666i1$djk@flood.weeg.uiowa.edu>
Source record: 110076

For more background on the 723 regulator I suggest you see the
1994/5 ARRL Handbook power supply chapters.

4756. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4666d2$1hjs@info4.rus.uni-stuttgart.de>
Source record: 110077

>Tell me what you know about 40m verticals, I've been told that ground
>radials acutally function better above ground. I want to build the best
>40m vertical I can. What do you have to share?

Hi Tim,

The most important ingredient is a good ground conductivity. I used a
vertical on fourty at the seashore, it worked great, whereas inland it
was very poor. If you live inland you may be better with a horizontally
polarized antenna (inverted vee, quad loop...) suspended from the highest
pole you can put up.

My (portable) antenna was a slightly shortened (7 meters) 1/4 wl radiator
and 3 to 4 radials, with the feed point about 10 meters above ground.
If you have the feed point at ground level, you need a very large
number (100) of radials. There were simulations published by Al Christman,
indicating that 4 radials a little (1/10 wl) above ground work as well
as 100 on the ground, but these results are heavily disputed.

73, Moritz DL5UH

4757. Re: HELP!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <4668h5$h6t@ixnews5.ix.netcom.com>
Source record: 110078

In <45esbnINN31r@sepia.wv.tek.com> edbu@sepia.wv.tek.com (Ed Burress)
writes:
>
>In article <45aql3$3nu@newsbf02.news.aol.com> lordwisp@aol.com (Lord
Wisp) writes:
>>I am trying to built a linear for my 10 meter radio but cannot find
any
>>schematics... Can anyone help me or email me with schematics and
parts
>>lists..
>>and where to get them,,, Thanks!!!
>>
>

>Gee, no real name posted, no call sign, and aol account (not that that
>means anything) and for 10 meter (or was that 11 meter?)
>No thanks...
>I like helping folks when I can, I just kind of like to know who the
>other person is before I do....
>
>Ed Burress
>KC7GFX
>
I personally think you are being a bit paranoid, 11m linears are so
plentiful and easy to get many hams are now buying them and cleaning
them up to use on 12 and 15, sometimes even 20. If the person is
interested in building one, he probably isn't planning on just using it
for a kicker for his CB, those are easy enough to get.

just my $.02 worth.

Sparky KI5GY

4758. Re: Silver vs. Nickel: Why?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: ballnt@aztec.asu.edu
Message-ID: <4669vp$pqe@news.asu.edu>
Source record: 110079

In a previous article, lager@primenet.com (Woody Harper) says:

>article claims that the connector must be silver plated as nickel plating
>will not work. Why? I am having a devil of a time finding silver plated
>SO-239 connectors in Phoenix, but can get nickel plated for $5.00 at
>Radio Shack. The author does not explain why he feels that only silver
>will work and I have no clue. Thanks in advance for any help.
>
>--
>---
>Home Page: http://www.primenet.com/~lager

Try Ham Radio Outlet on Camelback. They have carried the silver plated
connectors in the past. They are usually easier to solder than the
nickel plated ones. The connectors they carry are probably a better
quality than Radio Shack carries.

--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

4759. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <466cmr$cq6@news.vcd.hp.com>
Source record: 110080

Hi Tim OM,

If you want to build the best vertical you can, then build a half wave vertical dipole, and elevated it as far above ground as you can. You need no ground whatsoever with a halfwave vertical antenna. It can be fed in the same way as VHF verticals like the J are fed: at the end with a quarter wave stub or a tuned tank circuit (same thing electrically), or at the center via a 1:1 balun. It can also be center or end fed, of course, with tuned feeders.

73, GL,
Don, W6JL

4760. Re: TS 520SE HALF POWER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: kevinf@aquilagroup.com
Message-ID: <4669vs$bfk@mack.rt66.com>
Source record: 110081

bb840@scn.org (James Aeschliman) wrote:

>It sounds like the heater for one of the finals blew.

Not sure about the 'S, but my '520 runs the heaters in SERIES,
therefore it's an "all or nothing" situation on the final filiments.
(guess they did this so that inverter would not need to handle
filiment current when mobile.)

This was very bad design practice on Kenwood's part. Positive temp co
devices (heaters) can be unstable when in series. Also, it sacrifices
the advantage of redundancy.

BTW, by the time '520 came along, Novices were allowed 250W DC input
power. (this was the new rig on mkt when I was a Novice). Pulling
one final would require adding a resistor to simulate other tubes
filiment. And why not just load it back anyway...There never was a
reg that said your equiptment couldn't be capable of more power...Even
a single 6146 would be illeagal (90W input) if so. My DX-60B manual
advises novices to load back it's lone '46 so as to be under the 75
limit. Guess you would save filiment time on second final...but they
used to be pretty cheap in those days. If someone actually did this,
please tell me why.

Back on thread:

It is possible that one tube has shorted out all or part of its
filiment, leaving it cold, and the other super hot. You should be
able to see this without opening the PA "doghouse".

More likely a bad connection to one tube..open inductor resistor or
some such.. Loss of vacum maybe also.
Could be HV supply lost a diode as well.

If HV level is normal, then you could lift one plate cap at a time and
see which one kills it completely. Then switch tubes and see if it
moves with the tube or not. If not, then look at wiring, if so , then
just a bad tube. Note: pulling one tube out will kill both, if
filiments are in series as in '520

---> CAUTION: High Voltage! <----

BTW '520 does NOT require matched finals. Just don't mix '46 ,'46A or
'46B, because filiment resistance varies, and they won't "share"
filiment power equally. But if one died, might as well do both...its
only another 30 bucks or so, but no more hassel..all those screws,
neutralizing etc....I hate to leave a weak link anyway. Would

probably do the driver while I was in there too, as it would have similar filiment time as finals.

I brought a basket case '520 back from the grave (prev owner had already begun scavaging parts) so know my way around it pretty well. e-mail me (others welcome too) if you want opinions/advice.

73 de KO0B

4761. Re: KVG Filters; Where?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: Bob Mueller <IFF161@DJUKFA11.BITNET>
Message-ID: <95292.212531IFF161@DJUKFA11.BITNET>
Source record: 110082

Path: djukfa11!news.kfa-juelich.de!news.dfn.de!scsing.switch.ch!
swidir.switch.ch!in2p3.fr!oleane!simtel!harbinger.cc.monash.edu.au!bunyip.cc.uq
.oz.au!news

I've been told that KVG has dropped the business for these filters. One
can get special order filters, in massive (for homebrewers) quantities.
Hope for something on the used market, but these are now scarce
because they are irreplaceable treasures. I could find none of the model
you seek at one of the best amateur fleamarkets in Germany.
Bob

<
<My USA parts supplier info is a bit dated now, so can someone please
<provide me with a current supplier of KVG xtal filters. I'm looking
<or the XF-9B together with BFO xtals - prefer USA based, but of course
<f there is a VK distributor then that would be better!

<3 Ted VK1BL

<jg@acslink.net.au

4762. Ramsey FM-10A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: YPSE19A@prodigy.com
Message-ID: <466erh$1qlm@usenetw1.news.prodigy.com>
Source record: 110083

My first kit I ever built is this fm transmitter, how can I get it to transmit over the 300 feet radius? I would like to at least go 1mile if possable. I know it's not recomended to violate the fcc rules. Maybe someone can give me instructions on how I can adjust and regulate the transmition range with some kind of modification. In other words, how & where can I put a Knob to make it go
1 mile and then turn it down to 300 feet? Adjustablity is what I need.

-
NICHOLAS MESSINA YPSE19A@prodigy.com

4763. Johnson Ranger II Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: James Garland <garland@ohstpy.mps.ohio-state.edu>
Message-ID: <466g8m$qqr@pacific.mps.ohio-state.edu>
Source record: 110084

My "new" Ranger II seems to work fine (about 45 watts output), but the power transformer seems to run awfully hot -- not too hot to hold my hand on, but nearly so. It's a large transformer, considering the modest power level of the transmitter, so I'm puzzled. I measured all the voltages and they seem normal, but I suppose it's possible something is drawing too much current that I'm not aware of. Does anyone else notice the same thing? Jim W8ZR

4764. -=-=-Blackout's Box-=-=-

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: blackout@igc.net
Message-ID: <464sc4$kk4@IRIS.igc.net>
Source record: 110085

Greetings everybody.

Well some of you know me, and some of you don't - but I'm Blackout,
and the box is backup, although at a pretty lame location.

1-800-KOOK-LINE (1-800-566-5546)
ext 345

If you're new to the game, Blackout's Box is an underground crank line
and I suppose you could say it is somewhat like the jerky boys but
much better as the calls are all real and not staged.

This one is on a lame company vmb that only goes up after 6 p.m.
though... temporarily untill I find a better vmb to continue the
tradition of the box on.

If anyone out there has a better vmb.. one that can have LOOOONNG
greeting msgs.. one that is on an 800 number with multiple lines...
and one that has GOOD sound quality and not crappy compression sound, and
you would like to help out the box cause.. let me know.

Sometimes I update the message every night... sometimes once a week..
whenever inspiration strikes.

Peace... and creative chaos to all!

Blackout

Blackout's Box ------------> 1-800-566-5546 ext 345 (after 6pm)
1-800-kook-line

4765. tube info required EEV 8987

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: ve6nap@oanet.com
Message-ID: <ve6nap.19.0010987A@oanet.com>
Source record: 110086

"oops" got tube # wrong on last posting my memory is not what it used to be.

Have recently obtained an intresting tube

Marked 8987

stamped Made in England

It also has a printed EE monogram (almost worn off)

It looks to be a large triode for use in Grounded Grid Service

a heavy center taped filament rated at 12.6 volts (marked on tube envelope)
filament current requirements unkown but appear to be around 20 + amps

Would like to get more info on this tube
ie
Max plate dissipation
Max plate volts
Max plate current
Max grid current
inter element capacitance

Typical operating parameters etc.....

It seems like it should make a good amp for 160 M thru 10 M

Thanks to all in advance

73 de ve6nap @ oanet.com
Fax - 403-434-2111

4766. Re: More on Power Supply Repairs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: myers@Cypress.West.Sun.Com
Message-ID: <465rfq$95n@abyss.West.Sun.COM>
Source record: 110087

In article c3g@news.iii.net, "Thomas C. J. Sefranek" <wa1rhp@wa1rhp.iii.net> writes:

[deletia]

>Lambda does a good job with that regulator.
>Also, it's a peach with power FETs, with that gate protection zener
>already built in! And for a 60's chip, not bad! (Seeing that power
>FETS didn't get designed or built 'til the 80's)

Siliconix, as I recall, introduced the first power MOSFETs in
the mid 1970s. I certainly had one or two by 1980....

---
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

4767. Re: Anybody used Ramsey FX-440 for 9600?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: Dan Mick <myers>
Message-ID: <466gsc$dr2@abyss.West.Sun.COM>
Source record: 110088
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

lkraft@aa6lk.rose.hp.com (Lyle Kraft) wrote:
>Jeffrey Austen (jra1854@tntech.edu) wrote:
>: > In Article <DFty7w.569@sunsrvr6.cci.com>, jdc@cci.com (James D. Cronin) wrote:
> <stuff deleted>
>: >
>: > The transmitter was a
>: > disaster! Because they have no shielding anywhere in the radio the
>: > transmitter output got back into the PLL and the resultant signal resembled
>: > broadband noise. I wasted a lot of time trying to clean that up and never
>: > was successful. I believe that taking the time to build a good shield
>: > around the PLL would have solved the problem but there are problems with
>: > the board layout that make it a difficult thing to do.
>
> I found exactly the same problem. The VCO radiation is so strong
> that it affected the operation of the PLL. It created reference spurs
> on either side of the VCO out past 200kHz. I was able to fabricate
> a shield over the VCO, including the PC inductor, that reduced the
> spurs to an acceptable level.

I'm curious how the VCO radiation is affecting the operation of the
PLL. Certainly the reference spurs are expected as a result of leakthrough
in the loop filter; are the spurs much higher than you expect? Did you
check the loop filter to make sure it was working correctly?

> The receiver has very little front end selectivity, and I was plagued
> with pager intermod. I was able to replace the front end "tuned"
> circuit with a Toko two-section helical filter. Now I don't have
> the intermod problem, and the sensitivity seems about the same
> (not measured but using off the air signals).

Yeah, there's apparently way too much gain in the front end
with way too little selectivity. I'm surprised it works as
well as it does.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

4768. Want to jam stupid radio station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: ez041502@dale.ucdavis.edu
Message-ID: <464rnm$885@mark.ucdavis.edu>
Source record: 110089

Is this possible? I'd only want to jam one particular signal in a small area. I don't know if this'll help me pick up the station I like, which happens to be right next to it, but I'd like to jam it just out of spite. And yes, I'm sure the FCC isn't going to approve.
Stan Kwong

4769. DDS Article in 73

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8019-240956501@humnet.humberc.on.ca>
Source record: 110090

>
> The one thing about the AD7008 is that its output is very dirty and one needs
> to employ proper filtering before using it on the air. It does look like an
> excellant part to be used with Rhode's article (he does mention it)
> "A High-Performance Hybrid Frequency Synthesizer"
>
> Bill Kirkland
> VE3JHU
>
>

Hi Bill...speaking of using DDS' on the air...
Do you have any good wideband amp designs to get the milliwatt signal
up around the watt or 2 range ? (Must be 12 volt design).
There was an article in 73 magazine a couple of years back called
the "Technowhizzy"...it used a Qualcomm DDS along with a 1 or 2 watt
wideband amp but apparently the amp design was a flop (how it made it to
print is beyond me !?).
I'm dying to get my Harris based DDS on the air for QRP work !

Thanks..Hugh VA3TO

• NFX v1.3 [000]

--

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4770. PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8019-240941402@humnet.humberc.on.ca>
Source record: 110091

>
> In article <801523937403@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
> >"This is one of those projects where anyone who knows enough about the
> >technology to know what is involved" ...would know that bypassing the
> >multiplication stages in the radio and just generating the highest
> >and closest to the operating frequency with the PLL/VCO would be best
> >approach (which IS indeed the way it is going to be done).
>
> Yes, I do know that. I designed a marine radio that worked that way
> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
> >through a bandpass filter, spurs are not an big issue.
>
> That's a good architecture, but it exceeds the frequency range of the '157.

Hmmm...mine's working at 26 MHz !!
Maybe this is pushing it to its limit.

In the search for more of these parts we have discovered that it *MAY*
be a discontinued item. We are considering trying out
the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

>
> >You might want to brush up on your personability skills...
> >"...simple minded synthesizer..." and your approach in general ceratinly

> >don't contribute positively to the spirit of homebrewing !
> >
> >Hugh Duff VA3TO Toronto

>
> Well, sorry, but what you are talking about *is* a simple minded synthesizer.

What is simple minded about a PLL/Loop Filter/VCO when properly
designed ? I didn't intend on building up some half-assed "well, it
kinda works" board. That was the intent of the original post...tell me
what I need to know and/or HELP me design a solid performer !
If you don't want to get involved in a positive way, say nothing !
Perhaps I'm being a bit anal retentive but the net seems to be full
of the "I can tell you you're wrong but I can't tell you how to
do it right" types.

I suggest that your delivery is somewhat abrasive...try having some
compassion for those of us who are attempting to learn. Nothing is more
of a turnoff than having someone who comes off like a "know-it-all"
burst your ballon. Albeit, you may know your stuff *BUT* your delivery
needs some honing.

> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
> people from endless frustration. (BTW, another poster suggested a DDS;
> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

The only frustration so far has been the negativity expressed by
yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph
exhibits somewhat of a kinder approach...more of what I was expecting.)

...is beyond me. Maybe you have a fat head. (It sounds like it...
"If you want to see a sophisticated one, read my...")
Ya, you're cool !

Keep in mind that this newsgroup is the Ham Radio Homebrewing
conference...hobbiests, many of whom are interested to learn,

myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

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4771. DDS Article in 73

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8019-219509301@humnet.humberc.on.ca>
Source record: 110092

>
> The one thing about the AD7008 is that its output is very dirty and one needs
> to employ proper filtering before using it on the air. It does look like an
> excellant part to be used with Rhode's article (he does mention it)
> "A High-Performance Hybrid Frequency Synthesizer"
>
> Bill Kirkland
> VE3JHU
>
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the "Technowhizzy"...it used a Qualcomm DDS along with a 1 or 2 watt
wideband amp but apparently the amp design was a flop (how it made it to
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4772. PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8019-219494202@humnet.humberc.on.ca>
Source record: 110093

>
> In article <801523937403@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
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>
> Yes, I do know that. I designed a marine radio that worked that way
> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
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Maybe this is pushing it to its limit.

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the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

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> >
> >Hugh Duff VA3TO Toronto

>
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> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
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> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

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yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph
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...is beyond me. Maybe you have a fat head. (It sounds like it...
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myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

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4773. PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8019-219492403@humnet.humberc.on.ca>
Source record: 110094

```
---clip---
>
> You can't run a '157 at 25MHz; I assume you're using low-side
> injection, but you can't even run a '157 at 20MHz. The spurs to
> be concerned with are close to the desired frequency, in fact,
> they're space at intervals of your reference frequency. The
> bandpass filter can't help with these.
> --
---clip---
> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
> * (310) 348-6043 | mine and do not necessarily *
> * Dana.Myers@West.Sun.Com | reflect those of my employer *
>

Funny...I'm running the '157 at 26 MHz ! Experiencing a little low
frequency noise...working on lowering that but the chip IS locking
up well at 26 MHz. I was under the impression that these babies were
designed specifically for cordless phone products in the 46 - 49 MHz
range. The N divider accomodates ratios 14 bits in length...even beyond
49 MHz with a reference ratio set for 5 KHz step size. Perhaps the
N divider may crap out somewhere before 49 MHz but it seems to be
handling 26 MHz quite well.

Hugh VA3TO

---
```

```
--
```

```
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4774. PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8019-219499004@humnet.humberc.on.ca>
Source record: 110095

```
---clip---
> modulation audio into the VCO. This is easily done by using an op-amp
> mixer to AC couple the modulation into the DC contol voltage.
> There are also plenty of other clever ways to get the same result. The
> important goal is that the coupling must not upset the bandwidth and
> performance of the loop filter.
> Practically any VCO you build will have plenty of linearity to allow +/-
**************************************************************************
> 1.6 Khz of deviation.If you want a VCO design that will cover up to an
> octave tuning range and is virtually foolproof, E-mail me. The real trick
**************************************************************************
> will not be getting the synthesizer to work properly, but in solving the
> subtle problems related to driving the radio properly. Of course, you'll
> never get more of an agile range than the radio tuned circuits are
> designed for, but you can become independent of pesky crystals over the
> limited design range of the radio.
> >

I'm hungry for info from those in the know !
I think I'll take you up on the VCO design...will e-mail you.

Thanks..Hugh VA3TO

---
```

```
--
------------------------------------------------------------------------
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4775. Re: Wanted: BFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <464i7f$m91@usenet2.interramp.com>
Source record: 110212

>>
>>How do you attach the knob to the diode? :)
>
>with a piece of colored wire, no doubt; the color of
>choice depends on the varactor and frequency range.
>

Uh-oh, here we go again .....

Does the knob go in series with the diode, or in parallel??

Grant/NQ5T :-)

4776. Re: More antenna fun.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <DGprvo.IGr@eskimo.com>
Source record: 110213
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <813448935.8922@pinetree.microserve.com>,
jackl@pinetree.microserve.com (WB3U) wrote:
> BRETSKI <bap@storm.atms.purdue.edu> wrote:
>
>>So I brought the thing in this AM to work and used our iron which
>>goes to 850+ F. That did a GREAT job. It all flowed together
>>nicely.
> << snip >>
>>BRET A. PENNINGTON / COMPUTER TECHNICIAN /EARTH AND ATMOSPHERIC SCIENCES
>
>Wow, that's really hot! What kind of computers do you use that on?
>
>73,
>
>Jack WB3U
---

850 degrees F isn't all that hot. We use Weller 800 degree tips in all our irons at work (PCB assembly) and they do fine. On some very delicate items we may use 700 degree, and once in a blue moon, 600, but 98% of the time, 800 does the job.

A common error when learning to solder is using a low temperature iron to "avoid damage". Often that causes MORE damage because of the extra long heating time required. With a hot iron, you get on the joint, melt the solder quickly, and you're off before the component has a chance to get hot. Works like a charm.

73, Bill W7LZP
wrt@eskimo.com

4777. Re: Wanted: tube specs for 6146B/W

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-1910951859340001@k4dii.ksc.nasa.gov>
Source record: 110214
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <1995Oct17.151014.1722@hasler.ascom.ch>, Trummer Egon
<ntrume@hasler.ascom.ch> wrote:
> I have a Kenwood TS-830 shortwave TRX. This rig has two 6146B
> as final tubes. But from another OM I got two 6146W

Egon-

I can't argue the theoretical differences, or whether the TS-830 has some unusual requirement that isn't met by the older tube types.

Over the years, I've used 6146s in several different rigs, from SSB to NBFM, including a repeater. In my experience, all versions work. An individual tube may be better than another, but it doesn't seem to relate to which variation is involved.

One factor that DOES make a difference, is how the plate cap is attached to the wire coming out of the glass envelope. The best method is welding. The older tubes were soldered. After many hours of use, the tube's heat plus the high peak current, causes solder to crystalize. The result is a loose connection at the plate cap. It is possible to resolder, but it is a loosing battle with ordinary solder. (When it occurs, there may be a visible circle, about 1/16 inch in diameter, in the center of the plate cap.)

If you have tubes with soldered plate caps, go ahead and use them. Just be aware of what might happen after a long period of heavy use.

It is probably a good idea to keep both tubes as closely matched as you can.

73, Fred, K4DII

4778. Re: Wanted: tube specs for 6146B/W

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: Ken Harrison <harrisok@SONOMA.EDU>
Message-ID: <Pine.PMDF.3.91.951019171638.1078234549C-100000@SONOMA.EDU>
Source record: 110215
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

On 19 Oct 1995, James Garland wrote:

> I THINK that a 6146B which
> is plugged into a socket for a 6146A will show lower output power (and
> plate current) unless the screen voltage is increased.

I checked with someone else who is more knowledgeable in tubes than I and
he said that this could very well be the case. He also pointed out the
differences on an s-meter between some slightly different power outputs...

I still think if push came to shove, I'd just plug it in and go for it.

> Re the 6146W: Last night I substituted a 6146W for the 6146A in my Viking
> Ranger II, and the two tubes matched exactly: same grid and plate
> current, and identical power output. THe "W" version seemed somewhat
> ruggedized in its mechanical construction, which is consistent with the
> notion that it's a military version of the 6146A. Unfortunately, I didn't
> have a 6146B to try the same experiment.

Empirical data... When all the speculation flies out the window! ;-)

73,
Ken

____
Ken Harrison --- harrisok@vax.sonoma.edu --- Amateur Radio: N6MHG
~~~~~~
~~~~~~

4779. IF-amplifier for 71MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: mikael.landing@teknikum.uu.se
Message-ID: <46520s$5l6@columba.udac.uu.se>
Source record: 110216

Are building a receiver for 1.8GHz with IF at 71MHz. The linear IF-amp Im using is a micro-devices 2601 with digitally adjustable gain-control.
Problem is that when the gain is set to a low value the noise figure gets real bad (It goes up as much as the gain goes down). When set to maximum gain the noise is ok though. But when the gain is set to a high value the amp. goes easily into saturation (Input 1dB compression gets worse with the same amount that the gain goes up).

Does anyone have some suggestion how to solve the problem or know some other better linear IF-amp with AGC-line?

Thankful for answers!

Micke

4780. Re: Help Using Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: "James P. Meyer" <jimbob@acpub.duke.edu>
Message-ID: <Pine.SOL.3.91.951019102001.12331F-100000@godzilla.acpub.duke.edu>
Source record: 110217

On 19 Oct 1995, dave wrote:

> It is a late sixties early seventies vintage SINGER SPA-3000

Give Tucker a call at 800-527-4642.

They sell used test equipment *and* manuals. It won't be cheap
though. You may pay more for the manual than you did for the unit!

Jim

4781. 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <464c9a$3g4@ixnews2.ix.netcom.com>
Source record: 110218

Tell me what you know about 40m verticals, I've been told that ground radials acutally function better above ground. I want to build the best 40m vertical I can. What do you have to share?

Thanks!

Tim Hynde
ka8ddz, Rochester Hills, MI

4782. Re: Kenwood on Internet?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: Stan Holmes <Stan@tri.eskom.co.za>
Message-ID: <465lf7$org@duvi.eskom.co.za>
Source record: 110219

You can try http://www.accessnv.com/kenwood/amateur.html
I hope this will help.

4783. Re: Kenwood on Internet?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: Stan Holmes <Stan@tri.eskom.co.za>
Message-ID: <465lg1$org@duvi.eskom.co.za>
Source record: 110220

You can try http://www.accessnv.com/kenwood/amateur.html
I hope this will help.

4784. Re: Kenwood on Internet?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-19 00:00:00 UTC
From: Stan Holmes <Stan@tri.eskom.co.za>
Message-ID: <465lie$org@duvi.eskom.co.za>
Source record: 110221

Try this address

http://www.accessnv.com/kenwood/amateur.html

4785. ATV TRANSCEIVER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: Mark Castiglione <mcast@novalink.com>
Message-ID: <466rb1$pvv@loki.novalink.com>
Source record: 110096

Hello, Has anyone had experience with the North Coutry rRadio's ATV Transceiver kit. I have one
build and an now in the alignment stage.It's the five watt am model.Anyone using one now? aAny
groups using 432mhz AM atv in the Southeast Michigan area? Any help or comments will be appreciated. Mark N8REZ

4786. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: rutledge@imap1.asu.edu
Message-ID: <466rl2$s42@news.asu.edu>
Source record: 110097

```
: 20 years ago. However, you don't want to operate the VCO on the transmit
: frequency because of feedback problems.

I hadn't thought of that. Feedback from where to where though? Could it
be eliminated with lots of shielding?

: >I'm operating the PLL/VCO at half the required frequency and running it
: >through 1 doubler stage within the radio. The doubled frequency runs
: >through a bandpass filter, spurs are not an big issue.

: That's a good architecture, but it exceeds the frequency range of the '157.

What's the best doubler design for the VHF band?

--
_______ KB7PWD @ N7MRP.AZ.US.NOAM shawn.rutledge@asu.edu
(_ | |_) html: http://enuxsa.eas.asu.edu/~rutledge/home.html
__) | | \_____________________________________________________________
* alternative energy * electronics * robotics * Linux * Star Trek * PIC *
```

4787. Re: Yaesu CAT-Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4670a3$s4u@news.iadfw.net>
Source record: 110098

protzekz@trick.informatik.uni-stuttgart.de (Karl-Heinz Protzer) wrote:

>Hello YLs and OMs

>Are there somewhere on the net instructions to build a line interface between a
>Yaesu transceiver CAT and the RS232 of a Computer? Would be best with layouts
>as postscript or somthing like that.

>73 de Karl-Heinz

Karl,
I believe there is a schematic in the manual for my Yaesu 757. I have
since replaced it with an FT-990, not sure if there is one in that
manual or not. I think there was an article in QST a year or 2 ago
which showed the interfaces for Knwd, Yaesu, and Icom. The Yaesu used
a MAX 232 chip, I think. Maybe this will at least start you in the
right direction!
Good luck es 73,
Kerry Miller
WD5ABC

4788. 24Ghz Help / Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: spacone@qnet.com
Message-ID: <4672rh$fbq@mandolin.qnet.com>
Source record: 110099

I recently came into some 24 Ghz components manufactured by M/A Comm. I suppose that I could write to them and get some details but I don't want to grow old in the process. I'd love to know if anybody out there has either a source or an extra copy of "The Gunnplexer Cookbook". I unfortunately, do not have the authors name. I'd also like to know if there is such a thing as "The British Microwave Journal" and how I would get a subscription or copy of it.

All replies via direct email will be answered promptly.

73, de Chris, KD6OUB (spacone@qnet.com)

4789. QEX still not here

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: jbaltz@watsun.cc.columbia.edu
Message-ID: <4672ur$d54@apakabar.cc.columbia.edu>
Source record: 110100

It's October 20 (almost). I still have no QEX.

Time to call Newington. Grr.

//jbaltz
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

4790. Motorola manuals WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <468u19$ekq@mrnews.mro.dec.com>
Source record: 110101
Cross-posted to: rec.radio.amateur.misc,rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Need service manuals for the following 1970s vintage Motorola radios:

Mocom 70 model U51BBN3100A 42-50 MHz, 60W, 4 chan

Micor T71RTN3400A 42-50 MHz, 100W, 4 chan
I also need a control head for the Micor...

Will pay reasonable copying/mailing.

-Tom R. N1OOQ randolph@est.enet.dec.com

4791. Re: Wanted: tube specs for 6146B/W

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: rossi@VFL.Paramax.COM
Message-ID: <1995Oct20.151346.8896@VFL.Paramax.COM>
Source record: 110102
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

A simple substitution of a 6146B for a 6146A will not result in any
[substantial] increase in output. It will probably just last a little longer.

But, you can crank up the screen voltage (and even plate voltage) on the 6146B
a little and then then you can [safely] get a little more power compared to
a plain 6146.

6146W is simply a [mechanical] ruggedized version of the plain 6146. Intended
for stuff like mobile operation, etc.

Pete Rossi - WA3NNA
rossi@vfl.paramax.com
Loral Defense Systems-Eagan (formerly Unisys Government Systems Group)
Valley Forge Engineering Center - Paoli, Pennsylvania

4792. Re: Johnson Ranger II Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4685ou$7dk@newsbf02.news.aol.com>
Source record: 110103

In article <466g8m$qqr@pacific.mps.ohio-state.edu>, James Garland
<garland@ohstpy.mps.ohio-state.edu> writes:

>
>My "new" Ranger II seems to work fine (about 45 watts output), but the
>power transformer seems to run awfully hot -- not too hot to hold my hand

>on, but nearly so. It's a large transformer, considering the modest power

>level of the transmitter, so I'm puzzled. I measured all the voltages and

>they seem normal, but I suppose it's possible something is drawing too
>much current that I'm not aware of. Does anyone else notice the same
>thing? Jim W8ZR
>
>
>
Jim, You could have a shorted turn in the transformer. You can check it by disconnecting the loads from the secondarys and seeing if it runs warm! If it does, or if it draws more than 50 or 100 mA from the power line with no load, you'll soon be in big trouble! I do think they run a bit warm in normal operation, mine always did. 73 Tom

4793. Re: Johnson Ranger II Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: hanavin@stimpy.eecis.udel.edu
Message-ID: <468bor$7t6@louie.udel.edu>
Source record: 110104

In article <4685ou$7dk@newsbf02.news.aol.com>,
W8JI Tom <w8jitom@aol.com> wrote:
>In article <466g8m$qqr@pacific.mps.ohio-state.edu>, James Garland
><garland@ohstpy.mps.ohio-state.edu> writes:
>
>>
>>My "new" Ranger II seems to work fine (about 45 watts output), but the
>>power transformer seems to run awfully hot -- not too hot to hold my hand
>
>>on, but nearly so. It's a large transformer, considering the modest power
>
>>level of the transmitter, so I'm puzzled. I measured all the voltages and
>
>>they seem normal, but I suppose it's possible something is drawing too
>>much current that I'm not aware of. Does anyone else notice the same
>>thing? Jim W8ZR
>>
>>
>>
>Jim, You could have a shorted turn in the transformer. You can check it by
>disconnecting the loads from the secondarys and seeing if it runs warm! If
>it does, or if it draws more than 50 or 100 mA from the power line with no
>load, you'll soon be in big trouble! I do think they run a bit warm in
>normal operation, mine always did. 73 Tom

Yes they normaly operate very hot, One problem is the high voltage
is on all the time (even in stand by). Also there are a fair amount
of tubes in a small cabinet. I know all the 6L6 audio amps I have,
run very hot.

Chuck (WB3FJJ)

4794. Synthor radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: uid@ornl.gov
Message-ID: <uid.50.3087B1E0@ornl.gov>
Source record: 110105

Will a low band Motorola Synthor Radio spread and cover between 45-55 MHZ?

Danny Britton
QB7@ORNL.GOV

4795. helically-wound 40m vertical

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: bill@alfalfa.pas.rochester.edu
Message-ID: <1995Oct20.153341.13695@galileo.cc.rochester.edu>
Source record: 110106

I am in the process of making a helically-wound 1/2-wave 40M dipole. The form is a 40-inch piece of 2-inch PVC pipe (scrap). I wound about 135 feet of 18-ga wire (close to 1 wavelenght) and I plan to put BIG capacitive hats the ends. I know these things are notoriously narrowband, so I plan to do a bunch of fiddling with the cap-hats and the feedpoint.

Can anyone suggest a good way to feed this beast? I am planning to inductively couple to the center and play with the number of turns and their spacing and position on the radiator.

Can anyone offer any words of wisdom?

--

My opinions. No one elses. Get your own!

Oh, I'm a sysadmin, and I'm ok. | Bill VanRemmen, KA2WFJ
I work all night and I work all day. | bill@pas.rochester.edu
I knock back Cokes, I skip my lunch, | http://www.pas.rochester.edu/~bill
I'm glued to the VDT! |

4796. Re: QEX still not here

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <468i0m$2to@mgate.arrl.org>
Source record: 110107

KE3ML jbaltz@watsun.cc.columbia.edu (Jerry B Altzman) wrote:
>It's October 20 (almost). I still have no QEX.

It was just last week when I hurriedly looked at
the page layout for my RF column that was written
a couple months ago so it could go to the printer. I've
not seen the printed QEX yet--and its printed locally.

Guess I ought to think about my next one, I only
have one column "in the bank."

I think the editor is still trying to catch up...

Zack KH6CP/1
zlau@arrl.org

4797. The Four-Way DFer in QST magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: tlewis@dfw.net
Message-ID: <468b0h$j6d@dfw.net>
Source record: 110108

In the November issue of QST magazine is an article called "The Four-Way DFer". This looks like a great project for anyone who is interested in radio direction finding. However, for about the same amount of work (and just a little more cost), you can be operating a doppler instead.

For more information about the AB5CK Doppler, please send an e-mail message to tlewis@dfw.net. I will be happy to provide information about PC boards, parts, and pricing.

Tom Lewis
AB5CK Dopplers
tlewis@dfw.net
817-428-8200

4798. Re: Yaesu CAT-Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: slay@netcom.com
Message-ID: <slayDGrtAr.KK9@netcom.com>
Source record: 110109

Karl-Heinz Protzer (protzekz@trick.informatik.uni-stuttgart.de) wrote:

: Are there somewhere on the net instructions to build a line interface between a
: Yaesu transceiver CAT and the RS232 of a Computer? Would be best with layouts
: as postscript or somthing like that.

Well ..... here's something I pulled off of packet not too long ago.
Use at your own risk, since I have not tried to put this one together.
73 de Sandy WA6BXH slay@netcom.com

```
---------------------
============================================================
Date: 13 May 95 03:38
From: KB2LJJ@KB2LJJ
Subject: INTERFACE FOR YAESU CAT
------------------------------------------------------------

To : YAESU@USBBS

YAESU CIRCUT CAT
by
CT1FKP

YAESU CAT SYSTEM for RS-232 computer COM Port.

DB25S (Computer) DIN6 (Radio,cat)

| /----------------- 3 SI
2 TD -----/////-------|<
10K | \ NPN 2N2484
V
|
|
__|__

7 GND ------------------------------------ 1 GND

3 RD ----------------\ |
| >|------//////------ 2 SO
4 RTS _ | / | 10K
5 CTS _| | V
| | NPN 2N2484
/ __|__
/
/ 10K
/
6 DSR _ |
```

8 CD _|________|
20 DTR _|

You can make this circuit in side of the RS-232 DB25 pins.
This interface is compatible with the software CAT for the YAESU radios.
This is a tested circuit and works fine on FT-840.
It's possible that the circuit works on different radios.....

Transcription for English by John KB2LJJ
From: KB2LJJ@KB2LJJ.NJ.USA.NA

Isto pode ser feito dentro da propria ficha de 25 pinos.
Esta interface e compativel com o software CAT para os radios Yaesu.
O esquema acima foi exprimentado no FT-840 e trabalhou,o software de
controlo total (ou quase) do radio e'que ainda n^Do fiz,brevemente
logo tentarei fazer.
E bem possivel que esta interface funcione com outros radios da
yaesu com CAT.

73s'
Rui

Packet:CT1FKP@CS1AAS.CTLX.PRT.EU

4799. Re: Impedance of am car ra

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <814216454.AA03948@hamlink.mn.org>
Source record: 110110

WW>That's correct Terry, The input of an AM car radio is usually a very
WW>hi z bridging input, because the antenna is a hi z voltage probe.
WW>It's nowhere near the impedance of the line feeding the antenna, and
WW>nowhere near 50 or 100 ohms.
WW>
WW>The suggestion of a load resistor is excellent. If it detunes the
WW>input of the radio and causes problems he could load the converter
WW>with a low z load, and bridge the RX in with a low value cap.
WW>
WW>73 Tom
WW>
WW>---
WW> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
WW>(1:282/100.0)
Hi,
Seem to be comming in on the middle of this thread... I have had some
experience with SW converters for car use (including the MFJ unit), and
would be happy to share experiences.

72 Bob WB0POQ

Technology is OUT of control.....

4800. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <467mcf$e6m@info4.rus.uni-stuttgart.de>
Source record: 110111

>You need no
>ground whatsoever with a halfwave vertical antenna.

Don,

Sorry to say so, bot you are wrong here. it is true, that the radiation
resistance of a halfwave is higher, and hence losses induced by a poor
ground in the vincinity of the antenna (no or little radials)
is less than for a shorter antenna.

But if you look into the problem of the radiation pattern, you will find,
that it is also degraded above poor gound.

73, Moritz DL5UH

4801. qrp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: rej6616@mailbox.tip.net
Message-ID: <468rl0$nki@stella.tip.net>
Source record: 110112

Hi !
Someone who has info abt a good QRP Homeproject ?
Tnxs fr answer.
B 73 s de Rene
Packet bbs SM3JOS@sk3bg

4802. Re: Wanted: BFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.225.000FFF8E@TRL.OZ.AU>
Source record: 110113

>I would appreciate it if someone could point me to a BFO design
>that I could build, so that I can use my conventional sw receiver
>for cw and ssb. I have seen older designs, but they contain hard
>to get, but once plentiful, components like variable capacitors.
>Thank you.>Howard, n1vxs

Howard; see if you can get a copy of;
"A Semi-kit Receiver for 75/80 Meters" DeMaw- QST Aug '85, p 34. Included is a BFO circuit for 455 kHz (uses standard IF transformer), and perhaps also;

"Voltage Controlled Oscillator uses ceramic resonator" Helfrick, Ham Radio June '85. p 18. Lots of ideas using ceramic oscillator resonators, and;

"A high-stability BFO for Receiver Applications" Bernini, Ham Radio June 85, p 28. VCXO ideas, and;

"Using Ceramic Resonators in Oscillators" Braithwaite; Radio Communications Feb. '94, p 38. VCXO using ceramic resonator. Should be adaptable to individual frequencies.

73, Drew, VK3XU. Telstra Research Laboratories.

filtersforSee

4803. Remote mounting RFI ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-20 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8020166755601@humnet.humberc.on.ca>
Source record: 110114

>
> It would be good practice to use a line driver and a line receiver
> chip at each end of the link. Going directly to the low current
> micro's pins invites noise and spike problems. A line driver/receiver
> pair will source/sink enough current to offer decent immunity to
> induced noise currents. Differential driver/receivers may be overkill
> here, but they don't cost much more. Or you could even opticouple
> with a pair of H111 chips. They're dirt cheap, and insure that any
> voltage on the wires can't get to the sensitive (and expensive)
> chips.
>
> Gary
>

Thanks for the suggestion Gary..
This was one of my thoughts ...line TX and RX..
Most of the replies have suggested that I should be safe with a
relatively short run of wire (<= 15 ft) especially going back to the
trunk. Of greater concern perhaps is the RF from the subject TX getting
into the remote lines however shielding should reduce those chances
substantially, not to mention that the antenna sits outside of the
trunk.
I may stick the proto in as-is and see how it goes.
If I experience any problems then I'll look at using drivers and
receivers...probably at 12 volts...maybe the 1488 and 1489.
CUL..Hugh

• NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/

4804. MARS Recommendation Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: bill.sorsby@dlep1.itg.ti.com
Message-ID: <46brdo$nij@mksrv1.dseg.ti.com>
Source record: 109973

I've finally decided to try to join MARS. Can someone provide a recommendation for which branch, Army, Air Force or Navy-Marines would be best, both in terms of HF net operation and surplus equipment availability?

Regards,
Bill, N5BU

4805. Unwanted Fm station (1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: n0nas@hamlink.mn.org
Message-ID: <814280628.AA03950@hamlink.mn.org>
Source record: 109974

to: all
A question was asked by kennedy@aol.com

>>I live in the country. Too bad, right? My favorite FM stereo
>>station is 100 miles away on 102.1 FM. The problem is an
>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.

One of the other replies suggested a bigger antenna pointed at the distant station. That would certainly help make sure you have enough signal. If the difference in directions to the two stations is near 90 degrees you will pick up some additional reduction in signal strength of the offending station due to reduced pickup off the side of the beam. If you ever looked at pictures of antenna patterns in the ARRL Handbook, you'll see that large antennas have maximum pickup in the desired (forward) direction and lots of sharp little points of pickup in the undesired (side and back) directions. Finding a null can give a 20 dB (1/10th) reduction (or more) in signal strength.

Ideally what you want to do is put one of the side lobe NULLS right on the offending station even if you have to point slightly away from the desired station. You might be able to see this happen if you disconnect the antenna from the receiver and just place the coax cable near the terminals as you turn the antenna. Can't guarantee anything but it might work. The better way is to use a high value attenuator between the coax and the radio. Adjust the attenuator for a weak but readable signal on the receiver meter. Then turn the antenna until the signal strength meter on the radio shows as low as possible on the offending station. This gets you the LEAST offending signal possible.

Assuming just changing one antenna isn't enough to fix your problem, I don't think you'll have any luck at all trying to find any standard filter to reduce a signal only 800 KHz away. The next option is to use a second antenna pointed at the offending station and mount the antenna so the signal it brings into the receiver is 180 degrees out of phase with the first antenna. The closer you can get to exactly opposite phase, the more signal will be reduced. Have you ever heard the flutter of multipath on a station? That is what we are trying to do here.

The second antenna can be much smaller than the main antenna because the station is so close. This will not be easy because you have to match not only the signal phase to cancel but also the signal strength. Start by using the attenuator with the receiver and first antenna to try getting a known signal level on the offending station. Next connect the second antenna in place of the first and use another attenuator or extra length of coax (100's of feet) or maybe just a resistor short at the antenna until you have reduced the signal strength to match the first

antenna.

Once the signal strengths are egual, connect BOTH antennas to the receiver at the same time using a 2 way splitter/combiner. Now you begin moving the second antenna around until the offending signal is at minimum. That is the position for maximum cancelation. How far do you have to move it? Well, figure the wavelength of the signal. A half wave is about 495/frequency so a full wave length would be 2*495/106 = 9.3 feet. So somewhere along a line from the first antenna toward the offending station, within a ten foot distance, you should find a null. This doesn't mean you have to be within 10 feet of the first antenna, just a 10 foot movement somewhere in the direction of the offending station. You probably should keep the second antenna ten feet away from the first antenna just to reduce antenna pattern changes since you just got done carefully pointing the first antenna.

Another method of cancelling the signal is by changing the length of the coax from the second antenna to the receiver, because changing the length is just like moving the antenna. Now, the wavelength in coax is shorter than the wavelength in air. This is called the velocity factor of the coax cable. Most foam coax has a velocity factor of around 80%. This means that 10 feet in air is only 8 feet in the coax. So, somewhere in 8 feet of cable is the exact length you need to cancel the offending station. If you choose this method, all you can do is cut off the cable a little bit at a time until you have minimum signal from the offending station. I've never tried this myself so I don't know how small of cuts you should make so you don't go past the null. I'd just figure you'll start with an extra 20 feet of cable and start cutting maybe 6 inches at a time. I assume you'll be able to hear multipath distortion of the signal as you get closer to the right length and can start making smaller cuts.

It is my understanding that this basic technique is frequently used in commercial broadcast radio where they may have similar problems. I understand they use more of a tuneable (low pass?) filter of some sort to adjust the phase shift instead of cutting the coax. This phase cancellation technique is the only one I've ever heard of that might do you any good. The only other options involve replacing the receiver with something much more expensive, designed for extremely high signal overload and superb IF bandwidth filtering. I've never heard of such a receiver but I'm sure they exist if you have a LOT of money.

I really don't have much hope that anything is going to let you receive your desired station. With 50 KW only 5 miles away, everything in your
--==<<< Continued next message >>>==--

4806. Unwanted Fm station (2)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: n0nas@hamlink.mn.org
Message-ID: <814280628.AA03951@hamlink.mn.org>
Source record: 109975

```
--==<<< Continued from previous message >>>==--
area is going to bouce some of the signal into the first antenna. The
more random signals you have bouncing around, the less likely you'll be
able to null out the offending station. Good luck.

73's.

Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

* SLMR 2.1a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--
```

4807. The INFORMANT by Regency

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: d010421c@dcfreenet.seflin.lib.fl.us
Message-ID: <469kid$3es@bcfreenet.seflin.lib.fl.us>
Source record: 109976

I recently purchased a small police/fire/medical/weather band scanner, called The INFORMANT, I have no book, I have questions, if anyone has the book, please tell me and I can ask the questions. Thanks in advance.
Ken Becker

--

[OO] LOOKING FOR RADIOS!
Ken Becker
d010421c@dcfreenet.seflin.lib.fl.us

4808. Re: Unwanted Fm station (1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: n4jvp@ix.netcom.com
Message-ID: <46bumk$gn4@ixnews7.ix.netcom.com>
Source record: 109977

On Sat, 21 Oct 1995 13:20:20 -0100, n0nas@hamlink.mn.org (Doug Reed)
wrote:

>to: all
>A question was asked by kennedy@aol.com
>
>>>I live in the country. Too bad, right? My favorite FM stereo
>>>station is 100 miles away on 102.1 FM. The problem is an
>>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.
>
- snip -

What country does "kennedy@aol.com" live and how far from what
border? 0.2 MHz between channels does not sound as if both stations
are in the US. I believe that the FCC regs have the frequencies
divided by 0.8 MHz between 88 & 108 MHz.
In any case I would suggest a phased vertical array for best gain and
f/b ratio, but what do I know? I missed the original post...

4809. 40m vertical - How to mak

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.5616.546@acenet.com>
Source record: 109978

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

Tim, I am thinking about building a "stealth" 40m vertical, with some
pieces of 10 foot conduit that I would fold over when not in use, then
go out and elevate it after dark, sonce we are not supposed to have
visible outdoor antennas. Along the back fence seems like a perfect
spot, since I could stow it there when not in use. I am planning to make
it with swivel joints simply made from two nuts and bolts at each
junction. Three pieces will give me almost 30 feet, and then add a
3 foot top section of wire or a telescoping rod to make it about 33 feet
long. The radials will be tricky, since they will have to be temporary
ones. I think they are supposed to be 5% longer than the radiator,
right?

IYWMN>Tell me what you know about 40m verticals, I've been told that ground
IYWMN>radials acutally function better above ground. I want to build the best
IYWMN>40m vertical I can. What do you have to share?

IYWMN>Thanks!
IYWMN>ka8ddz, Rochester Hills, MI

• SLMR 2.1a • Is your computer too FAST? Type 'WIN' at the DOS prompt!

4810. Johnson Ranger II Questio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.5617.546@acenet.com>
Source record: 109979

You probably have some leaky filter capacitors that are drawing
extra current from it. See if they are hot too.

JG>acific.mps.ohio-state.edu>
JG>Newsgroups: rec.radio.amateur.homebrew
JG>Organization: The Ohio State University

JG>My "new" Ranger II seems to work fine (about 45 watts output), but the
JG>power transformer seems to run awfully hot -- not too hot to hold my hand
JG>on, but nearly so. It's a large transformer, considering the modest power
JG>level of the transmitter, so I'm puzzled. I measured all the voltages and
JG>they seem normal, but I suppose it's possible something is drawing too
JG>much current that I'm not aware of. Does anyone else notice the same
JG>thing? Jim W8ZR

• SLMR 2.1a • Is your computer too FAST? Type 'WIN' at the DOS prompt!

4811. Re: 40m vertical - How to

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.5618.546@acenet.com>
Source record: 109980

Sheesh, do you REALLY think he is going to build a SIXTY SIX FOOT
long vertical and THEN elevate it above the ground as far as he can???

Sounds messy!!

DH>H>Message-ID: <466cmr$cq6@news.vcd.hp.com>
DH>Newsgroups: rec.radio.amateur.homebrew
DH>Organization: Hewlett-Packard

DH>Hi Tim OM,

DH> If you want to build the best vertical you can, then build a half wave
DH>vertical dipole, and elevated it as far above ground as you can. You need n
DH>ground whatsoever with a halfwave vertical antenna. It can be fed in the
DH>same
DH>way as VHF verticals like the J are fed: at the end with a quarter wave stu
DH>or a tuned tank circuit (same thing electrically), or at the center via
DH>a 1:1 balun. It can also be center or end fed, of course, with tuned feeder

DH> 73, GL,
DH> Don, W6JL

4812. Re: Recommendation for a good "Grid Dipper"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <469fjb$6sd@nnrp1.news.primenet.com>
Source record: 109981

Johan Forrer (forrerj@ucs.orst.edu) wrote:
: Hi All,

: I am looking for a professional quality "grid-dipper". Essentially it
: should have better than average sensitivity and good operating range from
: say 1 - 500 Mhz (switched ranges/coil packs are OK too). Price is not an
: object (within reason of course).

: This is for remotely detecting the resonance frequency of a passive
: resonator - remote means a couple of inches away from the resonant
: circuit which is inaccessable, though not shielded.

: I would be most grateful if anyone could recommend a manufacturer/source
: for such an instrument.

: Much thanks,

: Johan Forrer, KC7WW

Johan,
James Millen is still in business and they can be contacted at:

James Millen Manufacturing Company
P.O. Box 4215
Andover, MA 01810-4215

(508) 975-2711 (voice)
(508) 474-8949 (FAX)

I purchased a factory reconditioned 90651-A from them earlier this
year, and then later found a 90651 at a surplus dealer for a mere $125!
I then sold my Heathkit GD-1A to a fellow in Georgia. The reconcitioned
ones from Millen come with a full warranty. And they still make all of
the coils so's you can get down to 165 KHz if you want.

--

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------oo0~(_)~0oo---

4813. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct21.140144.24026@ke4zv.atl.ga.us>
Source record: 109982

In article <467mcf$e6m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>You need no
>>ground whatsoever with a halfwave vertical antenna.
>Don,
>
>Sorry to say so, bot you are wrong here. it is true, that the radiation
>resistance of a halfwave is higher, and hence losses induced by a poor
>ground in the vincinity of the antenna (no or little radials)
>is less than for a shorter antenna.
>
>But if you look into the problem of the radiation pattern, you will find,
>that it is also degraded above poor gound.

Sure, lossy *Earth* near an antenna is always a problem, so keep
your antennas well away from Earth, but that doesn't address his
comment. A halfwave antenna *does not require ground* to function.
It doesn't need it to act as a current mirror the way a quarterwave
does. A halfwave vertical is perfectly content to function properly
in *free space*. A quarterwave needs some sort of counterpoise.
That counterpoise *can* be Earth, but it doesn't have to be. Radials,
or a counterpoise wire, will work just as well, probably better
since they won't be as lossy as Earth.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4814. Re: LED question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct21.142520.24147@ke4zv.atl.ga.us>
Source record: 109983

In article <469kcl$3es@bcfreenet.seflin.lib.fl.us> d010421c@dcfreenet.seflin.lib.fl.us (Ken Becker) writes:
>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

Ok, lets do some calculations. The original circuit had a 240 ohm
resistor. For 20 ma of diode current, the voltage feeding the
resistor needs to be

E=0.02*240+1.6 = 6.4 volts

and the resistor power dissipation is

P=.02*4.8 = 0.096 watts

So a half-watt resistor offers a comfortable safety margin.
But if the voltage is 50 volts, then we have a power dissipation
in the resistor of

P=48.4^2/240 = 9.76 watts

A half-watt resistor is going to go *poof*, as it indeed did.
So either the value of the original resistor was *not* 240 ohms,
or the design voltage is *not* 50 volts.

Now you replaced the resistor with a 2500 ohm resistor, so the
power dissipation of that resistor would be

P=48.4^2/2500 = 0.937 watt

A 5 watt resistor would be about right to provide an adequate
safety margin. (You never want to run a resistor at its power
dissipation limit, it'll run about 100 C at that power level.)

But the original resistor was a half-watt unit, indicating a
design dissipation of 1/10th watt or less. Clearly something
is wrong here. I'd suspect it's the 50 volts. Are you *sure*
it's *supposed* to be 50 volts?

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4815. Best motherboard for minimum rfi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: paul1@wizard.ucs.sfu.CA
Message-ID: <9510210219.AA01186@wizard.ucs.sfu.ca>
Source record: 110115

Has anyone done any comparisons to see which motherboards are best
from an rfi point of view?? I am planning on replacing the board in
my old AT, but my current experiences with my NEC multispeed
(very noisy on 14mhz) are making me cautious about computer generated
rfi. Any comments will be appreciated.

cheers, Paul
ve7cqk
email: paul1@wizard.ucs.sfu.ca

4816. an HT from Hong Kong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: mfogarty@netcom.com
Message-ID: <mfogartyDGt3n9.FxL@netcom.com>
Source record: 110116
Cross-posted to: rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.amateur.homebrew

Folks,

I'm new on the amateur radio scene and need some advice. I'll be going to Hong Kong soon and am interested in shopping for an HT. What can you advise me about:

* Brand
* available frequencies
* legalities
* costs

Even if you don't know anything about "export only" HT's or Hong Kong, I'd appreciate your responses about Brands and costs. I'm planning to spend about $400-500 in HK on such a unit.

I've got friends who will guide me through the licensing process and hook me up with the local Ham groups (Bay Area). I intend to go legit and certainly wouldn't want to break any laws by importing something with extra frequencies ;-)

Imagine, though, that you could pick up anything available in the $400-500 range. What would you get?

Thanks,

Mike

4817. Re: an HT from Hong Kong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <46b7s9$lmj@ixnews5.ix.netcom.com>
Source record: 110117
Cross-posted to: rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.amateur.homebrew

>to Hong Kong soon and am interested in shopping for an HT. What can
you
>advise me about:

I'd save myselft the trouble and buy from a stateside distributor, I've heard of guys buying overseas HF gear with features or bands not avail. in U.S but I've never heard of any great bargains. What you save by shopping Hong Kong may cost you quickly if you have a problem or need an accessory for the radio.

I have a Kenwood Dual band HT and like it alot.

73, Tim ka8ddz

4818. Anybody used Ramsey FX-440 for 9600?.Humm...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: "J. Silva" <jsilva@zeus.ci.ua.pt>
Message-ID: <46aksk$5fu@titan.ci.ua.pt>
Source record: 110118
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

>>Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
>>I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
>>packet, but nobody has actually been able to get it going quite right.

Some time ago I bought their kit. I found that the receiver suffered
from
many spurious responses which, given right (wrong?) packet frequency
would
make it pretty useless. I did get it to receive 9600 but had a pretty
strong signal to work with and didn't make any performance measurements
so
I can't really comment on the receive performance. The transmitter was
a
disaster! Because they have no shielding anywhere in the radio the
transmitter output got back into the PLL and the resultant signal
resembled
broadband noise. I wasted a lot of time trying to clean that up and
never
was successful. I believe that taking the time to build a good shield
around the PLL would have solved the problem but there are problems with
the board layout that make it a difficult thing to do. I did find a
few
minor design errors which resulted a very long (for 9600 packet) TR
turnaround time. They directly modulate the VCO, like most radios, so
the
transmitter will distort the signal. I never got far enough to worry
about
that.

A friend of mine bought one and had similar problems. Both of us wasted
a
good bit of money. Since then we have discovered the joys of converting
commercial (e.g., Motorola and GE) radios...they work!

My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Interessante ??? CT1DSJ

4819. Re: Best motherboard for minimum rfi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: n4jvp@ix.netcom.com
Message-ID: <469o7b$9mm@ixnews3.ix.netcom.com>
Source record: 110119

On 21 Oct 95 02:19:45 GMT, paul1@wizard.ucs.sfu.CA (Paul Erickson) wrote:

>Has anyone done any comparisons to see which motherboards are best
>from an rfi point of view?? I am planning on replacing the board in
>my old AT, but my current experiences with my NEC multispeed
>(very noisy on 14mhz) are making me cautious about computer generated
>rfi. Any comments will be appreciated.
>
>cheers, Paul
>ve7cqk
>email: paul1@wizard.ucs.sfu.ca
>

All computers generate RFI. The elimination of RFI is next to impossible however it can be reduced greatly by shielding the components of the system.
Some computer cables are not shielded as well as they could/should be. Keyboard cables are generally a weak point. RF chokes at both ends of all cables as close to termination as possible will limit these "antennae's" interference.
The case of the computer is very important. Consider it very similar to the case of a transmitter. Plastic or composite cases provide very little RF shielding. An all metal case is best and make certain that the mating surfaces are free of paint and other insulating materials. This includes the power supply cage. Locate the case as far away from your transceiver as possible.
Monitors are also a prime source of RFI. Adequate shielding is generally supplied on the sides but the other four surfaces are lacking. Locate the monitor as far away from your transceiver as possible and preferably on the same horizontal plane.
Hope this helps
73 de N4JVP/NH
Fritz

4820. Re: Want to jam stupid radio station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <46b47h$3f9i@info4.rus.uni-stuttgart.de>
Source record: 110120

Well, the best way to jam a station is with a bazooka. And you will surely be able to put up with the fact that not only the FCC will dislike you.

Otherwise, since the reputation of amateur radio is suffering from lunatics like you, just go away.

4821. Re: Want to jam stupid radio station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <46b6ur$59u@ixnews2.ix.netcom.com>
Source record: 110121

In <464rnm$885@mark.ucdavis.edu> ez041502@dale.ucdavis.edu (Psyber)
writes:
>
>Is this possible? I'd only want to jam one particular signal in a
>small area. I don't know if this'll help me pick up the station I
>like,>which happens to be right next to it, but I'd like to jam it
>just out of spite. And yes, I'm sure the FCC isn't going to approve.
> Stan Kwong

Stan:

I assume from your posting your looking to jam a commercial station
since you wanted to "jam" them in order to hear another. I doubt you
have the funds nessesary to actually create a high powered jamming
signal, your only other option would be to destroy the radio stations
transmitter or antenna.

Either solution has the potential to land you in jail.

If your really sincere about trying to receieve another station, but
can't due to interference from another. Then let your posting state
that. Your much more likely to get help in designing a filter or
antenna than advise on criminal activity.

Regards,

Tim Hynde

4822. Megaohmmeter Schematic Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-21 00:00:00 UTC
From: Bill Webster <webstwl@cat.com>
Message-ID: <46bb26$mh6@vixen.cso.uiuc.edu>
Source record: 110122

This request doesn't have anything to do with ham radio but I'll bet there are some people with that interest that can help me. I am looking for a schematic for a megaohmmeter to measure moisture content of wood. The commercially made ones usually measure from .1 or 1 megaohm to 10,000 or 100,000 megaohms. They usually read this entire range of resistance on one logarithmic scale (a meter movement) that is labeled with "percent of moisture content". The more advanced
meters are digital. I saw one schematic in Fine Woodworking magazine that used an op amp but it had 5 linear ranges instead of one logarithmic so it would not be as convenient to use.

Thanks,

Bill Webster
webstwl@cat.com

4823. Re: Updated WWW Site

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: bob@ultranet.com
Message-ID: <46ejd9$1m@caesar.ultra.net>
Source record: 109984
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

amsoft@epix.net wrote:

>The AmSoft web page "http://hamster.business.uwo.ca/~amsoft/" has
>been reworked. It is now the Mother of all WWW sites for Amateur
>Radio. Connect to over 125 ham sites direct from the front page.
>New HTML work includes online forms, plenty of color and lots of
>FUN! It could be addicting using our page.

Thanks for the info Pet, hope you can ignore ignorant comment
by Jim Strohm.

Bob

4824. Re: Want to jam stupid radio station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: Mark Hillier <Mark@HVWTech.com>
Message-ID: <46dh47$r9m@stills.pubnix.net>
Source record: 109985

Not a good idea. Besides being something the FCC would put you in jail for, it won't help your plight. Even if you *could* come up with the kind of equipment necessary to jam a commercial broadcast station, your 'jammer' would have to be more powerful that the station itself. Guess what happens next ? your 'jammer' now blocks out the nearby station you want instead of the original station. Its a lose - lose situation. What you *could* do however, is get yourself a more selective receiver (*much* cheaper that legal counsel -especially in sue-me USA)

Mark

VE2HVW

4825. PLL noise (more !)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <46dkr4$1q4@cismsun.univ-lyon1.fr>
Source record: 109986

HI there,
I'm back with my 2 meters SSB rig project.

I have a few questions for the worldwide amateur community :-)

1. Does the use of a 41-43 and 10.7 MHz IFs seem a good choice ?
2. Every frequency synthezisis in that rig is locked on a TCXO at 12.8 MHz
therefore : a x8 multiplication should be done with a standard frequency
multiplier or a PLL ?
3. What is the noise floor of a TCXO ? (in dBc)
4. My last IF is 7.5 kHz and is then post-processed by a 56001 DSP.
5. Is it worthy to lock a 10.625 MHz XCO to the TCXO ? to reduce phase noise ?
6. Does anybody know how to digitally demodulate FM ?
7. What is the bandwith of a 3 kHz deviated FM signal ? (12.5 kHz ?)
8. Does anybody know of a high dynamic mixer that would be useful at 140 MHz?
9. What is the IMD of a dual-gate FET used as a mixer ?

Well, I guess that would be all for today :-)

Iwould prefer an answer by email rather than news, since I barely have
the time to read them.
Anyhow, thank you in advance for any clue.

Vince, F5RCS

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

4826. Re: Ramsey FM-10A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: mgarrett@prairienet.org
Message-ID: <46drdo$4d2@vixen.cso.uiuc.edu>
Source record: 109987

In a previous article, YPSE19A@prodigy.com (Nicholas Messina) says:

>My first kit I ever built is this fm transmitter, how can I get it to
>transmit over the 300 feet radius? I would like to at least go 1mile if
>possable. I know it's not recomended to violate the fcc rules. Maybe
>someone can give me instructions on how I can adjust and regulate the
>transmition range with some kind of modification. In other words, how &
>where can I put a Knob to make it go
>1 mile and then turn it down to 300 feet? Adjustablity is what I need.
>
> NICHOLAS MESSINA YPSE19A@prodigy.com

The best bet would be to build the antenna that is listed in the manual
that you recieved with your FM 10. Mine shows instrutions to build a
1/4 wave antenna. Also what are you using for a power supply. Range
can be increase slightly by running the unit at 9 to 13 volts on the B+
input. The BA 1404 has a 3 volt regulation that will keep it happy but
you can run them on a 12 volt well regulated supply.

If all this is done you should get more range without adding a amp and
possibly running into problems with the feds.

Also be sure to pick a clean frequency. Not only will you cut down the
range if you dont but you may cause interference to a licensed broadcaster,
a definate no, no.
--
Mark Garrett mgarrett@prairienet.org
KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM

4827. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <46e0oi$ch5@cismsun.univ-lyon1.fr>
Source record: 109988

hduff@humnet.humberc.on.ca wrote:

: Funny...I'm running the '157 at 26 MHz ! Experiencing a little low
: frequency noise...working on lowering that but the chip IS locking
: up well at 26 MHz. I was under the impression that these babies were

Well, you can anyhow use a down-mixer instead of a divider. That would
keep you reference at 5 kHz.
If you have problems with side bands, why not use a '159 chip ? It has
an analog detector together with a coarse error signal, that would
surely reduce greatly your sidebands problems.
BTW, this a a data I'm interested in : what is the reference level that
can pass through a sample/hold phase comparator ? Normally, if connected
to a JFET type OP-amp which a near infinite Zin, it should generate none.
Or does it ?

Vince

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

4828. 4CX1000 Prices?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: ab419@freenet.toronto.on.ca
Message-ID: <DGty75.MD3.0.queen@torfree.net>
Source record: 109989

I am looking around for an Eimac 4CX1000a tube and was wondering what the going price should be for new and used. If any of you have seen for sale, or have recently bought one of these, let me know what I should be prepared to pay.

Thanks

4829. Radio Control kits/plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <46e5ib$50q@ixnews2.ix.netcom.com>
Source record: 109990

I would like to build a radio control transmitter and reciever for 6m.
I have used several commercially available units for 72 MHz but it's
time to really do it right.

Anyone have plans or knowledge of RC for 6m. I am a builder but have
never seen anything along those lines.

Regards,

Tim Hynde
ka8ddz, Rochester MI

4830. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: daveb@connect.net
Message-ID: <46e5qi$51m@dallas1.connect.net>
Source record: 109991

hduff@humnet.humberc.on.ca wrote:

>Funny...I'm running the '157 at 26 MHz ! Experiencing a little low
>frequency noise...working on lowering that but the chip IS locking
>up well at 26 MHz. I was under the impression that these babies were
>designed specifically for cordless phone products in the 46 - 49 MHz
>range. The N divider accomodates ratios 14 bits in length...even beyond
>49 MHz with a reference ratio set for 5 KHz step size. Perhaps the
>N divider may crap out somewhere before 49 MHz but it seems to be
>handling 26 MHz quite well.

>Hugh VA3TO

While I don't doubt that you have a single part locking at 26 MHz, the
fact remains that the data sheet states an Fmax for the MC145157 of 20
Mhz. That is likely to be a conservative estimate, given that it is a
production part.
The one that you have may work at room temperature, but what happens
when you build up a couple of dozen of these, and then put them in
cars. Since you're in Canada, I would expect that these will get
pretty cold in the winter, at night. What happens when the circuit
gets to -40C? I would guess that the '157 will lock below 20 MHz, but
it might not work at 26 MHz. Just something to look out for.
You might want to consider some ot the National Semiconductor
PLLatinum series parts. Very low current, and there is a 2 loop part
that runs to 510 MHz on both loops.

Regards

Dave Bengtson
David Bengtson
Yes, these are my opinions
Looking for Old HP-41 Calculators and Accessories

4831. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <46e46g$6o3@abyss.West.Sun.COM>
Source record: 109992

In article <8019-219492403@humnet.humberc.on.ca>,
<hduff@humnet.humberc.on.ca> wrote:
>
>---clip---
>>
>> You can't run a '157 at 25MHz; I assume you're using low-side
>> injection, but you can't even run a '157 at 20MHz. The spurs to
>> be concerned with are close to the desired frequency, in fact,
>> they're space at intervals of your reference frequency. The
>> bandpass filter can't help with these.
>> --
>---clip---
>> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
>> * (310) 348-6043 | mine and do not necessarily *
>> * Dana.Myers@West.Sun.Com | reflect those of my employer *
>>
>
>
>Funny...I'm running the '157 at 26 MHz ! Experiencing a little low
>frequency noise...working on lowering that but the chip IS locking
>up well at 26 MHz. I was under the impression that these babies were
>designed specifically for cordless phone products in the 46 - 49 MHz
>range. The N divider accomodates ratios 14 bits in length...even beyond
>49 MHz with a reference ratio set for 5 KHz step size. Perhaps the
>N divider may crap out somewhere before 49 MHz but it seems to be
>handling 26 MHz quite well.

If you design to "typical" specs, the Motorola spec sheet suggests
the part will work to something like 26MHz.

However, if you want a design that works reproducibly over a range
of temperature and voltage conditions, you can't design to
typical specs. Even manufacturing variations may make it
that one '157 works at 26MHz and another doesn't. The '157
is not even suggested in the Motorola spec sheet to work at
49MHz; they have other parts for this.

The Motorola specs for the '157-2 (the lastest, greatest) specifies
Fmax as:

Vin = 500mV p-p ac-coupled sine wave, Vcc=5V: 15MHz
Vin = 1V p-p ac-coupled sine wave, Vcc=5V: 20MHz
Vin = Vss to Vdd square wave, Vcc=5V: 22MHz.

For Vcc = 9V, you can get up to 25MHz, but that's it.

The earlier parts, like the one Rick probably used, are specified
much lower.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

4832. Re: Kenwood on Internet?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: rlogghe@unicall.be
Message-ID: <46e9fr$m57@brahms.tfi.be>
Source record: 109993

cybercop@com18.com wrote:

>I need to know if I can reach Kenwood via Internet?
>I think my TM-742 has a big problem... :(HELP!!!

>cybercop@com18.com

Kenwood can be reached at :
"http://www.accessnv.com/kenwood/amateur.html"

Rudi Logghe, ON1JL

4833. Re: Cooling A 3-1000 Tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: turtle@wwa.com
Message-ID: <46ecjt$cac@sake.wwa.com>
Source record: 109994

Excuse my ascii art but, this configuration has served me well
on my 4-1000A home brew for three years. If you have any questions, talk to me
on 3.875 Mhz nightly.

73 de Gary
KF9CM

4834. Re: Best motherboard for minimum rfi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: dkelly@iquest.com
Message-ID: <dkelly-2210952204400001@dkelly.iquest.com>
Source record: 109995

In article <469o7b$9mm@ixnews3.ix.netcom.com>, n4jvp@ix.netcom.com (Fritz-o-matic) wrote:

> All computers generate RFI. The elimination of RFI is next to
> impossible however it can be reduced greatly by shielding the
> components of the system.
> Some computer cables are not shielded as well as they could/should be.
> Keyboard cables are generally a weak point. RF chokes at both ends of
> all cables as close to termination as possible will limit these
> "antennae's" interference.
> The case of the computer is very important. Consider it very similar
> to the case of a transmitter. Plastic or composite cases provide very
> little RF shielding. An all metal case is best and make certain that
> the mating surfaces are free of paint and other insulating materials.
> This includes the power supply cage. Locate the case as far away from
> your transceiver as possible.
> Monitors are also a prime source of RFI. Adequate shielding is
> generally supplied on the sides but the other four surfaces are
> lacking. Locate the monitor as far away from your transceiver as
> possible and preferably on the same horizontal plane.
> Hope this helps
> 73 de N4JVP/NH
> Fritz

The above is a very simplistic concept based on the notion that "all computers generate RFI" and all solutions are sheilding based. This is too simplistic to be a truth.

Metal enclosures are good.

Grounding electronics to metal enclosures is not always good as it often couples the noise right into the enclosure and out into the world. Gotta try it both ways to know which works best. Isolating the electronics from the enclosure worked best for our last project that went thru FCC testing.

But no pound of cure works as well as an ounce of prevention. RFI noise comes from circuits. Fast digital signal edges can be nasty noise makers. A solution is to slow these edges, but this is not a solution for your off-the-shelf PCB motherboard.
--
David Kelly N4HHE, n4hhe@amsat.org, dkelly@iquest.com
==========
To invent, you need a good imagination and a pile of junk.
-- Thomas Edison

4835. Re: an HT from Hong Kong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: Erik Westgard <71505.341@CompuServe.COM>
Message-ID: <46elj9$g28$1@mhafm.production.compuserve.com>
Source record: 109996
Cross-posted to: rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.amateur.homebrew

I was in Hong Kong this summer, staying in the Causeway Bay area. I
was completely surprised by the number of authorized Icom dealers in
the city. It seems like most if not all camera/electronics stores
sell Icom. I saw some Kenwood, Standard, etc.
Prices were never ever posted- there were coded tags on the items, and
the clerk would tell you, or show you a calculator with the amount. In
my experience, prices were similar to here in the US, in most cases
higher in HK. Some observations:
1. They had a lot of older stuff- dusty in fact. 95 percent was at
current "high rent district" list price. One store, Wilson Camera,
8 Great George St, was giving decent prices on older gear that was
getting dusty.
2. Most if not a □□ll of the gear was in the Asian/Japan
models- 440 gear ran on 430, and there is a great tendency for
the extended recieve we see on US 2M gear to be disabled.
3. Prices as I say were about US or more.
4. There will be a real warranty problem, unless you ship
it back to the dealer in HK
5. I believe the hma radio dealers in HK cater to tourists, such
as the Japanese, who have high prices at home, and would
benefit from the lower taxes, etc. in HK.
6. I am not sure what if any ham operating is done in HK- in China,
there may still be restriction on private stations. In HK, I saw
a business (actually a Chinese dining room) running on Yeasu HTs
on 145.00 Mhz.
7. There were some odd and ends of other brands of gear, even at
the airport gift shop- brands I had not heard of.
8.
My big buy in 2 weeks a was an Icom BP24 I found in a pile of
older packs at Wilson. I paid $67US for it, thinking it was
the last one on earth. On the same trip, I bought a copy of CQ
magazine for $11.00 US and found Ross Distributing with the same packs,
price.

Would I go back- yes. Buy some gear- maybe. Fun place- I have never
been in more Ham Radio dealers in my life.

73,
Erik

4836. Changing Uniden mic wiring?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: Dale Castle <dbcastle@gibbs.oit.unc.edu>
Message-ID: <Pine.CVX.3.91.951022183204.6724E-100000@gibbs.oit.unc.edu>
Source record: 109997

I have a Standard C508A and I just got a Uniden clip-on mic w/
ear phone jack. When I plug it in, it keys the radio. The PTT button
doesn't stop it. The mic sounds great. Can I change the wiring to make it
work? (bought it used.) Thanks in advance for the help.

KD4EAP
dale castle
Chapel Hill, NC
USA

4837. Re: Unwanted Fm station (1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct22.150507.979@ke4zv.atl.ga.us>
Source record: 109998

In article <46bumk$gn4@ixnews7.ix.netcom.com> n4jvp@ix.netcom.com (Fritz-o-matic) writes:
>On Sat, 21 Oct 1995 13:20:20 -0100, n0nas@hamlink.mn.org (Doug Reed)
>wrote:
>>A question was asked by kennedy@aol.com
>>
>>>>I live in the country. Too bad, right? My favorite FM stereo
>>>>station is 100 miles away on 102.1 FM. The problem is an
>>>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.
>>
>- snip -
>
> What country does "kennedy@aol.com" live and how far from what
>border? 0.2 MHz between channels does not sound as if both stations
>are in the US. I believe that the FCC regs have the frequencies
>divided by 0.8 MHz between 88 & 108 MHz.

US channel assignments are 200 kHz apart. But *in the same market*
the FCC assigns stations with first, second, and third channel guard
bands based on certain mileage separation standards. Thus, *in the
same market*, you won't find FM stations on adjacent channels, instead
they'll be 800 kHz apart as you note. But this fellow is trying to
receive a station in a *distant market*. That can be on an adjacent
channel with a station in his local market. The separation rule for
stations on first adjacent channels is 75 miles. Since he says the
station he wants is 100 miles away, that's within the FCC guidelines.

> In any case I would suggest a phased vertical array for best gain and
>f/b ratio, but what do I know? I missed the original post...

Something everyone seems to be missing is that most FM broadcasting is
done with *circular* polarization. Vertical polarization is not used
(except as a component of circular polarization). In the beginning,
only horizontal polarization was allowed for FM (and TV), but the FCC
allowed circular polarization for either a couple of decades ago and most
FM stations switched. A few TV stations switched too, but most of them
are going back to horizontal (including my station, CP presents problems
for TV signals when the receiving antennas aren't CP, ghost city).

Anyway, for FM stations, there is an advantage to using circular
polarization in that they are receivable both on home horizontal
polarized antennas and on auto vertical antennas. So nearly all
FM stations use CP, but this makes a simple pattern nulling antenna
more complex. If you can't arrange a null in both the vertical and
horizontal planes, and phased properly, you won't get more than a
3 db null on the station.

One option is to build a CP antenna cut to the channel of the desired station. If the polarization sense of the two stations is different, you'll get up to a 30 db null on the reverse polarization sense. If they're the same sense, at least you'll get signal cancellation on any reflected signals from the undesired station since reflection reverses the handedness of a CP signal, IE LHCP becomes RHCP after a reflection. That can help a lot when trying to separate signals not on the same line.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4838. Re: LIGHTINING * HELP *

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct22.152516.1096@ke4zv.atl.ga.us>
Source record: 109999

In article <469ffi$k7i@rjo02.embratel.net.br> mcury@embratel.net.br [Marcelo Cury] writes:
>Hello friends, I have a verticall antenna - dx88 hi-gain.
>I live in a flat, my build has 14 floors.
>There is no protection against lightining, when a storm comes I
>automaticly go under my bed ! HI !
>I used see a static eletric discharge on my rf cable connector.
>I would like to talk about and change experiences about storms, lightning and
>vertical antennas. I am very afraid of it.

You're right to be alarmed. Lightning can be a great hazard if station layout isn't done properly to guard against it. But if the proper steps are taken you can even continue to operate during direct strikes. Those steps may be extreme in some cases, but it can be, and is, routinely done in the broadcast field.

I need to know some things to be helpful. The first thing I want to know is what floor of the building houses your station. Considerably different steps have to be taken if you are on a lower floor than if you are on the top floor (top floor is usually easier). I need to know the construction of your building. Is it steel frame with curtain walls, or is it poured monolithic with mesh reinforcement? I assume that it is steel with curtain walls at that height, but I need to know for sure. I also need to know the grounding system of the building, is it driven steel piers with a Ufer foundation, or is it block poured on grade? I'd expect the former. I also need to know about the cable chases used to feed the antenna from your station, and about how power distribution is done in the building.

Well, that's enough for now. With that information in hand, I can start to ask the questions needed to give you lightning protective advice.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4839. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct22.153309.1210@ke4zv.atl.ga.us>
Source record: 110000

In article <464c9a$3g4@ixnews2.ix.netcom.com> timhynde@ix.netcom.com (If you want my name just ask.) writes:
>Tell me what you know about 40m verticals, I've been told that ground
>radials acutally function better above ground. I want to build the best
>40m vertical I can. What do you have to share?

This question really belongs over on the antenna group, but I'll quickly say that tests have been done with elevated feedpoints (and elevated radials), and while there is still some controversy, elevated systems appear to be better. The reason they seem to be better is that they get the high base currents up away from lossy Earth. Some tests have shown that as few as 4 elevated radials have as low a loss as 24 in ground radials.

You can't raise the radials without elevating the feedpoint, however. If you don't, results will be bad. Raising the feedpoint for a 40 meter vertical isn't always mechanically simple, and raised radials are unsightly, and can be a hazard to people walking under the antenna. Tradeoffs.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4840. Re: an HT from Hong Kong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: bobw@col.hp.com
Message-ID: <46er6b$7pj@nonews.col.hp.com>
Source record: 110001
Cross-posted to: rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.amateur.homebrew

Erik Westgard (71505.341@CompuServe.COM) wrote:

: I was in Hong Kong this summer, staying in the Causeway Bay area. I
: was completely surprised by the number of authorized Icom dealers in
: the city. It seems like most if not all camera/electronics stores
: sell Icom. I saw some Kenwood, Standard, etc.
I've visited Hong Kong several times and purchased a radio or two
on occasion. Let me compare/contrast my experiences.

: Prices were never ever posted- there were coded tags on the items, and
: the clerk would tell you, or show you a calculator with the amount. In
: my experience, prices were similar to here in the US, in most cases
: higher in HK. Some observations:
: 1. They had a lot of older stuff- dusty in fact. 95 percent was at
: current "high rent district" list price. One store, Wilson Camera,
: 8 Great George St, was giving decent prices on older gear that was
: getting dusty.
Yes. Amazing how old some of the stuff was. Actually worked to
my advantage in one case since I wanted a model that was no
longer available in the U.S.

: 2. Most if not a □□ll of the gear was in the Asian/Japan
: models- 440 gear ran on 430, and there is a great tendency for
: the extended recieve we see on US 2M gear to be disabled.
Major problem here. Watch out for versions of equipment that
are setup for non-US markets. Its not always easy to figure
out in advance, either.

: 3. Prices as I say were about US or more.
I'd give them more credit than that...but its not always easy to
tell the rockbottom price with extensive negotiation.

: 4. There will be a real warranty problem, unless you ship
: it back to the dealer in HK
: 5. I believe the hma radio dealers in HK cater to tourists, such
: as the Japanese, who have high prices at home, and would
: benefit from the lower taxes, etc. in HK.
Actually, I am not sure WHO they really cater to. The prices
I've seen in Tokyo are roughly equivalent to Hong Kong.
Exchange rate would influence this, of course.

: Would I go back- yes. Buy some gear- maybe. Fun place- I have never
: been in more Ham Radio dealers in my life.

Check.

: 73,
: Erik

Bob KB0CY

Bob Witte / bobw@col.hp.com / HP / EMD / (719) 590-3230 / KB0CY / 7J1AUE

4841. Re: LED question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: clifpenn@airmail.net
Message-ID: <46f3u3$7m0@news.iadfw.net>
Source record: 110002

d010421c@dcfreenet.seflin.lib.fl.us (Ken Becker) wrote:

>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

>--

>

>[OO] LOOKING FOR RADIOS!
>Ken Becker
>d010421c@dcfreenet.seflin.lib.fl.us

With 50V as a supply, you are essentially looking for a current
limiter. The original 240 Ohms was the correct value but it would be
dissipating about 20 mA x 50V = 1,000 mW or 1W. No wonder it burned
out. The current to the LED is not so critical but what you could use
a 220 or 270 Ohm 2W resistor.

<clifpenn@airmail.net>

4842. Re: LED question , correction!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: clifpenn@airmail.net
Message-ID: <46f4g5$6u2@news.iadfw.net>
Source record: 110003

d010421c@dcfreenet.seflin.lib.fl.us (Ken Becker) wrote:

>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

>[OO] LOOKING FOR RADIOS!
>Ken Becker
>d010421c@dcfreenet.seflin.lib.fl.us

Sorry, I screwed up. I should not answer questions when I am half
asleep. You are looking for a current limiter but 50V/20mA makes about
a 2.5K resistor and the dissipation is about 1W. When the 1/2 W
resistor "smokes" the red turns brown on the color code, so it
probably was not 240 Ohms. Use a 2W 2.2K or 2.7K. My apologies if my
prior posting 5 minutes ago caused any problems.

<clifpenn@airmail.net>

4843. Re: an HT from Hong Kong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: davie@primenet.com
Message-ID: <46fn5i$9pu@nnrp3.news.primenet.com>
Source record: 110004
Cross-posted to: rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.amateur.homebrew

In article <46elj9$g28$1@mhafm.production.compuserve.com>,
Erik Westgard <71505.341@CompuServe.COM> wrote:

>
>I was in Hong Kong this summer, staying in the Causeway Bay area. I
>was completely surprised by the number of authorized Icom dealers in

>
>Would I go back- yes. Buy some gear- maybe. Fun place- I have never
>been in more Ham Radio dealers in my life.
>

I would like to add to this thread - I was there not too long ago and I got the feeling many stores were more "communications" stores. They had ham, two way, commercial HF, you name it. Whatever you wanted, whoever you were, they were happy to sell it to you. Perfectly legal, of course, as it would be in the US, as long as you didn't try to use it here, or in HK. I suspect the HK government keeps after toursts trying out their new toys before they leave!

I also found the HK shop keeper's to be the nastiest, most disinterested, discourteous S.O.B.'s I have EVER run into. It was so bad I asked my hotel manager what I was doing wrong. He said "probably nothing", adding "being Caucasian and wanting less than 10 of anything was not a good combination for many sales people; a serious problem in HK". All of this right after visiting Tokyo where the HAM (REAL ham) stores where SO polite and friendly I literally could not believe it.

Dave, WE6L/ Phoenix

4844. Help: Mod 440Mhz to Australian CB Possible?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: Chris Arai <arai@rahul.net>
Message-ID: <46fg1s$b07@bug.rahul.net>
Source record: 110005
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I would like to know if it is possible to modify a 440Mhz hand held to work well on the Australian CB band. I believe it is about 470 Mhz, but I'm not sure. If anyone knows the answer to that question as well I would appreciate it.

Thanks

Chris

arai@rahul.net

--
Chris Arai <arai@rahul.net>

4845. Re: an HT from Hong Kong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: rafaels@zimmer.CSUFresno.EDU
Message-ID: <DGx0Bo.Lq3@CSUFresno.EDU>
Source record: 110006
Cross-posted to: rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.amateur.homebrew

In article <46b7s9$lmj@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (If you want my name just ask.) writes:
>
>>to Hong Kong soon and am interested in shopping for an HT. What can
>you
>>advise me about:
>
>
>I'd save myselft the trouble and buy from a stateside distributor, I've
>heard of guys buying overseas HF gear with features or bands not avail.
>in U.S but I've never heard of any great bargains. What you save by
>shopping Hong Kong may cost you quickly if you have a problem or need
>an accessory for the radio.
>
>I have a Kenwood Dual band HT and like it alot.
>
>73, Tim ka8ddz

I agree with Tim. I've been to HK several times on business trips and it is not worth the hassling of dealing with the salesmen over there (prices are not fixed and you have to deal, yes as in bargaining!). Also there is the problem of the warranty. I don't think any of the major brands (K,I,Y) honor warranties of any equipment bought overseas. What I have bought though are accessories. Bring your AES catalog to check the price differences. Some things are cheaper there but others are around the same or even higher depending on the store. Another suggestion is to get away from the Nathan Rd. stores, those are usually overpriced.

Have fun in HK.

Rafael (KE6JSR)

4846. Re: Unknown tube: CX1622 by EEV

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DGwBvt.CDr@hpqmoea.sqf.hp.com>
Source record: 110007
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Klaus Sch�nhoff (SCHOEN@REZE-1.RZ.RWTH-AACHEN.DE) wrote:
: I've just found a impressive looking vacuum tube named CX1622
: manufactured by EEV. Does anyone know the original purpose of this
: device? EEV?

EEV = English Electric Valves

English Electric is/was(?) part of the English, General Electric
Company (GEC plc) (No relation to an American firm with a similar name..)

Sorry, no data,

David GM4ZNX

4847. Source of oil-filled paper electrolytics for Collins PS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: glheller@ix.netcom.com
Message-ID: <46g5td$3c6@ixnews3.ix.netcom.com>
Source record: 110008

Am in need of these caps for both my Collins S-Line and my KWM-2 power supplies. The ones in the power supplies are dried out and need to be replaced.

Would like to know the name of any electronic suppliers that handle this type of capacitor. Prefer a direct replacement.

Thanks in advance.

Gil Heller

4848. Re: DDS Article in 73

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: Bill Kirkland <kirkland@bnr.ca>
Message-ID: <308BA379.6830@bnr.ca>
Source record: 110009

Check out RF Design for the Radio Amateur (ARRL) and look
in the Motorola application notes. Motorola makes some
good wide band amps (but they aren't all that in expensive).

Don't forget to use an anti-aliasing filter on the output of
the DDS.

I also stand corrected on the output of the DDS. The AD7008
has its spurs 50 dB down - fine for transmission but not good
for a high performance receiver.

Bill Kirkland
VE3JHU

4849. Modulation transformer question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: Joel Govostes <jwg6@cornell.edu>
Message-ID: <46g8j4$asj@newsstand.cit.cornell.edu>
Source record: 110010

I'm interested in building a low-power AM transmitter for 75/40 meters. I have access to the needed tubes, but need to know: Is there a source for new or operational modulation transformers, as would be used in this case? I don't recall this type of thing appearing in parts catalogs anymore. Thanks N1AEP

4850. Re: AMSOFT SPAM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <46g9uc$i14@unisql.unisql.com>
Source record: 110011

Bob:

I stand by my previous comment: SPAM-soft.

The gentlemen (NOT) at AMSOFT wisely chose to send their message to at least ten newsgroups on this round of their shameless advertising. Regardless of the value of the information they provide, their relentless SPAMMing of the amateur radio radio newsgroups is unjustifiable and inexcusable.

There was a major SPAM attack from Amsoft the last time they had a new CD release. And the time before that. AND the time before THAT! They have an unfortunate history for alienating a lot of us and for wasting a lot of bandwidth.

That you would support their activity says something about you -- not sure what, exactly. But it's not in keeping with newsgroup's non-commercial charter.

If you are reading this, it's because I'm wasting bandwidth only on the rec.radio.* newsgroup I read. And if you reply to my flaming diatribe, you will do so only to this newsgroup, unless you choose to add groups. Of course you understand how to add and remove groups from your To: field in your newsreader. You DO understand how that works, don't you?

Jim N6OTQ
Standard disclaimer

4851. Want: COIL winding machine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: scottcr@wkuvx1.wku.edu
Message-ID: <1995Oct23.100446.1@netnews.wku.edu>
Source record: 110012

I am looking for a coil-winding machine. Large or small, motor driven
or manual,

What do you have?

Thanx, Chris

WB9NEQ Bowling Green, KY

--
Chris.Scott@WKU.EDU Chief Engineer, Public Radio- Western KY U
Telco: (502) 745-3834 Hm & Fax: (502) 781-1232
...just another insignificant VAX user. \\\//
(o o)
--ooO-(_)-Ooo----------------------

4852. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <46ggnc$1j8u@info4.rus.uni-stuttgart.de>
Source record: 110013

>>>You need no
>>>ground whatsoever with a halfwave vertical antenna.

>A halfwave antenna *does not require ground* to function.

Hi Gary,

So you both are not right.

>A halfwave vertical is perfectly content to function properly
>in *free space*.

Any length of antenna radiates and is happy to work in free space. The lack of resonance only meens that you will have to do something to get a real feed point impedance. And the existence of a 5/8 antenna shows that sometimes it is better to have a non-resonant antenna rather than an endfed dipole, which needs a high-ratio transformer, wich in turn is a source of problems.

>That counterpoise *can* be Earth, but it doesn't have to be.

Read a text book, and you find that the 1/4 wave and the 1/2 wave antennas behave similar over lossy ground, only that the losses are less for the latter due to its higher radiation resistance (not to be confused with the feed point resistance). There is no fundamental difference, as you are trying to make out.

Think of a walkie talkie: no half wave, no quarter wave or counterweight, but it works.

73, Moritz DL5UH

4853. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <46gn8j$1s6@hpscit.sc.hp.com>
Source record: 110014

In article <8019-240941402@humnet.humberc.on.ca>,
<hduff@humnet.humberc.on.ca> wrote:
>
>>
>The radio remains intact...I just inject the VCO signal further up the
>line.

>Hmmm... the '157 I have here is running at 26 Mhz !!

The '157 is spec'ed at 15 MHz for sine wave and 22 MHz for 5V P-P
square, running from a 5V supply. Your circuit may not continue
to operate correctly when you install it in the radio and it gets
warmed up, etc. It is does work for you, great.

>Maybe this is pushing it to its limit.

Probably

>> >You might want to brush up on your personability skills...
>> >"...simple minded synthesizer..." and your approach in general ceratinly

As has been already pointed out, the "simple minded" referred to the
synthesizer not to you.

>> >don't contribute positively to the spirit of homebrewing !

My postings are "informational"; I don't claim they are "motiviational".

>What is simple minded about a PLL/Loop Filter/VCO when properly
>designed ? I didn't intend on building up some half-assed "well, it

Well, a single loop, integer divider PLL synthesizer is about the
most simple architecture of its kind. Most people at least use
an offset loop or fractional N. In this case, it is, in the long run,
simpler to use a more complicated architecture that is appropriate for
the application than to attempt to push a simple one to its limits.

>kinda works" board. That was the intent of the original post...tell me
>what I need to know and/or HELP me design a solid performer !
>If you don't want to get involved in a positive way, say nothing !
>Perhaps I'm being a bit anal retentive but the net seems to be full
>of the "I can tell you you're wrong but I can't tell you how to
>do it right" types.

I told you how to do it right: use crystals. If you want to
know how to do it right with a synthesizer, look at the schematics
of commercially available ham equipment.

>I suggest that your delivery is somewhat abrasive...try having some
>compassion for those of us who are attempting to learn. Nothing is more

There is nothing compassionate about letting someone go off and
apply to simple technology to a complicated problem.

>of a turnoff than having someone who comes off like a "know-it-all"
>burst your ballon. Albeit, you may know your stuff *BUT* your delivery
>needs some honing.
>
>The only frustration so far has been the negativity expressed by
>yourself. Why you didn't instead say...

Why didn't you say: "what is the appropriate solution to this problem?"
rather than saying "I've already decided to use a simple synthesizer".

This will be my last posting in this thread. I think we have
beat this one to death. I hope your synthesizer works out for you.

Rick Karlquist
rkarlqu@scd.hp.com

4854. 50MHz transmitter frequencies for UK

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: giles@wormwood.demon.co.uk
Message-ID: <814481373.3614@wormwood.demon.co.uk>
Source record: 110015

I have recently passed my RAE and instead of lashing out on expensive equipment ,I am going to do some homebrew QRP projects together with appropriate instrumentation -- see Practical Transmitters for Novices. What I should like to know:

1) What are best channel frequencies for FM 50MHz? i.e. what rocks to choose?

2) In order to hear the 6M band I have built a converter to connect to my Kenwood R5000. I have tried to make a dipole but have no usable signals yet --- i think a higher antenna is called for. Has anyone any experience with the 50MHz to 28MHz converter a la Cirkit?

Giles G7VOF

4855. Re: Unwanted Fm station (1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <DGx4xx.4nx@eskimo.com>
Source record: 110016

```
>the undesired (side and back) directions. Finding a null can give a
>20 dB (1/10th) reduction (or more) in signal strength.
-------------------------------------------------------
Nitpick mode ON:

20 dB is a 100:1 power reduction. 10 dB is 10:1.
```

4856. Need Postscript to HP-GL Translator .. Suggestions ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <46h37b$232@buffnet2.buffnet.net>
Source record: 110017

Greetings,

In need of a translator that will convert poscript files to HP - GL (Laserjet 4L).
I'm hoping that someone knows of a freeware/shareware version that will do
the job.

Thanks

daveb@buffnet.net

4857. Radio Shack Pro-51 Mod needed, Please!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: aviator270@aol.com
Message-ID: <46fb35$j3j@newsbf02.news.aol.com>
Source record: 110018

Does anyone know how to open the freqs on the RS pro-51?
If its not possible please let me know.

Thanks in advance!!

4858. '95 Handbook problem, need email or phone reference

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: psoper@encore.com
Message-ID: <DGx6MD.GBC@encore.com>
Source record: 110019

Hi folks,
I've plugged a lot of numbers into the R1 resistor equation of
the low-pass active filter design description in figure 16.54 on page
16.30 of the '95 "ARRL Handbook". I'm convinced that either the
equation is in error or I've lost my mind. In case it's the former problem
(or to get quickly to the latter), could somebody recommend how I can pursue
this with the ARRL? Is there a department to ask for on the phone (#?)
or an email address for this kind of query?
Please send me email direct if you can help, as postings to this
group are averaging 7-12 days to ooze through our news feed.
My problem is that the "[a^2 + 4b(K-1)]C2^2" subexpression results
in an attempt to take the square root of a negative value because this comes
out smaller than the "4bC1C2" subexpression subtracted from it. If I guess
that parentheses are missing and it should be written "([a^2 + 4b(K-1)]C2)^2"
I get the wrong result for the example values given. I can't come up with
a second guess :-)

Thanks,
Pete

Pete Soper (psoper@encore.com) KS4XG 1+ 919 481 3730, 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA grid FM05oq

4859. Re: Recommendation for a good "Grid Dipper"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: forrerj@ucs.orst.edu
Message-ID: <46gedh$kjl@news.orst.edu>
Source record: 110020

Hi All,

Thanks for all the kind help and e-mails I have received. Think I have a handle on this now. It appears that the dipper is one solution, however, looks like I should look further into using a network analyser.

Thanks a lot for your interest.

--Johan Forrer, KC7WW

4860. Want to filter out stupid radio station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: ez041502@dale.ucdavis.edu
Message-ID: <46gnkq$k6l@mark.ucdavis.edu>
Source record: 110021

I posted before about jamming a radio station. I wasn't that
serious. I just wanted to express my intense dislike of "young"
country. (I won't call it music, that'd be giving it too much credit.)
I have since gotten advice to ask about how to filter out the hated
station or to get a "more selective receiver". Now does anyone have any
more information on these perfectly legal solutions?
Stan Kwong

4861. Re: Modulation transformer question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: 75364.1053@compuserve.com
Message-ID: <46h229$1vo@dub-news-svc-6.compuserve.com>
Source record: 110022

Joel,

An old trick used occasionally in amateur AM homebrew transmitters of the past was to use an audio output transformer in place of the modulation transformer. The high impedance primary looked at the final amplifier plate(s) and the low impedance secondary was driven from an audio amplifier of sufficient output power to fully plate modulate the transmitter. This was equivalent to connecting two transformer secondaries back-to-back since in those days, most of the audio amps used vacuum tubes and drove the load with an output transformer. You used an old public address amplifier as your plate modulator. It might be easier to find an output transformer than a modulation transformer. Some guys even used power transformers to do this, the gov't surplus 400 cycle transformers from military equipment were also used (and weren't too shabby!).

..those were the good old days!

Frank

4862. Re: Want: COIL winding machine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.814486204.15700.jwicklun@mycroftxxx.halcyon.com>
Source record: 110023

In article <1995Oct23.100446.1@netnews.wku.edu>,
<scottcr@wkuvx1.wku.edu> writes:
>
> I am looking for a coil-winding machine. Large or small, motor
driven
> or manual,
>
> What do you have?
>
> Thanx, Chris
>
> WB9NEQ Bowling Green, KY
>
> --
> Chris.Scott@WKU.EDU Chief Engineer, Public Radio- Western KY U
> Telco: (502) 745-3834 Hm & Fax: (502)
781-1232
> ....just another insignificant VAX user. \\\//
> (o o)
>
----------oo0-(_)-0oo----------

>
You know, I'd like to find one of those too. When I was first
starting out in electronics (we won't go into how many decades ago
that was), I had a simple little cam driven coil winder that was a
lot of fun. Don't know what happened to it, but would love to find
something similar at a hamfest or something.....

73 de KI7RH (Jay)
jwicklun@halcyon.com

4863. Circuit diagram for a 100+ ft transmitter and receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: dean@slinkyworld
Message-ID: <46gual$14q@news.cc.ucf.edu>
Source record: 110024

Does anyone know where I could find a circuit diagram for a transmitter and receiver that could go 100+ feet. One or two channel.

I would like to build one from scratch.

Thanks in advance

scottc@pegasus.cc.ucf.edu

4864. Re: Making labels from transparencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: dean@slinkyworld
Message-ID: <46gukb$14q@news.cc.ucf.edu>
Source record: 110025

>>Has anyone had experience making panel labels for projects using laser-
>>printed transparencies? With Word for Windows, I can align and print
>>very nice labels. The only problem is gluing them to a panel. Nothing I
>>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>>seems to stick. I assume the plastic is mylar.
>>

I would use clear contact paper over the laser quality print. Contact paper
is great for a lot of things and I've used it before

4865. Re: Best motherboard for minimum rfi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-23 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951023164120.18396H-100000@biggulp.callamer.com>
Source record: 110026

Good point Paul. I have exactly the same thoughts but have experienced
just about the same level of noise with the modern boards as the old!

On 21 Oct 1995, Paul Erickson wrote:

> Has anyone done any comparisons to see which motherboards are best
> from an rfi point of view?? I am planning on replacing the board in
> my old AT, but my current experiences with my NEC multispeed
> (very noisy on 14mhz) are making me cautious about computer generated
> rfi. Any comments will be appreciated.
>
> cheers, Paul
> ve7cqk
> email: paul1@wizard.ucs.sfu.ca
>
>
>

4866. Boatanchor Project Parts Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: Grant H Youngman <us007699@interramp.com>
Message-ID: <46he83$smv@usenet1.interramp.com>
Source record: 110027

Looking for the following items to complete a few languishing projects:

1. 2 3/8 - 2 1/2" diameter phenolic coil form at least 2" in
length (if its longer I can always cut it down) OR the real thing, L6
(160 meter L-section output coil) from a Globe King 500.

2. Neutralizing capacitor such as National type NC-800 or NC 150, etc.
or Millen no. 15011 or EF Johnson Type N

3. Amplifier shield/fan assembly from a Globe Champion 300A or 350
(I need the entire assembly)

4. Not a part -- but also looking for a Hammarlund SPC-10

Thanks .. Grant/NQ5T

4867. help converting cb rig to 10 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: reble@ONEWORLD.OWT.COM
Message-ID: <46hl9q$vdt@paperboy.owt.com>
Source record: 110028

i have a , sbe sidebander 2 (23 channel) cb rig, it is usb/lsb/am mod's, i have the schematic diragram for the rig. i would like to add 10 meters to it on an external vfo does someone have a schematic for a vfo that will work with it.

steve (kc6byp)

4868. Returned mail: Local configuration error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199510240308.WAA07620@ooz.backbone.uoknor.edu>
Source record: 110029

```
This is a MIME-encapsulated message

--WAA07620.814504136/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 22:08:54 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--WAA07620.814504136/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id WAA07618 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 22:08:54 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id WAA00391 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 22:08:06 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN9AF6N40042TV@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:29 -0500 (CDT)
Date: Mon, 23 Oct 1995 22:12:28 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #338
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSN9AHLGI0042TV@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN911VIO0041N6@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:17 -0500 (CDT)
Received: by mail.ucsd.edu; id TAA11405 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 19:22:18 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id OAA22698 sendmail 8.6.12/UCSD-2.2-sun Mon,
```

23 Oct 1995 14:13:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 14:13:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #338
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510232113.OAA22698@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 338

Today's Topics:
40m vertical - How to make?
AMSOFT SPAM
Anybody used Ramsey FX-440 for 9600?.Humm...
Changing Uniden mic wiring?
Help: Mod 440Mhz to Australian CB Possible?
Ladder Line .. how to make?
LED question (2 msgs)
LED question , correction!
PLL/VCO homebrew designs
Radio Shack Pro-51 Mod needed, Please!!!
Source of oil-filled paper electrolytics for Collins PS
Unwanted Fm station (1)
Unwanted Fm station (2)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 21 Oct 1995 14:01:44 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: 40m vertical - How to make?

In article <467mcf$e6m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>You need no
>>ground whatsoever with a halfwave vertical antenna.

>Don,
>
>Sorry to say so, bot you are wrong here. it is true, that the radiation
>resistance of a halfwave is higher, and hence losses induced by a poor
>ground in the vincinity of the antenna (no or little radials)
>is less than for a shorter antenna.
>
>But if you look into the problem of the radiation pattern, you will find,
>that it is also degraded above poor gound.

Sure, lossy *Earth* near an antenna is always a problem, so keep
your antennas well away from Earth, but that doesn't address his
comment. A halfwave antenna *does not require ground* to function.
It doesn't need it to act as a current mirror the way a quarterwave
does. A halfwave vertical is perfectly content to function properly
in *free space*. A quarterwave needs some sort of counterpoise.
That counterpoise *can* be Earth, but it doesn't have to be. Radials,
or a counterpoise wire, will work just as well, probably better
since they won't be as lossy as Earth.

Gary
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 14:47:40 GMT
From: Jim Strohm <jstrohm@blazer.ucsd.edu>
Subject: AMSOFT SPAM

Bob:

I stand by my previous comment: SPAM-soft.

The gentlemen (NOT) at AMSOFT wisely chose to send their message to at least
ten newsgroups on this round of their shameless advertising. Regardless
of the value of the information they provide, their relentless SPAMMing
of the amateur radio radio newsgroups is unjustifiable and inexcusable.

There was a major SPAM attack from Amsoft the last time they had a new
CD release. And the time before that. AND the time before THAT! They
have an unfortunate history for alienating a lot of us and for wasting a lot
of bandwidth.

That you would support their activity says something about you -- not sure
what, exactly. But it's not in keeping with newsgroup's non-commercial charter.

If you are reading this, it's because I'm wasting bandwidth only on the
rec.radio.* newsgroup I read. And if you reply to my flaming diatribe,
you will do so only to this newsgroup, unless you choose to add groups.

Of course you understand how to add and remove groups from your To:
field in your newsreader. You DO understand how that works, don't you?

Jim N6OTQ
Standard disclaimer

Date: 21 Oct 1995 11:17:40 GMT
From: "J. Silva" <jsilva@zeus.ci.ua.pt>
Subject: Anybody used Ramsey FX-440 for 9600?.Humm...

>>Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
>>I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
>>packet, but nobody has actually been able to get it going quite right.

Some time ago I bought their kit. I found that the receiver suffered
from
many spurious responses which, given right (wrong?) packet frequency
would
make it pretty useless. I did get it to receive 9600 but had a pretty
strong signal to work with and didn't make any performance measurements
so
I can't really comment on the receive performance. The transmitter was
a
disaster! Because they have no shielding anywhere in the radio the
transmitter output got back into the PLL and the resultant signal
resembled
broadband noise. I wasted a lot of time trying to clean that up and
never
was successful. I believe that taking the time to build a good shield
around the PLL would have solved the problem but there are problems with
the board layout that make it a difficult thing to do. I did find a
few
minor design errors which resulted a very long (for 9600 packet) TR
turnaround time. They directly modulate the VCO, like most radios, so
the
transmitter will distort the signal. I never got far enough to worry
about
that.

A friend of mine bought one and had similar problems. Both of us wasted
a
good bit of money. Since then we have discovered the joys of converting
commercial (e.g., Motorola and GE) radios...they work!

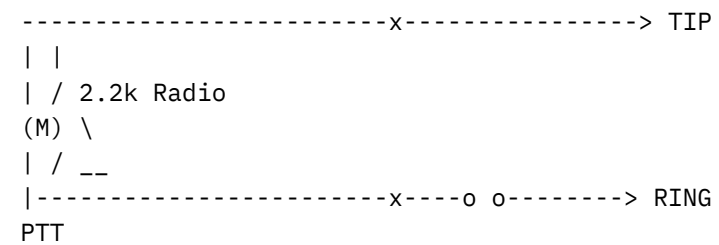
My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Interessante ??? CT1DSJ

Date: Mon, 23 Oct 1995 13:37:08 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Changing Uniden mic wiring?

In article <Pine.CVX.3.91.951022183204.6724E-100000@gibbs.oit.unc.edu> Dale Castle
<dbcastle@gibbs.oit.unc.edu> writes:
>
> I have a Standard C508A and I just got a Uniden clip-on mic w/
>ear phone jack. When I plug it in, it keys the radio. The PTT button
>doesn't stop it. The mic sounds great. Can I change the wiring to make it
>work? (bought it used.) Thanks in advance for the help.

Dale, the C508A uses the same "leaky PTT" circuit as Icom/Yaesu/Radio Shack.
Mikes wired for those brands will work. I'm not familiar with the Uniden
mike, but here's roughly what the I/Y/RS circuit looks like:



The mike (M) is actually a FET buffered electret powered from voltage
supplied by the radio. When you close PTT, the mike becomes powered
and the TIP voltage is pulled down by the resistor. The voltage
drop is sensed in the radio and causes it to go into transmit.
The resistor may vary between 2.2k (Yaesu standard) to 10k (Icom
standard). The Yaesu mikes work on either rig, though the audio
level will be a bit low on an Icom, but the Icom mikes won't always
key a Yaesu because they don't sink enough current. My C508A, and
most HTX-202s, don't care, they'll work with either.

It sounds like your Uniden mike uses a different scheme, but since
the audio sounds good, try just rewiring it so the PTT switch is
in series with the ground lead.

Gary
--
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Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 07:25:48 GMT
From: Chris Arai <arai@rahul.net>
Subject: Help: Mod 440Mhz to Australian CB Possible?

I would like to know if it is possible to modify a 440Mhz hand held to
work well on the Australian CB band. I believe it is about 470 Mhz, but
I'm not sure. If anyone knows the answer to that question as well I
would appreciate it.

Thanks

Chris

arai@rahul.net

--
Chris Arai <arai@rahul.net>

Date: 21 Oct 1995 04:14:57 GMT
From: ted <ted@ihnp4.ucsd.edu>
Subject: Ladder Line .. how to make?

Ron and Drew...

.. I remember seeing ladder line where the spacers were made from old
BIC byros (body), if you are going for 2" spacing then a each byro will provide
2 spacers (or a byro per 4' of line - roughly).

Just might save you a bit of sawing... rest of the method the same.

73 Ted VK1BL.

ejg@acslink.net.au

Date: Sat, 21 Oct 1995 14:25:20 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <469kcl$3es@bcfreenet.seflin.lib.fl.us> d010421c@dcfreenet.seflin.lib.fl.us
(Ken Becker) writes:
>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

Ok, lets do some calculations. The original circuit had a 240 ohm
resistor. For 20 ma of diode current, the voltage feeding the
resistor needs to be

E=0.02*240+1.6 = 6.4 volts

and the resistor power dissipation is

P=.02*4.8 = 0.096 watts

So a half-watt resistor offers a comfortable safety margin.
But if the voltage is 50 volts, then we have a power dissipation
in the resistor of

P=48.4^2/240 = 9.76 watts

A half-watt resistor is going to go *poof*, as it indeed did.
So either the value of the original resistor was *not* 240 ohms,
or the design voltage is *not* 50 volts.

Now you replaced the resistor with a 2500 ohm resistor, so the
power dissipation of that resistor would be

P=48.4^2/2500 = 0.937 watt

A 5 watt resistor would be about right to provide an adequate
safety margin. (You never want to run a resistor at its power
dissipation limit, it'll run about 100 C at that power level.)

But the original resistor was a half-watt unit, indicating a
design dissipation of 1/10th watt or less. Clearly something
is wrong here. I'd suspect it's the 50 volts. Are you *sure*
it's *supposed* to be 50 volts?

Gary
--
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Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:12:54 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <46f3u3$7m0@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>With 50V as a supply, you are essentially looking for a current
>limiter. The original 240 Ohms was the correct value but it would be
>dissipating about 20 mA x 50V = 1,000 mW or 1W. No wonder it burned
>out. The current to the LED is not so critical but what you could use
>a 220 or 270 Ohm 2W resistor.

Better run that calc again. You slipped a decimal. That's *50* volts,
not *5.0* volts he's saying. A 220 to 270 ohm resistor would be

correct for *5.0* volts. You got the power right though, a *2400*
ohm resistor would dissipate about 1 watt (actually 0.976 watt).
And that's too much for a half watt part. Either the voltage is
supposed to be much lower, or there's supposed to be something
else in the circuit acting as a current limiter besides the
240 ohm half watt resistor in there originally.

Gary
--
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Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:19:03 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question , correction!

In article <46f4g5$6u2@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>
>Sorry, I screwed up. I should not answer questions when I am half
>asleep. You are looking for a current limiter but 50V/20mA makes about
>a 2.5K resistor and the dissipation is about 1W. When the 1/2 W
>resistor "smokes" the red turns brown on the color code, so it
>probably was not 240 Ohms. Use a 2W 2.2K or 2.7K. My apologies if my
>prior posting 5 minutes ago caused any problems.

And my apologies for posting a correction before reading your correction.
We're all singing out of the same hymn book now though. I'm beginning to
suspect a fault in another part of the circuit. Obviously, even if the
original resistor were 2400 ohms and a color band turned when it smoked,
that still doesn't address the fact that it was a *half watt resistor*.
There's got to be something else in the circuit that's supposed to limit
current. *That's* the part that probably failed and took the resistor
with it, and is still causing new resistors to smoke.

Gary
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 19 Oct 95 20:15:04 EST
From: hduff@humnet.humberc.on.ca
Subject: PLL/VCO homebrew designs

>
> In article <801523937403@humnet.humberc.on.ca>,

> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
> >"This is one of those projects where anyone who knows enough about the
> >technology to know what is involved" ...would know that bypassing the
> >multiplication stages in the radio and just generating the highest
> >and closest to the operating frequency with the PLL/VCO would be best
> >approach (which IS indeed the way it is going to be done).
>
> Yes, I do know that. I designed a marine radio that worked that way
> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
> >through a bandpass filter, spurs are not an big issue.
>
> That's a good architecture, but it exceeds the frequency range of the '157.

Hmmm...mine's working at 26 MHz !!
Maybe this is pushing it to its limit.

In the search for more of these parts we have discovered that it *MAY*
be a discontinued item. We are considering trying out
the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

>
> >You might want to brush up on your personability skills...
> >"...simple minded synthesizer..." and your approach in general ceratinly
> >don't contribute positively to the spirit of homebrewing !
> >
> >Hugh Duff VA3TO Toronto

>
> Well, sorry, but what you are talking about *is* a simple minded synthesizer.

What is simple minded about a PLL/Loop Filter/VCO when properly
designed ? I didn't intend on building up some half-assed "well, it

kinda works" board. That was the intent of the original post...tell me
what I need to know and/or HELP me design a solid performer !
If you don't want to get involved in a positive way, say nothing !
Perhaps I'm being a bit anal retentive but the net seems to be full
of the "I can tell you you're wrong but I can't tell you how to
do it right" types.

I suggest that your delivery is somewhat abrasive...try having some
compassion for those of us who are attempting to learn. Nothing is more
of a turnoff than having someone who comes off like a "know-it-all"
burst your ballon. Albeit, you may know your stuff *BUT* your delivery
needs some honing.

> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
> people from endless frustration. (BTW, another poster suggested a DDS;
> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

The only frustration so far has been the negativity expressed by
yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph
exhibits somewhat of a kinder approach...more of what I was expecting.)

...is beyond me. Maybe you have a fat head. (It sounds like it...
"If you want to see a sophisticated one, read my...")
Ya, you're cool !

Keep in mind that this newsgroup is the Ham Radio Homebrewing
conference...hobbiests, many of whom are interested to learn,
myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

~ NFX v1.3 [000]

--

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Date: 23 Oct 1995 02:01:09 -0400
From: aviator270@aol.com (Aviator270)
Subject: Radio Shack Pro-51 Mod needed, Please!!!

Does anyone know how to open the freqs on the RS pro-51?
If its not possible please let me know.

Thanks in advance!!

Date: Mon, 23 Oct 1995 13:36:25 GMT
From: glheller@ix.netcom.com
Subject: Source of oil-filled paper electrolytics for Collins PS

Am in need of these caps for both my Collins S-Line and my KWM-2 power supplies. The ones in the power supplies are dried out and need to be replaced.

Would like to know the name of any electronic suppliers that handle this type of capacitor. Prefer a direct replacement.

Thanks in advance.

Gil Heller

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (1)

to: all
A question was asked by kennedy@aol.com

>>I live in the country. Too bad, right? My favorite FM stereo
>>station is 100 miles away on 102.1 FM. The problem is an
>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.

One of the other replies suggested a bigger antenna pointed at the distant station. That would certainly help make sure you have enough signal. If the difference in directions to the two stations is near 90 degrees you will pick up some additional reduction in signal strength of the offending station due to reduced pickup off the side of the beam. If you ever looked at pictures of antenna patterns in the ARRL Handbook, you'll see that large antennas have maximum pickup in the desired (forward) direction and lots of sharp little points of pickup in the undesired (side and back) directions. Finding a null can give a 20 dB (1/10th) reduction (or more) in signal strength.

Ideally what you want to do is put one of the side lobe NULLS right on the offending station even if you have to point slightly away from the desired station. You might be able to see this happen if you disconnect the antenna from the receiver and just place the coax cable near the terminals as you turn the antenna. Can't guarantee anything but it might work. The better way is to use a high value attenuator between the coax and the radio. Adjust the attenuator for a weak but readable signal on the receiver meter. Then turn the antenna until the signal strength meter on the radio shows as low as possible on the offending station. This gets you the LEAST offending signal possible.

Assuming just changing one antenna isn't enough to fix your problem, I don't think you'll have any luck at all trying to find any standard filter to reduce a signal only 800 KHz away. The next option is to use a second antenna pointed at the offending station and mount the antenna so the signal it brings into the receiver is 180 degrees out of phase with the first antenna. The closer you can get to exactly opposite phase, the more signal will be reduced. Have you ever heard the flutter of multipath on a station? That is what we are trying to do here.

The second antenna can be much smaller than the main antenna because the station is so close. This will not be easy because you have to match not only the signal phase to cancel but also the signal strength. Start by using the attenuator with the receiver and first antenna to try getting a known signal level on the offending station. Next connect the second antenna in place of the first and use another attenuator or extra length of coax (100's of feet) or maybe just a resistor short at the antenna until you have reduced the signal strength to match the first antenna.

Once the signal strengths are egual, connect BOTH antennas to the receiver at the same time using a 2 way splitter/combiner. Now you begin moving the second antenna around until the offending signal is at minimum. That is the position for maximum cancelation. How far do you have to move it? Well, figure the wavelength of the signal. A half wave is about 495/frequency so a full wave length would be 2*495/106 = 9.3 feet. So somewhere along a line from the first antenna toward the offending station, within a ten foot distance, you should find a null. This doesn't mean you have to be within 10 feet of the first antenna, just a 10 foot movement somewhere in the direction of the offending station. You probably should keep the second antenna ten feet away from the first antenna just to reduce antenna pattern changes since you just got done carefully pointing the first antenna.

Another method of cancelling the signal is by changing the length of the coax from the second antenna to the receiver, because changing the length is just like moving the antenna. Now, the wavelength in coax is shorter than the wavelength in air. This is called the velocity factor of the coax cable. Most foam coax has a velocity factor of around 80%. This means that 10 feet in air is only 8 feet in the coax. So, somewhere in 8 feet of cable is the exact length you need to cancel the offending station. If you choose this method, all you can do is cut off

the cable a little bit at a time until you have minimum signal from the offending station. I've never tried this myself so I don't know how small of cuts you should make so you don't go past the null. I'd just figure you'll start with an extra 20 feet of cable and start cutting maybe 6 inches at a time. I assume you'll be able to hear multipath distortion of the signal as you get closer to the right length and can start making smaller cuts.

It is my understanding that this basic technique is frequently used in commercial broadcast radio where they may have similar problems. I understand they use more of a tuneable (low pass?) filter of some sort to adjust the phase shift instead of cutting the coax. This phase cancellation technique is the only one I've ever heard of that might do you any good. The only other options involve replacing the receiver with something much more expensive, designed for extremely high signal overload and superb IF bandwidth filtering. I've never heard of such a receiver but I'm sure they exist if you have a LOT of money.

I really don't have much hope that anything is going to let you receive your desired station. With 50 KW only 5 miles away, everything in your
--==<<< Continued next message >>>==--

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (2)

--==<<< Continued from previous message >>>==--
area is going to bouce some of the signal into the first antenna. The more random signals you have bouncing around, the less likely you'll be able to null out the offending station. Good luck.

73's.

Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

* SLMR 2.1a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

---

End of Ham-Homebrew Digest V95 #338
****

--WAA07620.814504136/ooz.backbone.uoknor.edu--

4869. Returned mail: Local configuration error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199510240404.XAA07945@ooz.backbone.uoknor.edu>
Source record: 110030

```
This is a MIME-encapsulated message

--XAA07945.814507497/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:04:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA07945.814507497/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA07942 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:04:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00447 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:04:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7QBIGW003R6O@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:30 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:08:29 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #339
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSP7QD4CI003R6O@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7IHXI8004S4E@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:20 -0500 (CDT)
Received: by mail.ucsd.edu; id UAA22711 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:13 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id UAA22686 sendmail 8.6.12/UCSD-2.2-sun Mon,
```

23 Oct 1995 20:13:09 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 20:13:07 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #339
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240313.UAA22686@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 339

Today's Topics:
'95 Handbook problem, need email or phone reference
50MHz transmitter frequencies for UK
an HT from Hong Kong? (2 msgs)
Best motherboard for minimum rfi
Circuit diagram for a 100+ ft transmitter and receiver
Making labels from transparencies
Radio Control kits/plans
Returned mail: Local configuration error
Unwanted Fm station (1)
Want to jam stupid radio station

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 1995 21:06:12 GMT
From: psoper@encore.com (Pete Soper)
Subject: '95 Handbook problem, need email or phone reference

Hi folks,
I've plugged a lot of numbers into the R1 resistor equation of
the low-pass active filter design description in figure 16.54 on page
16.30 of the '95 "ARRL Handbook". I'm convinced that either the
equation is in error or I've lost my mind. In case it's the former problem
(or to get quickly to the latter), could somebody recommend how I can pursue
this with the ARRL? Is there a department to ask for on the phone (#?)

or an email address for this kind of query?
Please send me email direct if you can help, as postings to this
group are averaging 7-12 days to ooze through our news feed.
My problem is that the "[a^2 + 4b(K-1)]C2^2" subexpression results
in an attempt to take the square root of a negative value because this comes
out smaller than the "4bC1C2" subexpression subtracted from it. If I guess
that parentheses are missing and it should be written "([a^2 + 4b(K-1)]C2)^2"
I get the wrong result for the example values given. I can't come up with
a second guess :-)

Thanks,
Pete

Pete Soper (psoper@encore.com) KS4XG 1+ 919 481 3730, 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA grid FM05oq

---

Date: Mon, 23 Oct 1995 20:49:37 GMT
From: giles@wormwood.demon.co.uk (giles)
Subject: 50MHz transmitter frequencies for UK

I have recently passed my RAE and instead of lashing out on expensive
equipment ,I am going to do some homebrew QRP projects together with
appropriate instrumentation -- see Practical Transmitters for
Novices. What I should like to know:

1) What are best channel frequencies for FM 50MHz? i.e. what rocks to
choose?

2) In order to hear the 6M band I have built a converter to connect
to my Kenwood R5000. I have tried to make a dipole but have no usable
signals yet --- i think a higher antenna is called for. Has anyone any
experience with the 50MHz to 28MHz converter a la Cirkit?

Giles G7VOF

Date: 21 Oct 1995 17:09:22 -0700
From: ad7k@bighorn.accessnv.com (Squeak Porray)
Subject: an HT from Hong Kong?

If you want my name just ask. (timhynde@ix.netcom.com) wrote:

: >to Hong Kong soon and am interested in shopping for an HT. What can
: you
: >advise me about:

: I'd save myselft the trouble and buy from a stateside distributor,

Comments from a "Stateside distributor", who has had experience both ways
...

If you buy a radio from someone you never saw before, and never expect to see again, all he is going to be interested in is getting your money out of your wallet and you on your way.

If you buy from a local (or regional) dealer, you are buying from someone who wants to see YOU happy, since he hopes that you will come back again and again, for all those accessories, mobile radios, antennas and the like that we hams always need to add to our collection.

If you bring in an oversees "Yaekenicostanco" radio, you will have NO US warranty - the American distributors warrant only those radios that they import, and quite possibly might not service them - they are completely within their rights to do so. There very well may be (as has been in the past) board or component differences between various versions of the radio destined for different countries, thus compounding the situation. (Some manufacturers have had up to five different versions of the same radio - with each version destined for a different market area, with different regulations.)

If you buy the radio from a local (or regional) dealer, you have someone you can go to with questions and problems ... but long-distance calls to Hong Kong to get answers to a question get expensive - to say nothing of "how do you ask someone how to program odd splits for repeaters into your new handy - when he is only really fluent, technically, in Chinese?"

I doubt that you will find any significant price differentials in buying in Hong Kong ... that was true years ago (I was there during the VietNam era), but not now, with the global economy/distribution situation now in existance. However, you can find real bargains in Hong Kong on things that are local-labor-intensive (like tailored suits for example).

Enjoy your trip ... take the tram to the top of Victoria Peak and let me know if the view is still as grand as it was on Christmas Day of 1972 ... and good luck to you!

Very 73,

"Squeak" Porray, AD7K
Manager, Amateur Electronic Supply/Las Vegas

ps: I hope you don't think I am touting just our company ... in the above, I speak for the Amateur Radio community in general, and I think that it speaks for all domestic Amateur Radio Dealers as well.

Date: Mon, 23 Oct 1995 18:50:11 GMT
From: rafaels@zimmer.CSUFresno.EDU (Rafael Solis)
Subject: an HT from Hong Kong?

In article <46b7s9$lmj@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (If you want my name just ask.) writes:
>
>>to Hong Kong soon and am interested in shopping for an HT. What can
>you

>>advise me about:
>
>
>I'd save myselft the trouble and buy from a stateside distributor, I've
>heard of guys buying overseas HF gear with features or bands not avail.
>in U.S but I've never heard of any great bargains. What you save by
>shopping Hong Kong may cost you quickly if you have a problem or need
>an accessory for the radio.
>
>I have a Kenwood Dual band HT and like it alot.
>
>73, Tim ka8ddz

I agree with Tim. I've been to HK several times on business trips and
it is not worth the hassling of dealing with the salesmen over there
(prices are not fixed and you have to deal, yes as in bargaining!).
Also there is the problem of the warranty. I don't think any of the
major brands (K,I,Y) honor warranties of any equipment bought
overseas. What I have bought though are accessories. Bring your AES
catalog to check the price differences. Some things are cheaper there
but others are around the same or even higher depending on the store.
Another suggestion is to get away from the Nathan Rd. stores, those
are usually overpriced.

Have fun in HK.

Rafael (KE6JSR)

Date: Mon, 23 Oct 1995 16:42:13 -0700
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Subject: Best motherboard for minimum rfi

Good point Paul. I have exactly the same thoughts but have experienced
just about the same level of noise with the modern boards as the old!

On 21 Oct 1995, Paul Erickson wrote:

> Has anyone done any comparisons to see which motherboards are best
> from an rfi point of view?? I am planning on replacing the board in
> my old AT, but my current experiences with my NEC multispeed
> (very noisy on 14mhz) are making me cautious about computer generated
> rfi. Any comments will be appreciated.
>
> cheers, Paul
> ve7cqk
> email: paul1@wizard.ucs.sfu.ca
>
>
>

Date: 23 Oct 1995 20:35:33 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Circuit diagram for a 100+ ft transmitter and receiver

Does anyone know where I could find a circuit diagram for a transmitter and
receiver that could go 100+ feet. One or two channel.

I would like to build one from scratch.

Thanks in advance

scottc@pegasus.cc.ucf.edu

Date: 23 Oct 1995 20:40:43 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Making labels from transparencies

>>Has anyone had experience making panel labels for projects using laser-
>>printed transparencies? With Word for Windows, I can align and print
>>very nice labels. The only problem is gluing them to a panel. Nothing I
>>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>>seems to stick. I assume the plastic is mylar.
>>

I would use clear contact paper over the laser quality print. Contact paper
is great for a lot of things and I've used it before

Date: Mon, 23 Oct 1995 21:12:20 GMT
From: bs872@FreeNet.Carleton.CA (Henry Ian Ross)
Subject: Radio Control kits/plans

If you want my name just ask. (timhynde@ix.netcom.com) writes:
> I would like to build a radio control transmitter and reciever for 6m.
> I have used several commercially available units for 72 MHz but it's
> time to really do it right.
>
> Anyone have plans or knowledge of RC for 6m. I am a builder but have
> never seen anything along those lines.
>
> Regards,
>
> Tim Hynde
> ka8ddz, Rochester MI

Tim,
Many years ago, I built a six-channel radio on 6M using a design
published as a series of articles by Radio Control Modeller (RCM)
magazine. If you can find some older issues circa 1970 or contact
RCM, they may be able to send you the information.

The radio is still running in a Soling 1M yacht that I race occasionally
at our yacht club.

Good luck.
Ian

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

Date: 24 Oct 95 03:08:56 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--WAA07620.814504136/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 22:08:54 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--WAA07620.814504136/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id WAA07618 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 22:08:54 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id WAA00391 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 22:08:06 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN9AF6N40042TV@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:29 -0500 (CDT)
Date: Mon, 23 Oct 1995 22:12:28 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #338
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSN9AHLGI0042TV@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0

Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN911VIO0041N6@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:17 -0500 (CDT)
Received: by mail.ucsd.edu; id TAA11405 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 19:22:18 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id OAA22698 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 14:13:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 14:13:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #338
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510232113.OAA22698@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 338

Today's Topics:
40m vertical - How to make?
AMSOFT SPAM
Anybody used Ramsey FX-440 for 9600?.Humm...
Changing Uniden mic wiring?
Help: Mod 440Mhz to Australian CB Possible?
Ladder Line .. how to make?
LED question (2 msgs)
LED question , correction!
PLL/VCO homebrew designs
Radio Shack Pro-51 Mod needed, Please!!!
Source of oil-filled paper electrolytics for Collins PS
Unwanted Fm station (1)
Unwanted Fm station (2)

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policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 21 Oct 1995 14:01:44 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: 40m vertical - How to make?

In article <467mcf$e6m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>You need no
>>ground whatsoever with a halfwave vertical antenna.
>Don,
>
>Sorry to say so, bot you are wrong here. it is true, that the radiation
>resistance of a halfwave is higher, and hence losses induced by a poor
>ground in the vincinity of the antenna (no or little radials)
>is less than for a shorter antenna.
>
>But if you look into the problem of the radiation pattern, you will find,
>that it is also degraded above poor gound.

Sure, lossy *Earth* near an antenna is always a problem, so keep
your antennas well away from Earth, but that doesn't address his
comment. A halfwave antenna *does not require ground* to function.
It doesn't need it to act as a current mirror the way a quarterwave
does. A halfwave vertical is perfectly content to function properly
in *free space*. A quarterwave needs some sort of counterpoise.
That counterpoise *can* be Earth, but it doesn't have to be. Radials,
or a counterpoise wire, will work just as well, probably better
since they won't be as lossy as Earth.

Gary
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 14:47:40 GMT
From: Jim Strohm <jstrohm@blazer.ucsd.edu>
Subject: AMSOFT SPAM

Bob:

I stand by my previous comment: SPAM-soft.

The gentlemen (NOT) at AMSOFT wisely chose to send their message to at least
ten newsgroups on this round of their shameless advertising. Regardless
of the value of the information they provide, their relentless SPAMMing
of the amateur radio radio newsgroups is unjustifiable and inexcusable.

There was a major SPAM attack from Amsoft the last time they had a new
CD release. And the time before that. AND the time before THAT! They
have an unfortunate history for alienating a lot of us and for wasting a lot
of bandwidth.

That you would support their activity says something about you -- not sure
what, exactly. But it's not in keeping with newsgroup's non-commercial charter.

If you are reading this, it's because I'm wasting bandwidth only on the
rec.radio.* newsgroup I read. And if you reply to my flaming diatribe,
you will do so only to this newsgroup, unless you choose to add groups.
Of course you understand how to add and remove groups from your To:
field in your newsreader. You DO understand how that works, don't you?

Jim N6OTQ
Standard disclaimer

Date: 21 Oct 1995 11:17:40 GMT
From: "J. Silva" <jsilva@zeus.ci.ua.pt>
Subject: Anybody used Ramsey FX-440 for 9600?.Humm...

>>Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
>>I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
>>packet, but nobody has actually been able to get it going quite right.

Some time ago I bought their kit. I found that the receiver suffered
from
many spurious responses which, given right (wrong?) packet frequency
would
make it pretty useless. I did get it to receive 9600 but had a pretty
strong signal to work with and didn't make any performance measurements
so
I can't really comment on the receive performance. The transmitter was
a
disaster! Because they have no shielding anywhere in the radio the
transmitter output got back into the PLL and the resultant signal
resembled
broadband noise. I wasted a lot of time trying to clean that up and
never
was successful. I believe that taking the time to build a good shield
around the PLL would have solved the problem but there are problems with
the board layout that make it a difficult thing to do. I did find a
few
minor design errors which resulted a very long (for 9600 packet) TR
turnaround time. They directly modulate the VCO, like most radios, so
the
transmitter will distort the signal. I never got far enough to worry
about
that.

A friend of mine bought one and had similar problems. Both of us wasted
a

good bit of money. Since then we have discovered the joys of converting
commercial (e.g., Motorola and GE) radios...they work!

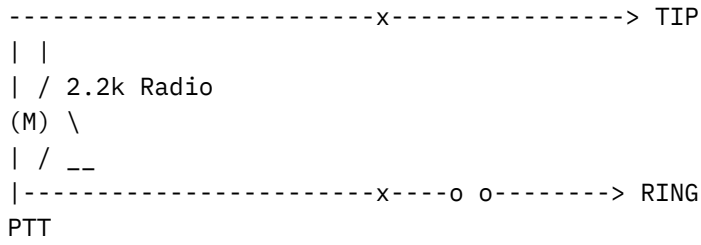
My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Interessante ??? CT1DSJ

Date: Mon, 23 Oct 1995 13:37:08 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Changing Uniden mic wiring?

In article <Pine.CVX.3.91.951022183204.6724E-100000@gibbs.oit.unc.edu> Dale Castle
<dbcastle@gibbs.oit.unc.edu> writes:
>
> I have a Standard C508A and I just got a Uniden clip-on mic w/
>ear phone jack. When I plug it in, it keys the radio. The PTT button
>doesn't stop it. The mic sounds great. Can I change the wiring to make it
>work? (bought it used.) Thanks in advance for the help.

Dale, the C508A uses the same "leaky PTT" circuit as Icom/Yaesu/Radio Shack.
Mikes wired for those brands will work. I'm not familiar with the Uniden
mike, but here's roughly what the I/Y/RS circuit looks like:



The mike (M) is actually a FET buffered electret powered from voltage
supplied by the radio. When you close PTT, the mike becomes powered
and the TIP voltage is pulled down by the resistor. The voltage
drop is sensed in the radio and causes it to go into transmit.
The resistor may vary between 2.2k (Yaesu standard) to 10k (Icom
standard). The Yaesu mikes work on either rig, though the audio
level will be a bit low on an Icom, but the Icom mikes won't always
key a Yaesu because they don't sink enough current. My C508A, and
most HTX-202s, don't care, they'll work with either.

It sounds like your Uniden mike uses a different scheme, but since
the audio sounds good, try just rewiring it so the PTT switch is
in series with the ground lead.

Gary
--
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Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 07:25:48 GMT
From: Chris Arai <arai@rahul.net>
Subject: Help: Mod 440Mhz to Australian CB Possible?

I would like to know if it is possible to modify a 440Mhz hand held to
work well on the Australian CB band. I believe it is about 470 Mhz, but
I'm not sure. If anyone knows the answer to that question as well I
would appreciate it.

Thanks

Chris

arai@rahul.net

--
Chris Arai <arai@rahul.net>

Date: 21 Oct 1995 04:14:57 GMT
From: ted <ted@ihnp4.ucsd.edu>
Subject: Ladder Line .. how to make?

Ron and Drew...

.. I remember seeing ladder line where the spacers were made from old
BIC byros (body), if you are going for 2" spacing then a each byro will provide
2 spacers (or a byro per 4' of line - roughly).

Just might save you a bit of sawing... rest of the method the same.

73 Ted VK1BL.

ejg@acslink.net.au

Date: Sat, 21 Oct 1995 14:25:20 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <469kcl$3es@bcfreenet.seflin.lib.fl.us> d010421c@dcfreenet.seflin.lib.fl.us
(Ken Becker) writes:
>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,

>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

Ok, lets do some calculations. The original circuit had a 240 ohm
resistor. For 20 ma of diode current, the voltage feeding the
resistor needs to be

E=0.02*240+1.6 = 6.4 volts

and the resistor power dissipation is

P=.02*4.8 = 0.096 watts

So a half-watt resistor offers a comfortable safety margin.
But if the voltage is 50 volts, then we have a power dissipation
in the resistor of

P=48.4^2/240 = 9.76 watts

A half-watt resistor is going to go *poof*, as it indeed did.
So either the value of the original resistor was *not* 240 ohms,
or the design voltage is *not* 50 volts.

Now you replaced the resistor with a 2500 ohm resistor, so the
power dissipation of that resistor would be

P=48.4^2/2500 = 0.937 watt

A 5 watt resistor would be about right to provide an adequate
safety margin. (You never want to run a resistor at its power
dissipation limit, it'll run about 100 C at that power level.)

But the original resistor was a half-watt unit, indicating a
design dissipation of 1/10th watt or less. Clearly something
is wrong here. I'd suspect it's the 50 volts. Are you *sure*
it's *supposed* to be 50 volts?

Gary
--
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534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:12:54 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)

Subject: LED question

In article <46f3u3$7m0@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>With 50V as a supply, you are essentially looking for a current
>limiter. The original 240 Ohms was the correct value but it would be
>dissipating about 20 mA x 50V = 1,000 mW or 1W. No wonder it burned
>out. The current to the LED is not so critical but what you could use
>a 220 or 270 Ohm 2W resistor.

Better run that calc again. You slipped a decimal. That's *50* volts,
not *5.0* volts he's saying. A 220 to 270 ohm resistor would be
correct for *5.0* volts. You got the power right though, a *2400*
ohm resistor would dissipate about 1 watt (actually 0.976 watt).
And that's too much for a half watt part. Either the voltage is
supposed to be much lower, or there's supposed to be something
else in the circuit acting as a current limiter besides the
240 ohm half watt resistor in there originally.

Gary
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:19:03 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question , correction!

In article <46f4g5$6u2@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>
>Sorry, I screwed up. I should not answer questions when I am half
>asleep. You are looking for a current limiter but 50V/20mA makes about
>a 2.5K resistor and the dissipation is about 1W. When the 1/2 W
>resistor "smokes" the red turns brown on the color code, so it
>probably was not 240 Ohms. Use a 2W 2.2K or 2.7K. My apologies if my
>prior posting 5 minutes ago caused any problems.

And my apologies for posting a correction before reading your correction.
We're all singing out of the same hymn book now though. I'm beginning to
suspect a fault in another part of the circuit. Obviously, even if the
original resistor were 2400 ohms and a color band turned when it smoked,
that still doesn't address the fact that it was a *half watt resistor*.
There's got to be something else in the circuit that's supposed to limit
current. *That's* the part that probably failed and took the resistor
with it, and is still causing new resistors to smoke.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
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534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 19 Oct 95 20:15:04 EST
From: hduff@humnet.humberc.on.ca
Subject: PLL/VCO homebrew designs

>
> In article <801523937403@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
> >"This is one of those projects where anyone who knows enough about the
> >technology to know what is involved" ...would know that bypassing the
> >multiplication stages in the radio and just generating the highest
> >and closest to the operating frequency with the PLL/VCO would be best
> >approach (which IS indeed the way it is going to be done).
>
> Yes, I do know that. I designed a marine radio that worked that way
> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
> >through a bandpass filter, spurs are not an big issue.
>
> That's a good architecture, but it exceeds the frequency range of the '157.

Hmmm...mine's working at 26 MHz !!
Maybe this is pushing it to its limit.

In the search for more of these parts we have discovered that it *MAY*
be a discontinued item. We are considering trying out
the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

>
> >You might want to brush up on your personability skills...
> >"...simple minded synthesizer..." and your approach in general ceratinly
> >don't contribute positively to the spirit of homebrewing !
> >
> >Hugh Duff VA3TO Toronto

>
> Well, sorry, but what you are talking about *is* a simple minded synthesizer.

What is simple minded about a PLL/Loop Filter/VCO when properly
designed ? I didn't intend on building up some half-assed "well, it
kinda works" board. That was the intent of the original post...tell me
what I need to know and/or HELP me design a solid performer !
If you don't want to get involved in a positive way, say nothing !
Perhaps I'm being a bit anal retentive but the net seems to be full
of the "I can tell you you're wrong but I can't tell you how to
do it right" types.

I suggest that your delivery is somewhat abrasive...try having some
compassion for those of us who are attempting to learn. Nothing is more
of a turnoff than having someone who comes off like a "know-it-all"
burst your ballon. Albeit, you may know your stuff *BUT* your delivery
needs some honing.

> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
> people from endless frustration. (BTW, another poster suggested a DDS;
> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

The only frustration so far has been the negativity expressed by
yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph
exhibits somewhat of a kinder approach...more of what I was expecting.)

...is beyond me. Maybe you have a fat head. (It sounds like it...
"If you want to see a sophisticated one, read my...")
Ya, you're cool !

Keep in mind that this newsgroup is the Ham Radio Homebrewing
conference...hobbiests, many of whom are interested to learn,
myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

~ NFX v1.3 [000]

--

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Date: 23 Oct 1995 02:01:09 -0400
From: aviator270@aol.com (Aviator270)
Subject: Radio Shack Pro-51 Mod needed, Please!!!

Does anyone know how to open the freqs on the RS pro-51?
If its not possible please let me know.

Thanks in advance!!

Date: Mon, 23 Oct 1995 13:36:25 GMT
From: glheller@ix.netcom.com
Subject: Source of oil-filled paper electrolytics for Collins PS

Am in need of these caps for both my Collins S-Line and my KWM-2 power
supplies. The ones in the power supplies are dried out and need to be
replaced.

Would like to know the name of any electronic suppliers that handle
this type of capacitor. Prefer a direct replacement.

Thanks in advance.

Gil Heller

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (1)

to: all
A question was asked by kennedy@aol.com

>>I live in the country. Too bad, right? My favorite FM stereo
>>station is 100 miles away on 102.1 FM. The problem is an
>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.

One of the other replies suggested a bigger antenna pointed at the distant station. That would certainly help make sure you have enough signal. If the difference in directions to the two stations is near 90 degrees you will pick up some additional reduction in signal strength of the offending station due to reduced pickup off the side of the beam. If you ever looked at pictures of antenna patterns in the ARRL Handbook, you'll see that large antennas have maximum pickup in the desired (forward) direction and lots of sharp little points of pickup in the undesired (side and back) directions. Finding a null can give a 20 dB (1/10th) reduction (or more) in signal strength.

Ideally what you want to do is put one of the side lobe NULLS right on the offending station even if you have to point slightly away from the desired station. You might be able to see this happen if you disconnect the antenna from the receiver and just place the coax cable near the terminals as you turn the antenna. Can't guarantee anything but it might work. The better way is to use a high value attenuator between the coax and the radio. Adjust the attenuator for a weak but readable signal on the receiver meter. Then turn the antenna until the signal strength meter on the radio shows as low as possible on the offending station. This gets you the LEAST offending signal possible.

Assuming just changing one antenna isn't enough to fix your problem, I don't think you'll have any luck at all trying to find any standard filter to reduce a signal only 800 KHz away. The next option is to use a second antenna pointed at the offending station and mount the antenna so the signal it brings into the receiver is 180 degrees out of phase with the first antenna. The closer you can get to exactly opposite phase, the more signal will be reduced. Have you ever heard the flutter of multipath on a station? That is what we are trying to do here.

The second antenna can be much smaller than the main antenna because the station is so close. This will not be easy because you have to match not only the signal phase to cancel but also the signal strength. Start by using the attenuator with the receiver and first antenna to try getting a known signal level on the offending station. Next connect the second antenna in place of the first and use another attenuator or extra length of coax (100's of feet) or maybe just a resistor short at the antenna until you have reduced the signal strength to match the first antenna.

Once the signal strengths are egual, connect BOTH antennas to the receiver at the same time using a 2 way splitter/combiner. Now you begin moving the second antenna around until the offending signal is at minimum. That is the position for maximum cancelation. How far do you have to move it? Well, figure the wavelength of the signal. A half wave is about 495/frequency so a full wave length would be 2*495/106 = 9.3 feet. So somewhere along a line from the first antenna toward the offending station, within a ten foot distance, you should find a null. This doesn't mean you have to be within 10 feet of the first antenna, just a 10 foot movement somewhere in the direction of the offending station. You probably should keep the second antenna ten feet away from

the first antenna just to reduce antenna pattern changes since you just got done carefully pointing the first antenna.

Another method of cancelling the signal is by changing the length of the coax from the second antenna to the receiver, because changing the length is just like moving the antenna. Now, the wavelength in coax is shorter than the wavelength in air. This is called the velocity factor of the coax cable. Most foam coax has a velocity factor of around 80%. This means that 10 feet in air is only 8 feet in the coax. So, somewhere in 8 feet of cable is the exact length you need to cancel the offending station. If you choose this method, all you can do is cut off the cable a little bit at a time until you have minimum signal from the offending station. I've never tried this myself so I don't know how small of cuts you should make so you don't go past the null. I'd just figure you'll start with an extra 20 feet of cable and start cutting maybe 6 inches at a time. I assume you'll be able to hear multipath distortion of the signal as you get closer to the right length and can start making smaller cuts.

It is my understanding that this basic technique is frequently used in commercial broadcast radio where they may have similar problems. I understand they use more of a tuneable (low pass?) filter of some sort to adjust the phase shift instead of cutting the coax. This phase cancellation technique is the only one I've ever heard of that might do you any good. The only other options involve replacing the receiver with something much more expensive, designed for extremely high signal overload and superb IF bandwidth filtering. I've never heard of such a receiver but I'm sure they exist if you have a LOT of money.

I really don't have much hope that anything is going to let you receive your desired station. With 50 KW only 5 miles away, everything in your
--==<<< Continued next message >>>==--

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (2)

--==<<< Continued from previous message >>>==--
area is going to bouce some of the signal into the first antenna. The more random signals you have bouncing around, the less likely you'll be able to null out the offending station. Good luck.

73's.

Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

* SLMR 2.1a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

---

End of Ham-Homebrew Digest V95 #338
****

--WAA07620.814504136/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 1995 13:29:37 GMT
From: wrt@eskimo.com (Bill Turner)
Subject: Unwanted Fm station (1)

>the undesired (side and back) directions. Finding a null can give a
>20 dB (1/10th) reduction (or more) in signal strength.

Nitpick mode ON:

20 dB is a 100:1 power reduction. 10 dB is 10:1.

Date: 23 Oct 1995 18:41:28 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: Want to jam stupid radio station

In article <46b6ur$59u@ixnews2.ix.netcom.com>,
>writes:
>>
>>Is this possible? I'd only want to jam one particular signal in a
>>small area. I don't know if this'll help me pick up the station I
>>like,>which happens to be right next to it, but I'd like to jam it
>>just out of spite. And yes, I'm sure the FCC isn't going to approve.
>> Stan Kwong
>

When I was in college, I had a vacuum tube operated FM clock radio.
I discovered that the LO radiation on it was so bad that it would
wipe out radios in my dorm room or next door if it was tuned 10.7
MHz. lower in frequency. I had lots of fun silencing my roommates'
(and neighbor's) radios when they listened to music I didn't like.
They never figured out what hit them!

Rick Karlquist
rkarlqu@scd.hp.com

End of Ham-Homebrew Digest V95 #339
****

--XAA07945.814507497/ooz.backbone.uoknor.edu--

4870. Looking to Hear From Builders of Hamcom Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: butch@maestro.maestro.com
Message-ID: <DGxIKx.Jp8@maestro.maestro.com>
Source record: 110031

Hello,

I would like to hear from individuals who have built the interface for
the Hamcom interface. I would like to hear your problems as well as parts
and also if you built pc boards?

allan
wa2rzq

4871. Re: an HT from Hong Kong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: wd6dih@ix.netcom.com
Message-ID: <46hubj$rmr@ixnews7.ix.netcom.com>
Source record: 110032
Cross-posted to: rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.amateur.homebrew

In <46c23i$6i9@bighorn.accessnv.com> ad7k@bighorn.accessnv.com (Squeak Porray) writes:
>
>If you want my name just ask. (timhynde@ix.netcom.com) wrote:
>
>: >to Hong Kong soon and am interested in shopping for an HT. What can
>: you
>: >advise me about:
>
>
>: I'd save myselft the trouble and buy from a stateside distributor,
>
>Comments from a "Stateside distributor", who has had experience both ways
>...
>
>If you buy a radio from someone you never saw before, and never expect to
>see again, all he is going to be interested in is getting your money out
>of your wallet and you on your way.
>
>If you buy from a local (or regional) dealer, you are buying from someone
>who wants to see YOU happy, since he hopes that you will come back again
>and again, for all those accessories, mobile radios, antennas and the
>like that we hams always need to add to our collection.
>
>If you bring in an oversees "Yaekenicostanco" radio, you will have NO US
>warranty - the American distributors warrant only those radios that they
>import, and quite possibly might not service them - they are completely
>within their rights to do so. There very well may be (as has been in the
>past) board or component differences between various versions of the
>radio destined for different countries, thus compounding the situation.
>(Some manufacturers have had up to five different versions of the same

>radio - with each version destined for a different market area, with
>different regulations.)
>
>If you buy the radio from a local (or regional) dealer, you have
someone
>you can go to with questions and problems ... but long-distance calls
to
>Hong Kong to get answers to a question get expensive - to say nothing
of
>"how do you ask someone how to program odd splits for repeaters into
your
>new handy - when he is only really fluent, technically, in Chinese?"
>
>I doubt that you will find any significant price differentials in
buying
>in Hong Kong ... that was true years ago (I was there during the
VietNam
>era), but not now, with the global economy/distribution situation now
in
>existance. However, you can find real bargains in Hong Kong on things
>that are local-labor-intensive (like tailored suits for example).
>
>Enjoy your trip ... take the tram to the top of Victoria Peak and let
me
>know if the view is still as grand as it was on Christmas Day of 1972
..
>and good luck to you!
>
>Very 73,
>
>"Squeak" Porray, AD7K
>Manager, Amateur Electronic Supply/Las Vegas
>
>ps: I hope you don't think I am touting just our company ... in the
>above, I speak for the Amateur Radio community in general, and I think

>that it speaks for all domestic Amateur Radio Dealers as well.
>

I agree Squeek !!! Very well said.

73's

Kevin

4872. Returned mail: Local configuration error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199510240818.DAA09282@ooz.backbone.uoknor.edu>
Source record: 110033

```
This is a MIME-encapsulated message

--DAA09282.814522737/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 03:18:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--DAA09282.814522737/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id DAA09280 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 03:18:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id DAA00626 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 03:18:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSY3N6540004QKR@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 03:22:33 -0500 (CDT)
Date: Tue, 24 Oct 1995 03:22:32 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #346
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSY3N7QZM004QKR@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSY3DXNLC004IA2@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 03:22:21 -0500 (CDT)
Received: by mail.ucsd.edu; id AAA05456 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:48:15 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id AAA05443 sendmail 8.6.12/UCSD-2.2-sun Tue,
```

24 Oct 1995 00:48:14 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 00:48:12 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #346
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240748.AAA05443@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 346

Today's Topics:
an HT from Hong Kong?
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 95 09:26:14 GMT
From: davie@primenet.com (Dave Easton)
Subject: an HT from Hong Kong?

In article <46elj9$g28$1@mhafm.production.compuserve.com>,
Erik Westgard <71505.341@CompuServe.COM> wrote:

>
>I was in Hong Kong this summer, staying in the Causeway Bay area. I
>was completely surprised by the number of authorized Icom dealers in

>
>Would I go back- yes. Buy some gear- maybe. Fun place- I have never
>been in more Ham Radio dealers in my life.
>

I would like to add to this thread - I was there not too long ago and I
got the feeling many stores were more "communications" stores. They had ham,
two way, commercial HF, you name it. Whatever you wanted, whoever you were,
they were happy to sell it to you. Perfectly legal, of course, as it would be

in the US, as long as you didn't try to use it here, or in HK. I suspect the HK government keeps after toursts trying out their new toys before they leave!

I also found the HK shop keeper's to be the nastiest, most disinterested, discourteous S.O.B.'s I have EVER run into. It was so bad I asked my hotel manager what I was doing wrong. He said "probably nothing", adding "being Caucasian and wanting less than 10 of anything was not a good combination for many sales people; a serious problem in HK". All of this right after visiting Tokyo where the HAM (REAL ham) stores where SO polite and friendly I literally could not believe it.

Dave, WE6L/ Phoenix

Date: 24 Oct 95 07:44:33 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--CAA09112.814520673/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 02:44:32 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--CAA09112.814520673/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id CAA09110 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 02:44:32 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id CAA00603 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 02:43:44 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSWW0BV0W004DQW@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:48:09 -0500 (CDT)
Date: Tue, 24 Oct 1995 02:48:08 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #345
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSWW0E06Q004DQW@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu

X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSWVQZMGW004RRQ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:47:56 -0500 (CDT)
Received: by mail.ucsd.edu; id AAA02163 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:24:55 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id AAA02146 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:24:53 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 00:24:51 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #345
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240724.AAA02146@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 345

Today's Topics:
Returned mail: Local configuration error

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Problems you can't solve otherwise to brian@ucsd.edu.

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 07:17:18 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--CAA08959.814519038/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 02:17:16 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--CAA08959.814519038/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id CAA08957 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 02:17:16 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id CAA00589 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 02:16:28 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSVX7RNA8004P4L@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:20:54 -0500 (CDT)
Date: Tue, 24 Oct 1995 02:20:52 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #344
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSVX7TISY004P4L@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSVWZ0UCG004QIC@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:20:40 -0500 (CDT)
Received: by mail.ucsd.edu; id XAA27359 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:47:09 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id XAA27343 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:47:07 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 23:47:05 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #344
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240647.XAA27343@mail.ucsd.edu>

X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 344

Today's Topics:
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 06:43:41 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--BAA08828.814517021/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:43:40 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08828.814517021/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08826 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:43:40 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00567 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:42:51 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSURHIG28004PHG@aardvark.ucs.uoknor.edu>; Tue,

24 Oct 1995 01:47:15 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:47:13 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #343
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSURHK1XU004PHG@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSUR69MDC004J5V@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:47:01 -0500 (CDT)
Received: by mail.ucsd.edu; id XAA23664 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:23:56 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id XAA23641 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:23:52 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 23:23:51 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #343
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240623.XAA23641@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 343

Today's Topics:
Returned mail: Local configuration error
Want: COIL winding machine

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 06:20:26 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--BAA08677.814515626/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:20:24 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08677.814515626/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08675 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:20:24 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00550 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:19:36 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXOZG0G004M6I@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:24:00 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:23:58 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #342
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSTXP1L6A004M6I@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXGE9M8004HFT@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:23:47 -0500 (CDT)
Received: by mail.ucsd.edu; id WAA16807 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:29 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id WAA16789 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:27 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 22:39:24 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>

Subject: Ham-Homebrew Digest V95 #342
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240539.WAA16789@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 342

Today's Topics:
Returned mail: Local configuration error

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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Date: 24 Oct 95 05:35:59 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--AAA08421.814512959/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 00:35:58 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--AAA08421.814512959/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id AAA08419 for

<areees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 00:35:58 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id AAA00522 for
<areees@elect4.uoknor.edu>; Tue, 24 Oct 1995 00:35:09 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSEJS7SW003PET@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:33 -0500 (CDT)
Date: Tue, 24 Oct 1995 00:39:32 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #341
To: areees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSSEJUCYQ003PET@aardvark.ucs.uoknor.edu>
X-Envelope-to: areees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSE9PQ1C0049CZ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:18 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA10882 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:55:54 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA10839 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:55:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:55:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #341
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240455.VAA10839@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 341

Today's Topics:
Returned mail: Local configuration error
Want to filter out stupid radio station

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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Date: 24 Oct 95 04:51:35 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA08149.814510295/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:51:34 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA08149.814510295/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA08147 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:51:34 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00481 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:50:46 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQUF1QG0004EUI@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:55:03 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:55:02 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #340
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSQUF458Y004EUI@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQU6KB2O004S2X@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:54:52 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA04516 sendmail 8.6.12/UCSD-2.2-sun Mon,

23 Oct 1995 21:08:36 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA04489 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:33 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:08:32 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #340
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240408.VAA04489@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 340

Today's Topics:
4CX1000 Prices?
Need Postscript to HP-GL Translator .. Suggestions ?
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
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policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 22 Oct 1995 03:11:28 GMT
From: ab419@freenet.toronto.on.ca (Randie Kochals)
Subject: 4CX1000 Prices?

I am looking around for an Eimac 4CX1000a tube and was wondering
what the going price should be for new and used. If any of you
have seen for sale, or have recently bought one of these, let me
know what I should be prepared to pay.

Thanks

Date: 23 Oct 1995 21:59:07 GMT
From: daveb@buffnet.net (dave)
Subject: Need Postscript to HP-GL Translator .. Suggestions ?

Greetings,

In need of a translator that will convert poscript files to HP - GL (Laserjet 4L).
I'm hoping that someone knows of a freeware/shareware version that will do
the job.

Thanks

daveb@buffnet.net

Date: 24 Oct 95 04:04:57 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA07945.814507497/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:04:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA07945.814507497/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA07942 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:04:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00447 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:04:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7QBIGW003R6O@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:30 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:08:29 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #339
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSP7QD4CI003R6O@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7IHXI8004S4E@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:20 -0500 (CDT)
Received: by mail.ucsd.edu; id UAA22711 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:13 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id UAA22686 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:09 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 20:13:07 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #339
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240313.UAA22686@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 339

Today's Topics:
'95 Handbook problem, need email or phone reference
50MHz transmitter frequencies for UK
an HT from Hong Kong? (2 msgs)
Best motherboard for minimum rfi
Circuit diagram for a 100+ ft transmitter and receiver
Making labels from transparencies
Radio Control kits/plans
Returned mail: Local configuration error
Unwanted Fm station (1)
Want to jam stupid radio station

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 1995 21:06:12 GMT
From: psoper@encore.com (Pete Soper)
Subject: '95 Handbook problem, need email or phone reference

Hi folks,
I've plugged a lot of numbers into the R1 resistor equation of
the low-pass active filter design description in figure 16.54 on page
16.30 of the '95 "ARRL Handbook". I'm convinced that either the
equation is in error or I've lost my mind. In case it's the former problem
(or to get quickly to the latter), could somebody recommend how I can pursue
this with the ARRL? Is there a department to ask for on the phone (#?)
or an email address for this kind of query?
Please send me email direct if you can help, as postings to this
group are averaging 7-12 days to ooze through our news feed.
My problem is that the "[a^2 + 4b(K-1)]C2^2" subexpression results
in an attempt to take the square root of a negative value because this comes
out smaller than the "4bC1C2" subexpression subtracted from it. If I guess
that parentheses are missing and it should be written "([a^2 + 4b(K-1)]C2)^2"
I get the wrong result for the example values given. I can't come up with
a second guess :-)

Thanks,
Pete

Pete Soper (psoper@encore.com) KS4XG 1+ 919 481 3730, 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA grid FM05oq

---

Date: Mon, 23 Oct 1995 20:49:37 GMT
From: giles@wormwood.demon.co.uk (giles)
Subject: 50MHz transmitter frequencies for UK

I have recently passed my RAE and instead of lashing out on expensive
equipment ,I am going to do some homebrew QRP projects together with
appropriate instrumentation -- see Practical Transmitters for
Novices. What I should like to know:

1) What are best channel frequencies for FM 50MHz? i.e. what rocks to
choose?

2) In order to hear the 6M band I have built a converter to connect
to my Kenwood R5000. I have tried to make a dipole but have no usable
signals yet --- i think a higher antenna is called for. Has anyone any
experience with the 50MHz to 28MHz converter a la Cirkit?

Giles G7VOF

Date: 21 Oct 1995 17:09:22 -0700
From: ad7k@bighorn.accessnv.com (Squeak Porray)
Subject: an HT from Hong Kong?

If you want my name just ask. (timhynde@ix.netcom.com) wrote:

: >to Hong Kong soon and am interested in shopping for an HT. What can
: you

: >advise me about:

: I'd save myselft the trouble and buy from a stateside distributor,

Comments from a "Stateside distributor", who has had experience both ways ...

If you buy a radio from someone you never saw before, and never expect to see again, all he is going to be interested in is getting your money out of your wallet and you on your way.

If you buy from a local (or regional) dealer, you are buying from someone who wants to see YOU happy, since he hopes that you will come back again and again, for all those accessories, mobile radios, antennas and the like that we hams always need to add to our collection.

If you bring in an oversees "Yaekenicostanco" radio, you will have NO US warranty - the American distributors warrant only those radios that they import, and quite possibly might not service them - they are completely within their rights to do so. There very well may be (as has been in the past) board or component differences between various versions of the radio destined for different countries, thus compounding the situation. (Some manufacturers have had up to five different versions of the same radio - with each version destined for a different market area, with different regulations.)

If you buy the radio from a local (or regional) dealer, you have someone you can go to with questions and problems ... but long-distance calls to Hong Kong to get answers to a question get expensive - to say nothing of "how do you ask someone how to program odd splits for repeaters into your new handy - when he is only really fluent, technically, in Chinese?"

I doubt that you will find any significant price differentials in buying in Hong Kong ... that was true years ago (I was there during the VietNam era), but not now, with the global economy/distribution situation now in existance. However, you can find real bargains in Hong Kong on things that are local-labor-intensive (like tailored suits for example).

Enjoy your trip ... take the tram to the top of Victoria Peak and let me know if the view is still as grand as it was on Christmas Day of 1972 ... and good luck to you!

Very 73,

"Squeak" Porray, AD7K
Manager, Amateur Electronic Supply/Las Vegas

ps: I hope you don't think I am touting just our company ... in the above, I speak for the Amateur Radio community in general, and I think that it speaks for all domestic Amateur Radio Dealers as well.

Date: Mon, 23 Oct 1995 18:50:11 GMT
From: rafaels@zimmer.CSUFresno.EDU (Rafael Solis)
Subject: an HT from Hong Kong?

In article <46b7s9$lmj@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (If you want my name just ask.) writes:
>
>>to Hong Kong soon and am interested in shopping for an HT. What can
>you
>>advise me about:
>
>
>I'd save myselft the trouble and buy from a stateside distributor, I've
>heard of guys buying overseas HF gear with features or bands not avail.
>in U.S but I've never heard of any great bargains. What you save by
>shopping Hong Kong may cost you quickly if you have a problem or need
>an accessory for the radio.
>
>I have a Kenwood Dual band HT and like it alot.
>
>73, Tim ka8ddz

I agree with Tim. I've been to HK several times on business trips and it is not worth the hassling of dealing with the salesmen over there (prices are not fixed and you have to deal, yes as in bargaining!). Also there is the problem of the warranty. I don't think any of the major brands (K,I,Y) honor warranties of any equipment bought overseas. What I have bought though are accessories. Bring your AES catalog to check the price differences. Some things are cheaper there but others are around the same or even higher depending on the store. Another suggestion is to get away from the Nathan Rd. stores, those are usually overpriced.

Have fun in HK.

Rafael (KE6JSR)

Date: Mon, 23 Oct 1995 16:42:13 -0700
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Subject: Best motherboard for minimum rfi

Good point Paul. I have exactly the same thoughts but have experienced just about the same level of noise with the modern boards as the old!

On 21 Oct 1995, Paul Erickson wrote:

> Has anyone done any comparisons to see which motherboards are best
> from an rfi point of view?? I am planning on replacing the board in
> my old AT, but my current experiences with my NEC multispeed
> (very noisy on 14mhz) are making me cautious about computer generated
> rfi. Any comments will be appreciated.
>

> cheers, Paul
> ve7cqk
> email: paul1@wizard.ucs.sfu.ca
>
>
>

Date: 23 Oct 1995 20:35:33 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Circuit diagram for a 100+ ft transmitter and receiver

Does anyone know where I could find a circuit diagram for a transmitter and
receiver that could go 100+ feet. One or two channel.

I would like to build one from scratch.

Thanks in advance

scottc@pegasus.cc.ucf.edu

Date: 23 Oct 1995 20:40:43 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Making labels from transparencies

>>Has anyone had experience making panel labels for projects using laser-
>>printed transparencies? With Word for Windows, I can align and print
>>very nice labels. The only problem is gluing them to a panel. Nothing I
>>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>>seems to stick. I assume the plastic is mylar.
>>

I would use clear contact paper over the laser quality print. Contact paper
is great for a lot of things and I've used it before

Date: Mon, 23 Oct 1995 21:12:20 GMT
From: bs872@FreeNet.Carleton.CA (Henry Ian Ross)
Subject: Radio Control kits/plans

If you want my name just ask. (timhynde@ix.netcom.com) writes:
> I would like to build a radio control transmitter and reciever for 6m.
> I have used several commercially available units for 72 MHz but it's
> time to really do it right.
>
> Anyone have plans or knowledge of RC for 6m. I am a builder but have
> never seen anything along those lines.
>
> Regards,
>

> Tim Hynde
> ka8ddz, Rochester MI

Tim,
Many years ago, I built a six-channel radio on 6M using a design
published as a series of articles by Radio Control Modeller (RCM)
magazine. If you can find some older issues circa 1970 or contact
RCM, they may be able to send you the information.

The radio is still running in a Soling 1M yacht that I race occasionally
at our yacht club.

Good luck.
Ian

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

Date: 24 Oct 95 03:08:56 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--WAA07620.814504136/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 22:08:54 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--WAA07620.814504136/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id WAA07618 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 22:08:54 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id WAA00391 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 22:08:06 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu

(PMDF V4.3-13 #7521) id <01HWSN9AF6N40042TV@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:29 -0500 (CDT)
Date: Mon, 23 Oct 1995 22:12:28 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #338
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSN9AHLGI0042TV@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN911VIO0041N6@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:17 -0500 (CDT)
Received: by mail.ucsd.edu; id TAA11405 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 19:22:18 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id OAA22698 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 14:13:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 14:13:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #338
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510232113.OAA22698@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 338

Today's Topics:
40m vertical - How to make?
AMSOFT SPAM
Anybody used Ramsey FX-440 for 9600?.Humm...
Changing Uniden mic wiring?
Help: Mod 440Mhz to Australian CB Possible?
Ladder Line .. how to make?
LED question (2 msgs)
LED question , correction!
PLL/VCO homebrew designs
Radio Shack Pro-51 Mod needed, Please!!!
Source of oil-filled paper electrolytics for Collins PS
Unwanted Fm station (1)
Unwanted Fm station (2)

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policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 21 Oct 1995 14:01:44 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: 40m vertical - How to make?

In article <467mcf$e6m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>You need no
>>ground whatsoever with a halfwave vertical antenna.
>Don,
>
>Sorry to say so, bot you are wrong here. it is true, that the radiation
>resistance of a halfwave is higher, and hence losses induced by a poor
>ground in the vincinity of the antenna (no or little radials)
>is less than for a shorter antenna.
>
>But if you look into the problem of the radiation pattern, you will find,
>that it is also degraded above poor gound.

Sure, lossy *Earth* near an antenna is always a problem, so keep
your antennas well away from Earth, but that doesn't address his
comment. A halfwave antenna *does not require ground* to function.
It doesn't need it to act as a current mirror the way a quarterwave
does. A halfwave vertical is perfectly content to function properly
in *free space*. A quarterwave needs some sort of counterpoise.
That counterpoise *can* be Earth, but it doesn't have to be. Radials,
or a counterpoise wire, will work just as well, probably better
since they won't be as lossy as Earth.

Gary
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 14:47:40 GMT
From: Jim Strohm <jstrohm@blazer.ucsd.edu>
Subject: AMSOFT SPAM

Bob:

I stand by my previous comment: SPAM-soft.

The gentlemen (NOT) at AMSOFT wisely chose to send their message to at least
ten newsgroups on this round of their shameless advertising. Regardless
of the value of the information they provide, their relentless SPAMMing
of the amateur radio radio newsgroups is unjustifiable and inexcusable.

There was a major SPAM attack from Amsoft the last time they had a new
CD release. And the time before that. AND the time before THAT! They
have an unfortunate history for alienating a lot of us and for wasting a lot
of bandwidth.

That you would support their activity says something about you -- not sure
what, exactly. But it's not in keeping with newsgroup's non-commercial charter.

If you are reading this, it's because I'm wasting bandwidth only on the
rec.radio.* newsgroup I read. And if you reply to my flaming diatribe,
you will do so only to this newsgroup, unless you choose to add groups.
Of course you understand how to add and remove groups from your To:
field in your newsreader. You DO understand how that works, don't you?

Jim N6OTQ
Standard disclaimer

Date: 21 Oct 1995 11:17:40 GMT
From: "J. Silva" <jsilva@zeus.ci.ua.pt>
Subject: Anybody used Ramsey FX-440 for 9600?.Humm...

>>Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
>>I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
>>packet, but nobody has actually been able to get it going quite right.

Some time ago I bought their kit. I found that the receiver suffered
from
many spurious responses which, given right (wrong?) packet frequency
would
make it pretty useless. I did get it to receive 9600 but had a pretty
strong signal to work with and didn't make any performance measurements
so
I can't really comment on the receive performance. The transmitter was
a
disaster! Because they have no shielding anywhere in the radio the
transmitter output got back into the PLL and the resultant signal
resembled
broadband noise. I wasted a lot of time trying to clean that up and
never
was successful. I believe that taking the time to build a good shield
around the PLL would have solved the problem but there are problems with
the board layout that make it a difficult thing to do. I did find a
few
minor design errors which resulted a very long (for 9600 packet) TR
turnaround time. They directly modulate the VCO, like most radios, so

the
transmitter will distort the signal. I never got far enough to worry
about
that.

A friend of mine bought one and had similar problems. Both of us wasted
a
good bit of money. Since then we have discovered the joys of converting
commercial (e.g., Motorola and GE) radios...they work!

My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Interessante ??? CT1DSJ

Date: Mon, 23 Oct 1995 13:37:08 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Changing Uniden mic wiring?

In article <Pine.CVX.3.91.951022183204.6724E-100000@gibbs.oit.unc.edu> Dale Castle
<dbcastle@gibbs.oit.unc.edu> writes:
>
> I have a Standard C508A and I just got a Uniden clip-on mic w/
>ear phone jack. When I plug it in, it keys the radio. The PTT button
>doesn't stop it. The mic sounds great. Can I change the wiring to make it
>work? (bought it used.) Thanks in advance for the help.

Dale, the C508A uses the same "leaky PTT" circuit as Icom/Yaesu/Radio Shack.
Mikes wired for those brands will work. I'm not familiar with the Uniden
mike, but here's roughly what the I/Y/RS circuit looks like:

```
-------------------------x----------------> TIP
| |
| / 2.2k Radio
(M) \
| / __
|------------------------x----o o--------> RING
PTT
```

The mike (M) is actually a FET buffered electret powered from voltage
supplied by the radio. When you close PTT, the mike becomes powered
and the TIP voltage is pulled down by the resistor. The voltage
drop is sensed in the radio and causes it to go into transmit.
The resistor may vary between 2.2k (Yaesu standard) to 10k (Icom
standard). The Yaesu mikes work on either rig, though the audio
level will be a bit low on an Icom, but the Icom mikes won't always
key a Yaesu because they don't sink enough current. My C508A, and
most HTX-202s, don't care, they'll work with either.

It sounds like your Uniden mike uses a different scheme, but since
the audio sounds good, try just rewiring it so the PTT switch is
in series with the ground lead.

Gary
--
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534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 07:25:48 GMT
From: Chris Arai <arai@rahul.net>
Subject: Help: Mod 440Mhz to Australian CB Possible?

I would like to know if it is possible to modify a 440Mhz hand held to
work well on the Australian CB band. I believe it is about 470 Mhz, but
I'm not sure. If anyone knows the answer to that question as well I
would appreciate it.

Thanks

Chris

arai@rahul.net

--
Chris Arai <arai@rahul.net>

Date: 21 Oct 1995 04:14:57 GMT
From: ted <ted@ihnp4.ucsd.edu>
Subject: Ladder Line .. how to make?

Ron and Drew...

.. I remember seeing ladder line where the spacers were made from old
BIC byros (body), if you are going for 2" spacing then a each byro will provide
2 spacers (or a byro per 4' of line - roughly).

Just might save you a bit of sawing... rest of the method the same.

73 Ted VK1BL.

ejg@acslink.net.au

Date: Sat, 21 Oct 1995 14:25:20 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <469kcl$3es@bcfreenet.seflin.lib.fl.us> d010421c@dcfreenet.seflin.lib.fl.us
(Ken Becker) writes:

>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

Ok, lets do some calculations. The original circuit had a 240 ohm
resistor. For 20 ma of diode current, the voltage feeding the
resistor needs to be

E=0.02*240+1.6 = 6.4 volts

and the resistor power dissipation is

P=.02*4.8 = 0.096 watts

So a half-watt resistor offers a comfortable safety margin.
But if the voltage is 50 volts, then we have a power dissipation
in the resistor of

P=48.4^2/240 = 9.76 watts

A half-watt resistor is going to go *poof*, as it indeed did.
So either the value of the original resistor was *not* 240 ohms,
or the design voltage is *not* 50 volts.

Now you replaced the resistor with a 2500 ohm resistor, so the
power dissipation of that resistor would be

P=48.4^2/2500 = 0.937 watt

A 5 watt resistor would be about right to provide an adequate
safety margin. (You never want to run a resistor at its power
dissipation limit, it'll run about 100 C at that power level.)

But the original resistor was a half-watt unit, indicating a
design dissipation of 1/10th watt or less. Clearly something
is wrong here. I'd suspect it's the 50 volts. Are you *sure*
it's *supposed* to be 50 volts?

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary

534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:12:54 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <46f3u3$7m0@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>With 50V as a supply, you are essentially looking for a current
>limiter. The original 240 Ohms was the correct value but it would be
>dissipating about 20 mA x 50V = 1,000 mW or 1W. No wonder it burned
>out. The current to the LED is not so critical but what you could use
>a 220 or 270 Ohm 2W resistor.

Better run that calc again. You slipped a decimal. That's *50* volts,
not *5.0* volts he's saying. A 220 to 270 ohm resistor would be
correct for *5.0* volts. You got the power right though, a *2400*
ohm resistor would dissipate about 1 watt (actually 0.976 watt).
And that's too much for a half watt part. Either the voltage is
supposed to be much lower, or there's supposed to be something
else in the circuit acting as a current limiter besides the
240 ohm half watt resistor in there originally.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:19:03 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question , correction!

In article <46f4g5$6u2@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>
>Sorry, I screwed up. I should not answer questions when I am half
>asleep. You are looking for a current limiter but 50V/20mA makes about
>a 2.5K resistor and the dissipation is about 1W. When the 1/2 W
>resistor "smokes" the red turns brown on the color code, so it
>probably was not 240 Ohms. Use a 2W 2.2K or 2.7K. My apologies if my
>prior posting 5 minutes ago caused any problems.

And my apologies for posting a correction before reading your correction.
We're all singing out of the same hymn book now though. I'm beginning to
suspect a fault in another part of the circuit. Obviously, even if the
original resistor were 2400 ohms and a color band turned when it smoked,
that still doesn't address the fact that it was a *half watt resistor*.
There's got to be something else in the circuit that's supposed to limit

current. *That's* the part that probably failed and took the resistor
with it, and is still causing new resistors to smoke.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 19 Oct 95 20:15:04 EST
From: hduff@humnet.humberc.on.ca
Subject: PLL/VCO homebrew designs

>
> In article <801523937403@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
> >"This is one of those projects where anyone who knows enough about the
> >technology to know what is involved" ...would know that bypassing the
> >multiplication stages in the radio and just generating the highest
> >and closest to the operating frequency with the PLL/VCO would be best
> >approach (which IS indeed the way it is going to be done).
>
> Yes, I do know that. I designed a marine radio that worked that way
> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
> >through a bandpass filter, spurs are not an big issue.
>
> That's a good architecture, but it exceeds the frequency range of the '157.

Hmmm...mine's working at 26 MHz !!
Maybe this is pushing it to its limit.

In the search for more of these parts we have discovered that it *MAY*
be a discontinued item. We are considering trying out
the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

>
> >You might want to brush up on your personability skills...
> >"...simple minded synthesizer..." and your approach in general ceratinly
> >don't contribute positively to the spirit of homebrewing !
> >
> >Hugh Duff VA3TO Toronto

>
> Well, sorry, but what you are talking about *is* a simple minded synthesizer.

What is simple minded about a PLL/Loop Filter/VCO when properly
designed ? I didn't intend on building up some half-assed "well, it
kinda works" board. That was the intent of the original post...tell me
what I need to know and/or HELP me design a solid performer !
If you don't want to get involved in a positive way, say nothing !
Perhaps I'm being a bit anal retentive but the net seems to be full
of the "I can tell you you're wrong but I can't tell you how to
do it right" types.

I suggest that your delivery is somewhat abrasive...try having some
compassion for those of us who are attempting to learn. Nothing is more
of a turnoff than having someone who comes off like a "know-it-all"
burst your ballon. Albeit, you may know your stuff *BUT* your delivery
needs some honing.

> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
> people from endless frustration. (BTW, another poster suggested a DDS;
> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

The only frustration so far has been the negativity expressed by
yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph

exhibits somewhat of a kinder approach...more of what I was expecting.)

...is beyond me. Maybe you have a fat head. (It sounds like it...
"If you want to see a sophisticated one, read my...")
Ya, you're cool !

Keep in mind that this newsgroup is the Ham Radio Homebrewing
conference...hobbiests, many of whom are interested to learn,
myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

~ NFX v1.3 [000]

--

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Date: 23 Oct 1995 02:01:09 -0400
From: aviator270@aol.com (Aviator270)
Subject: Radio Shack Pro-51 Mod needed, Please!!!

Does anyone know how to open the freqs on the RS pro-51?
If its not possible please let me know.

Thanks in advance!!

Date: Mon, 23 Oct 1995 13:36:25 GMT
From: glheller@ix.netcom.com
Subject: Source of oil-filled paper electrolytics for Collins PS

Am in need of these caps for both my Collins S-Line and my KWM-2 power
supplies. The ones in the power supplies are dried out and need to be
replaced.

Would like to know the name of any electronic suppliers that handle
this type of capacitor. Prefer a direct replacement.

Thanks in advance.

Gil Heller

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (1)

to: all
A question was asked by kennedy@aol.com

>>I live in the country. Too bad, right? My favorite FM stereo
>>station is 100 miles away on 102.1 FM. The problem is an
>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.

One of the other replies suggested a bigger antenna pointed at the distant station. That would certainly help make sure you have enough signal. If the difference in directions to the two stations is near 90 degrees you will pick up some additional reduction in signal strength of the offending station due to reduced pickup off the side of the beam. If you ever looked at pictures of antenna patterns in the ARRL Handbook, you'll see that large antennas have maximum pickup in the desired (forward) direction and lots of sharp little points of pickup in the undesired (side and back) directions. Finding a null can give a 20 dB (1/10th) reduction (or more) in signal strength.

Ideally what you want to do is put one of the side lobe NULLS right on the offending station even if you have to point slightly away from the desired station. You might be able to see this happen if you disconnect the antenna from the receiver and just place the coax cable near the terminals as you turn the antenna. Can't guarantee anything but it might work. The better way is to use a high value attenuator between the coax and the radio. Adjust the attenuator for a weak but readable signal on the receiver meter. Then turn the antenna until the signal strength meter on the radio shows as low as possible on the offending station. This gets you the LEAST offending signal possible.

Assuming just changing one antenna isn't enough to fix your problem, I don't think you'll have any luck at all trying to find any standard filter to reduce a signal only 800 KHz away. The next option is to use a second antenna pointed at the offending station and mount the antenna so the signal it brings into the receiver is 180 degrees out of phase with the first antenna. The closer you can get to exactly opposite phase, the more signal will be reduced. Have you ever heard the flutter of multipath on a station? That is what we are trying to do here.

The second antenna can be much smaller than the main antenna because the station is so close. This will not be easy because you have to match not only the signal phase to cancel but also the signal strength. Start by using the attenuator with the receiver and first antenna to try getting a known signal level on the offending station. Next connect the second antenna in place of the first and use another attenuator or extra length of coax (100's of feet) or maybe just a resistor short at the antenna until you have reduced the signal strength to match the first antenna.

Once the signal strengths are egual, connect BOTH antennas to the receiver at the same time using a 2 way splitter/combiner. Now you begin moving the second antenna around until the offending signal is at minimum. That is the position for maximum cancelation. How far do you have to move it? Well, figure the wavelength of the signal. A half

wave is about 495/frequency so a full wave length would be 2*495/106 = 9.3 feet. So somewhere along a line from the first antenna toward the offending station, within a ten foot distance, you should find a null. This doesn't mean you have to be within 10 feet of the first antenna, just a 10 foot movement somewhere in the direction of the offending station. You probably should keep the second antenna ten feet away from the first antenna just to reduce antenna pattern changes since you just got done carefully pointing the first antenna.

Another method of cancelling the signal is by changing the length of the coax from the second antenna to the receiver, because changing the length is just like moving the antenna. Now, the wavelength in coax is shorter than the wavelength in air. This is called the velocity factor of the coax cable. Most foam coax has a velocity factor of around 80%. This means that 10 feet in air is only 8 feet in the coax. So, somewhere in 8 feet of cable is the exact length you need to cancel the offending station. If you choose this method, all you can do is cut off the cable a little bit at a time until you have minimum signal from the offending station. I've never tried this myself so I don't know how small of cuts you should make so you don't go past the null. I'd just figure you'll start with an extra 20 feet of cable and start cutting maybe 6 inches at a time. I assume you'll be able to hear multipath distortion of the signal as you get closer to the right length and can start making smaller cuts.

It is my understanding that this basic technique is frequently used in commercial broadcast radio where they may have similar problems. I understand they use more of a tuneable (low pass?) filter of some sort to adjust the phase shift instead of cutting the coax. This phase cancellation technique is the only one I've ever heard of that might do you any good. The only other options involve replacing the receiver with something much more expensive, designed for extremely high signal overload and superb IF bandwidth filtering. I've never heard of such a receiver but I'm sure they exist if you have a LOT of money.

I really don't have much hope that anything is going to let you receive your desired station. With 50 KW only 5 miles away, everything in your
--==<<< Continued next message >>>==--

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (2)

--==<<< Continued from previous message >>>==--
area is going to bouce some of the signal into the first antenna. The more random signals you have bouncing around, the less likely you'll be able to null out the offending station. Good luck.

73's.

Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

* SLMR 2.1a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

----

End of Ham-Homebrew Digest V95 #338
****

--WAA07620.814504136/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 1995 13:29:37 GMT
From: wrt@eskimo.com (Bill Turner)
Subject: Unwanted Fm station (1)

>the undesired (side and back) directions. Finding a null can give a
>20 dB (1/10th) reduction (or more) in signal strength.

Nitpick mode ON:

20 dB is a 100:1 power reduction. 10 dB is 10:1.

Date: 23 Oct 1995 18:41:28 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: Want to jam stupid radio station

In article <46b6ur$59u@ixnews2.ix.netcom.com>,
>writes:
>>
>>Is this possible? I'd only want to jam one particular signal in a
>>small area. I don't know if this'll help me pick up the station I
>>like,>which happens to be right next to it, but I'd like to jam it
>>just out of spite. And yes, I'm sure the FCC isn't going to approve.
>> Stan Kwong
>

When I was in college, I had a vacuum tube operated FM clock radio.
I discovered that the LO radiation on it was so bad that it would
wipe out radios in my dorm room or next door if it was tuned 10.7
MHz. lower in frequency. I had lots of fun silencing my roommates'
(and neighbor's) radios when they listened to music I didn't like.
They never figured out what hit them!

Rick Karlquist
rkarlqu@scd.hp.com

End of Ham-Homebrew Digest V95 #339
****

--XAA07945.814507497/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #340
****

--XAA08149.814510295/ooz.backbone.uoknor.edu--

Date: 23 Oct 1995 18:41:30 GMT
From: ez041502@dale.ucdavis.edu (Psyber)
Subject: Want to filter out stupid radio station

I posted before about jamming a radio station. I wasn't that
serious. I just wanted to express my intense dislike of "young"
country. (I won't call it music, that'd be giving it too much credit.)
I have since gotten advice to ask about how to filter out the hated
station or to get a "more selective receiver". Now does anyone have any
more information on these perfectly legal solutions?
Stan Kwong

End of Ham-Homebrew Digest V95 #341
****

--AAA08421.814512959/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #342
****

--BAA08677.814515626/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 95 15:07:45 PDT
From: Jay Wicklund <jwicklun@mail1.halcyon.com>
Subject: Want: COIL winding machine

In article <1995Oct23.100446.1@netnews.wku.edu>,
<scottcr@wkuvx1.wku.edu> writes:
>
> I am looking for a coil-winding machine. Large or small, motor
driven
> or manual,
>
> What do you have?
>
> Thanx, Chris
>
> WB9NEQ Bowling Green, KY
>
> --
> Chris.Scott@WKU.EDU Chief Engineer, Public Radio- Western KY U
> Telco: (502) 745-3834 Hm & Fax: (502)

781-1232
> ....just another insignificant VAX user. \\\//
> (o o)
>
---ooO-(_)-Ooo--------------

>
You know, I'd like to find one of those too. When I was first
starting out in electronics (we won't go into how many decades ago
that was), I had a simple little cam driven coil winder that was a
lot of fun. Don't know what happened to it, but would love to find
something similar at a hamfest or something.....

73 de KI7RH (Jay)
jwicklun@halcyon.com

End of Ham-Homebrew Digest V95 #343
****

--BAA08828.814517021/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #344
****

--CAA08959.814519038/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #345
****

--CAA09112.814520673/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #346
****

--DAA09282.814522737/ooz.backbone.uoknor.edu--

4873. Mac Ham WWW

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: john@wd1v.mv.com
Message-ID: <john-2410950520230001@wd1v.mv.com>
Source record: 110034

Announcing New WWW Site for Macintosh Ham Radio Enthusiasts

http://www.mv.com/ipusers/wd1v

Mac Ham Software including:

Macnet Roster
a database of all hams in the world using Mac computers

WD1V's Ham Radio Test Simulators
the fast path for upgrading your ham license with a Mac

Plus more information - come see!

\/
John D. Seney, WD1V Internet: john@wd1v.mv.com
144 Pepperidge Drive AOL: jseney@aol.com
Manchester, NH 03103-6150 AX.25 Pkt: wd1v@wb1dsw.nh.usa.na
(H) 603-668-1096 TCP/IP Pkt: wd1v@wd1v.ampr.org

macnet world wide web home page: http://www.mv.com/ipusers/wd1v

Macnet Roster - "Whos Who" of all amateurs using Mac Computers
Macnet Test - Amateur Radio Test Simulators
Macnet Collection - 10 Disks of Amateur Radio and Scientific Prgms

\/

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To obtain the latest copy automatically, simply send me an EMAIL
with "subscribe scope.faq" in the subject field.
or: WWW http://beam.slac.stanford.edu/www/library/w3/dso.html
\/

4874. Returned mail: Local configuration error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199510240940.EAA09692@ooz.backbone.uoknor.edu>
Source record: 110035

```
This is a MIME-encapsulated message

--EAA09692.814527612/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 04:40:11 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--EAA09692.814527612/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id EAA09690 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 04:40:11 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id EAA00678 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 04:39:23 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWT0XEBJ5C004G39@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 04:43:48 -0500 (CDT)
Date: Tue, 24 Oct 1995 04:43:47 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #347
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWT0XEDEO2004G39@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWT0X58XTC0049KK@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 04:43:36 -0500 (CDT)
Received: by mail.ucsd.edu; id CAA18983 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 02:20:24 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id CAA18959 sendmail 8.6.12/UCSD-2.2-sun Tue,
```

24 Oct 1995 02:20:19 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 02:20:17 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #347
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240920.CAA18959@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 347

Today's Topics:
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 08:18:57 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--DAA09282.814522737/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 03:18:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--DAA09282.814522737/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id DAA09280 for <arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 03:18:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id DAA00626 for <arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 03:18:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu (PMDF V4.3-13 #7521) id <01HWSY3N6540004QKR@aardvark.ucs.uoknor.edu>; Tue, 24 Oct 1995 03:22:33 -0500 (CDT)
Date: Tue, 24 Oct 1995 03:22:32 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #346
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSY3N7QZM004QKR@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu (PMDF V4.3-13 #7521) id <01HWSY3DXNLC004IA2@aardvark.ucs.uoknor.edu>; Tue, 24 Oct 1995 03:22:21 -0500 (CDT)
Received: by mail.ucsd.edu; id AAA05456 sendmail 8.6.12/UCSD-2.2-sun Tue, 24 Oct 1995 00:48:15 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id AAA05443 sendmail 8.6.12/UCSD-2.2-sun Tue, 24 Oct 1995 00:48:14 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 00:48:12 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #346
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240748.AAA05443@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 346

Today's Topics:
an HT from Hong Kong?
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 95 09:26:14 GMT
From: davie@primenet.com (Dave Easton)
Subject: an HT from Hong Kong?

In article <46elj9$g28$1@mhafm.production.compuserve.com>,
Erik Westgard <71505.341@CompuServe.COM> wrote:

>
>I was in Hong Kong this summer, staying in the Causeway Bay area. I
>was completely surprised by the number of authorized Icom dealers in

>
>Would I go back- yes. Buy some gear- maybe. Fun place- I have never
>been in more Ham Radio dealers in my life.
>

I would like to add to this thread - I was there not too long ago and I
got the feeling many stores were more "communications" stores. They had ham,
two way, commercial HF, you name it. Whatever you wanted, whoever you were,
they were happy to sell it to you. Perfectly legal, of course, as it would be
in the US, as long as you didn't try to use it here, or in HK. I suspect the
HK government keeps after toursts trying out their new toys before they leave!

I also found the HK shop keeper's to be the nastiest, most disinterested,
discourteous S.O.B.'s I have EVER run into. It was so bad I asked my hotel
manager what I was doing wrong. He said "probably nothing", adding "being
Caucasian and wanting less than 10 of anything was not a good combination for
many sales people; a serious problem in HK". All of this right after visiting
Tokyo where the HAM (REAL ham) stores where SO polite and friendly I literally
could not believe it.

Dave, WE6L/ Phoenix

Date: 24 Oct 95 07:44:33 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--CAA09112.814520673/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 02:44:32 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--CAA09112.814520673/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id CAA09110 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 02:44:32 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id CAA00603 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 02:43:44 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSWW0BV0W004DQW@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:48:09 -0500 (CDT)
Date: Tue, 24 Oct 1995 02:48:08 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #345
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSWW0E06Q004DQW@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSWVQZMGW004RRQ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:47:56 -0500 (CDT)
Received: by mail.ucsd.edu; id AAA02163 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:24:55 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id AAA02146 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:24:53 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 00:24:51 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #345
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240724.AAA02146@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 345

Today's Topics:
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 07:17:18 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--CAA08959.814519038/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 02:17:16 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--CAA08959.814519038/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id CAA08957 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 02:17:16 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id CAA00589 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 02:16:28 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSVX7RNA8004P4L@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:20:54 -0500 (CDT)
Date: Tue, 24 Oct 1995 02:20:52 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #344
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSVX7TISY004P4L@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"

MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSVWZ0UCG004QIC@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:20:40 -0500 (CDT)
Received: by mail.ucsd.edu; id XAA27359 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:47:09 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id XAA27343 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:47:07 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 23:47:05 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #344
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240647.XAA27343@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 344

Today's Topics:
Returned mail: Local configuration error

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policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 06:43:41 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--BAA08828.814517021/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:43:40 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08828.814517021/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08826 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:43:40 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00567 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:42:51 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSURHIG28004PHG@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:47:15 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:47:13 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #343
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSURHK1XU004PHG@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSUR69MDC004J5V@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:47:01 -0500 (CDT)
Received: by mail.ucsd.edu; id XAA23664 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:23:56 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id XAA23641 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:23:52 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 23:23:51 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #343
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240623.XAA23641@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List

Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 343

Today's Topics:
Returned mail: Local configuration error
Want: COIL winding machine

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 06:20:26 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--BAA08677.814515626/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:20:24 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08677.814515626/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08675 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:20:24 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00550 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:19:36 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXOZG0G004M6I@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:24:00 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:23:58 -0500 (CDT)

Subject: Ham-Homebrew Digest V95 #342
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSTXP1L6A004M6I@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXGE9M8004HFT@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:23:47 -0500 (CDT)
Received: by mail.ucsd.edu; id WAA16807 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:29 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id WAA16789 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:27 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 22:39:24 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #342
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240539.WAA16789@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 342

Today's Topics:
Returned mail: Local configuration error

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Date: 24 Oct 95 05:35:59 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--AAA08421.814512959/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 00:35:58 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--AAA08421.814512959/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id AAA08419 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 00:35:58 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id AAA00522 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 00:35:09 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSEJS7SW003PET@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:33 -0500 (CDT)
Date: Tue, 24 Oct 1995 00:39:32 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #341
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSSEJUCYQ003PET@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSE9PQ1C0049CZ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:18 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA10882 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:55:54 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA10839 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:55:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:55:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #341
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu

Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240455.VAA10839@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 341

Today's Topics:
Returned mail: Local configuration error
Want to filter out stupid radio station

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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Date: 24 Oct 95 04:51:35 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA08149.814510295/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:51:34 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA08149.814510295/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA08147 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:51:34 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00481 for

<areas@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:50:46 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQUF1QG0004EUI@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:55:03 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:55:02 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #340
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSQUF458Y004EUI@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQU6KB2O004S2X@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:54:52 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA04516 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:36 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA04489 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:33 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:08:32 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #340
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240408.VAA04489@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 340

Today's Topics:
4CX1000 Prices?
Need Postscript to HP-GL Translator .. Suggestions ?
Returned mail: Local configuration error

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(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 22 Oct 1995 03:11:28 GMT
From: ab419@freenet.toronto.on.ca (Randie Kochals)
Subject: 4CX1000 Prices?

I am looking around for an Eimac 4CX1000a tube and was wondering
what the going price should be for new and used. If any of you
have seen for sale, or have recently bought one of these, let me
know what I should be prepared to pay.

Thanks

Date: 23 Oct 1995 21:59:07 GMT
From: daveb@buffnet.net (dave)
Subject: Need Postscript to HP-GL Translator .. Suggestions ?

Greetings,

In need of a translator that will convert poscript files to HP - GL (Laserjet 4L).
I'm hoping that someone knows of a freeware/shareware version that will do
the job.

Thanks

daveb@buffnet.net

Date: 24 Oct 95 04:04:57 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA07945.814507497/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:04:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA07945.814507497/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by

ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA07942 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:04:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00447 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:04:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7QBIGW003R6O@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:30 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:08:29 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #339
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSP7QD4CI003R6O@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7IHXI8004S4E@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:20 -0500 (CDT)
Received: by mail.ucsd.edu; id UAA22711 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:13 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id UAA22686 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:09 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 20:13:07 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #339
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240313.UAA22686@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 339

Today's Topics:
'95 Handbook problem, need email or phone reference
50MHz transmitter frequencies for UK
an HT from Hong Kong? (2 msgs)
Best motherboard for minimum rfi
Circuit diagram for a 100+ ft transmitter and receiver
Making labels from transparencies
Radio Control kits/plans
Returned mail: Local configuration error

Unwanted Fm station (1)
Want to jam stupid radio station

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 1995 21:06:12 GMT
From: psoper@encore.com (Pete Soper)
Subject: '95 Handbook problem, need email or phone reference

Hi folks,
I've plugged a lot of numbers into the R1 resistor equation of
the low-pass active filter design description in figure 16.54 on page
16.30 of the '95 "ARRL Handbook". I'm convinced that either the
equation is in error or I've lost my mind. In case it's the former problem
(or to get quickly to the latter), could somebody recommend how I can pursue
this with the ARRL? Is there a department to ask for on the phone (#?)
or an email address for this kind of query?
Please send me email direct if you can help, as postings to this
group are averaging 7-12 days to ooze through our news feed.
My problem is that the "[a^2 + 4b(K-1)]C2^2" subexpression results
in an attempt to take the square root of a negative value because this comes
out smaller than the "4bC1C2" subexpression subtracted from it. If I guess
that parentheses are missing and it should be written "([a^2 + 4b(K-1)]C2)^2"
I get the wrong result for the example values given. I can't come up with
a second guess :-)

Thanks,
Pete

Pete Soper (psoper@encore.com) KS4XG 1+ 919 481 3730, 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA grid FM05oq

----

Date: Mon, 23 Oct 1995 20:49:37 GMT
From: giles@wormwood.demon.co.uk (giles)
Subject: 50MHz transmitter frequencies for UK

I have recently passed my RAE and instead of lashing out on expensive
equipment ,I am going to do some homebrew QRP projects together with
appropriate instrumentation -- see Practical Transmitters for
Novices. What I should like to know:

1) What are best channel frequencies for FM 50MHz? i.e. what rocks to choose?

2) In order to hear the 6M band I have built a converter to connect to my Kenwood R5000. I have tried to make a dipole but have no usable signals yet --- i think a higher antenna is called for. Has anyone any experience with the 50MHz to 28MHz converter a la Cirkit?

Giles G7VOF

Date: 21 Oct 1995 17:09:22 -0700
From: ad7k@bighorn.accessnv.com (Squeak Porray)
Subject: an HT from Hong Kong?

If you want my name just ask. (timhynde@ix.netcom.com) wrote:

: >to Hong Kong soon and am interested in shopping for an HT. What can
: you
: >advise me about:

: I'd save myselft the trouble and buy from a stateside distributor,

Comments from a "Stateside distributor", who has had experience both ways ...

If you buy a radio from someone you never saw before, and never expect to see again, all he is going to be interested in is getting your money out of your wallet and you on your way.

If you buy from a local (or regional) dealer, you are buying from someone who wants to see YOU happy, since he hopes that you will come back again and again, for all those accessories, mobile radios, antennas and the like that we hams always need to add to our collection.

If you bring in an oversees "Yaekenicostanco" radio, you will have NO US warranty - the American distributors warrant only those radios that they import, and quite possibly might not service them - they are completely within their rights to do so. There very well may be (as has been in the past) board or component differences between various versions of the radio destined for different countries, thus compounding the situation. (Some manufacturers have had up to five different versions of the same radio - with each version destined for a different market area, with different regulations.)

If you buy the radio from a local (or regional) dealer, you have someone you can go to with questions and problems ... but long-distance calls to Hong Kong to get answers to a question get expensive - to say nothing of "how do you ask someone how to program odd splits for repeaters into your new handy - when he is only really fluent, technically, in Chinese?"

I doubt that you will find any significant price differentials in buying in Hong Kong ... that was true years ago (I was there during the VietNam era), but not now, with the global economy/distribution situation now in

existance. However, you can find real bargains in Hong Kong on things
that are local-labor-intensive (like tailored suits for example).

Enjoy your trip ... take the tram to the top of Victoria Peak and let me
know if the view is still as grand as it was on Christmas Day of 1972 ...
and good luck to you!

Very 73,

"Squeak" Porray, AD7K
Manager, Amateur Electronic Supply/Las Vegas

ps: I hope you don't think I am touting just our company ... in the
above, I speak for the Amateur Radio community in general, and I think
that it speaks for all domestic Amateur Radio Dealers as well.

Date: Mon, 23 Oct 1995 18:50:11 GMT
From: rafaels@zimmer.CSUFresno.EDU (Rafael Solis)
Subject: an HT from Hong Kong?

In article <46b7s9$lmj@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (If you want my name
just ask.) writes:
>
>>to Hong Kong soon and am interested in shopping for an HT. What can
>you
>>advise me about:
>
>
>I'd save myselft the trouble and buy from a stateside distributor, I've
>heard of guys buying overseas HF gear with features or bands not avail.
>in U.S but I've never heard of any great bargains. What you save by
>shopping Hong Kong may cost you quickly if you have a problem or need
>an accessory for the radio.
>
>I have a Kenwood Dual band HT and like it alot.
>
>73, Tim ka8ddz

I agree with Tim. I've been to HK several times on business trips and
it is not worth the hassling of dealing with the salesmen over there
(prices are not fixed and you have to deal, yes as in bargaining!).
Also there is the problem of the warranty. I don't think any of the
major brands (K,I,Y) honor warranties of any equipment bought
overseas. What I have bought though are accessories. Bring your AES
catalog to check the price differences. Some things are cheaper there
but others are around the same or even higher depending on the store.
Another suggestion is to get away from the Nathan Rd. stores, those
are usually overpriced.

Have fun in HK.

Rafael (KE6JSR)

Date: Mon, 23 Oct 1995 16:42:13 -0700
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Subject: Best motherboard for minimum rfi

Good point Paul. I have exactly the same thoughts but have experienced
just about the same level of noise with the modern boards as the old!

On 21 Oct 1995, Paul Erickson wrote:

> Has anyone done any comparisons to see which motherboards are best
> from an rfi point of view?? I am planning on replacing the board in
> my old AT, but my current experiences with my NEC multispeed
> (very noisy on 14mhz) are making me cautious about computer generated
> rfi. Any comments will be appreciated.
>
> cheers, Paul
> ve7cqk
> email: paul1@wizard.ucs.sfu.ca
>
>
>

Date: 23 Oct 1995 20:35:33 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Circuit diagram for a 100+ ft transmitter and receiver

Does anyone know where I could find a circuit diagram for a transmitter and
receiver that could go 100+ feet. One or two channel.

I would like to build one from scratch.

Thanks in advance

scottc@pegasus.cc.ucf.edu

Date: 23 Oct 1995 20:40:43 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Making labels from transparencies

>>Has anyone had experience making panel labels for projects using laser-
>>printed transparencies? With Word for Windows, I can align and print
>>very nice labels. The only problem is gluing them to a panel. Nothing I
>>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>>seems to stick. I assume the plastic is mylar.
>>

I would use clear contact paper over the laser quality print. Contact paper
is great for a lot of things and I've used it before

Date: Mon, 23 Oct 1995 21:12:20 GMT
From: bs872@FreeNet.Carleton.CA (Henry Ian Ross)
Subject: Radio Control kits/plans

If you want my name just ask. (timhynde@ix.netcom.com) writes:
> I would like to build a radio control transmitter and reciever for 6m.
> I have used several commercially available units for 72 MHz but it's
> time to really do it right.
>
> Anyone have plans or knowledge of RC for 6m. I am a builder but have
> never seen anything along those lines.
>
> Regards,
>
> Tim Hynde
> ka8ddz, Rochester MI

Tim,
Many years ago, I built a six-channel radio on 6M using a design
published as a series of articles by Radio Control Modeller (RCM)
magazine. If you can find some older issues circa 1970 or contact
RCM, they may be able to send you the information.

The radio is still running in a Soling 1M yacht that I race occasionally
at our yacht club.

Good luck.
Ian

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

Date: 24 Oct 95 03:08:56 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--WAA07620.814504136/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 22:08:54 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu

554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--WAA07620.814504136/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id WAA07618 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 22:08:54 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id WAA00391 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 22:08:06 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN9AF6N40042TV@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:29 -0500 (CDT)
Date: Mon, 23 Oct 1995 22:12:28 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #338
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSN9AHLGI0042TV@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN911VIO0041N6@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:17 -0500 (CDT)
Received: by mail.ucsd.edu; id TAA11405 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 19:22:18 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id OAA22698 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 14:13:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 14:13:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #338
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510232113.OAA22698@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 338

Today's Topics:
40m vertical - How to make?
AMSOFT SPAM
Anybody used Ramsey FX-440 for 9600?.Humm...
Changing Uniden mic wiring?
Help: Mod 440Mhz to Australian CB Possible?
Ladder Line .. how to make?
LED question (2 msgs)
LED question , correction!
PLL/VCO homebrew designs
Radio Shack Pro-51 Mod needed, Please!!!
Source of oil-filled paper electrolytics for Collins PS
Unwanted Fm station (1)
Unwanted Fm station (2)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 21 Oct 1995 14:01:44 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: 40m vertical - How to make?

In article <467mcf$e6m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>You need no
>>ground whatsoever with a halfwave vertical antenna.
>Don,
>
>Sorry to say so, bot you are wrong here. it is true, that the radiation
>resistance of a halfwave is higher, and hence losses induced by a poor
>ground in the vincinity of the antenna (no or little radials)
>is less than for a shorter antenna.
>
>But if you look into the problem of the radiation pattern, you will find,
>that it is also degraded above poor gound.

Sure, lossy *Earth* near an antenna is always a problem, so keep
your antennas well away from Earth, but that doesn't address his
comment. A halfwave antenna *does not require ground* to function.
It doesn't need it to act as a current mirror the way a quarterwave
does. A halfwave vertical is perfectly content to function properly
in *free space*. A quarterwave needs some sort of counterpoise.
That counterpoise *can* be Earth, but it doesn't have to be. Radials,
or a counterpoise wire, will work just as well, probably better

since they won't be as lossy as Earth.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 14:47:40 GMT
From: Jim Strohm <jstrohm@blazer.ucsd.edu>
Subject: AMSOFT SPAM

Bob:

I stand by my previous comment: SPAM-soft.

The gentlemen (NOT) at AMSOFT wisely chose to send their message to at least
ten newsgroups on this round of their shameless advertising. Regardless
of the value of the information they provide, their relentless SPAMMing
of the amateur radio radio newsgroups is unjustifiable and inexcusable.

There was a major SPAM attack from Amsoft the last time they had a new
CD release. And the time before that. AND the time before THAT! They
have an unfortunate history for alienating a lot of us and for wasting a lot
of bandwidth.

That you would support their activity says something about you -- not sure
what, exactly. But it's not in keeping with newsgroup's non-commercial charter.

If you are reading this, it's because I'm wasting bandwidth only on the
rec.radio.* newsgroup I read. And if you reply to my flaming diatribe,
you will do so only to this newsgroup, unless you choose to add groups.
Of course you understand how to add and remove groups from your To:
field in your newsreader. You DO understand how that works, don't you?

Jim N6OTQ
Standard disclaimer

Date: 21 Oct 1995 11:17:40 GMT
From: "J. Silva" <jsilva@zeus.ci.ua.pt>
Subject: Anybody used Ramsey FX-440 for 9600?.Humm...

>>Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
>>I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
>>packet, but nobody has actually been able to get it going quite right.

Some time ago I bought their kit. I found that the receiver suffered
from
many spurious responses which, given right (wrong?) packet frequency
would

make it pretty useless. I did get it to receive 9600 but had a pretty
strong signal to work with and didn't make any performance measurements
so
I can't really comment on the receive performance. The transmitter was
a
disaster! Because they have no shielding anywhere in the radio the
transmitter output got back into the PLL and the resultant signal
resembled
broadband noise. I wasted a lot of time trying to clean that up and
never
was successful. I believe that taking the time to build a good shield
around the PLL would have solved the problem but there are problems with
the board layout that make it a difficult thing to do. I did find a
few
minor design errors which resulted a very long (for 9600 packet) TR
turnaround time. They directly modulate the VCO, like most radios, so
the
transmitter will distort the signal. I never got far enough to worry
about
that.

A friend of mine bought one and had similar problems. Both of us wasted
a
good bit of money. Since then we have discovered the joys of converting
commercial (e.g., Motorola and GE) radios...they work!

My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Interessante ??? CT1DSJ

Date: Mon, 23 Oct 1995 13:37:08 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Changing Uniden mic wiring?

In article <Pine.CVX.3.91.951022183204.6724E-100000@gibbs.oit.unc.edu> Dale Castle
<dbcastle@gibbs.oit.unc.edu> writes:
>
> I have a Standard C508A and I just got a Uniden clip-on mic w/
>ear phone jack. When I plug it in, it keys the radio. The PTT button
>doesn't stop it. The mic sounds great. Can I change the wiring to make it
>work? (bought it used.) Thanks in advance for the help.

Dale, the C508A uses the same "leaky PTT" circuit as Icom/Yaesu/Radio Shack.
Mikes wired for those brands will work. I'm not familiar with the Uniden
mike, but here's roughly what the I/Y/RS circuit looks like:

------------------------x----------------> TIP
| |

```
| / 2.2k Radio
(M) \
| / __
|------------------------x----o o--------> RING
PTT
```

The mike (M) is actually a FET buffered electret powered from voltage supplied by the radio. When you close PTT, the mike becomes powered and the TIP voltage is pulled down by the resistor. The voltage drop is sensed in the radio and causes it to go into transmit. The resistor may vary between 2.2k (Yaesu standard) to 10k (Icom standard). The Yaesu mikes work on either rig, though the audio level will be a bit low on an Icom, but the Icom mikes won't always key a Yaesu because they don't sink enough current. My C508A, and most HTX-202s, don't care, they'll work with either.

It sounds like your Uniden mike uses a different scheme, but since the audio sounds good, try just rewiring it so the PTT switch is in series with the ground lead.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 07:25:48 GMT
From: Chris Arai <arai@rahul.net>
Subject: Help: Mod 440Mhz to Australian CB Possible?

I would like to know if it is possible to modify a 440Mhz hand held to work well on the Australian CB band. I believe it is about 470 Mhz, but I'm not sure. If anyone knows the answer to that question as well I would appreciate it.

Thanks

Chris

arai@rahul.net

--
Chris Arai <arai@rahul.net>

Date: 21 Oct 1995 04:14:57 GMT
From: ted <ted@ihnp4.ucsd.edu>
Subject: Ladder Line .. how to make?

Ron and Drew...

.. I remember seeing ladder line where the spacers were made from old
BIC byros (body), if you are going for 2" spacing then a each byro will provide
2 spacers (or a byro per 4' of line - roughly).

Just might save you a bit of sawing... rest of the method the same.

73 Ted VK1BL.

ejg@acslink.net.au

Date: Sat, 21 Oct 1995 14:25:20 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <469kcl$3es@bcfreenet.seflin.lib.fl.us> d010421c@dcfreenet.seflin.lib.fl.us
(Ken Becker) writes:
>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

Ok, lets do some calculations. The original circuit had a 240 ohm
resistor. For 20 ma of diode current, the voltage feeding the
resistor needs to be

E=0.02*240+1.6 = 6.4 volts

and the resistor power dissipation is

P=.02*4.8 = 0.096 watts

So a half-watt resistor offers a comfortable safety margin.
But if the voltage is 50 volts, then we have a power dissipation
in the resistor of

P=48.4^2/240 = 9.76 watts

A half-watt resistor is going to go *poof*, as it indeed did.
So either the value of the original resistor was *not* 240 ohms,
or the design voltage is *not* 50 volts.

Now you replaced the resistor with a 2500 ohm resistor, so the
power dissipation of that resistor would be

P=48.4^2/2500 = 0.937 watt

A 5 watt resistor would be about right to provide an adequate
safety margin. (You never want to run a resistor at its power
dissipation limit, it'll run about 100 C at that power level.)

But the original resistor was a half-watt unit, indicating a
design dissipation of 1/10th watt or less. Clearly something
is wrong here. I'd suspect it's the 50 volts. Are you *sure*
it's *supposed* to be 50 volts?

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:12:54 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <46f3u3$7m0@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>With 50V as a supply, you are essentially looking for a current
>limiter. The original 240 Ohms was the correct value but it would be
>dissipating about 20 mA x 50V = 1,000 mW or 1W. No wonder it burned
>out. The current to the LED is not so critical but what you could use
>a 220 or 270 Ohm 2W resistor.

Better run that calc again. You slipped a decimal. That's *50* volts,
not *5.0* volts he's saying. A 220 to 270 ohm resistor would be
correct for *5.0* volts. You got the power right though, a *2400*
ohm resistor would dissipate about 1 watt (actually 0.976 watt).
And that's too much for a half watt part. Either the voltage is
supposed to be much lower, or there's supposed to be something
else in the circuit acting as a current limiter besides the
240 ohm half watt resistor in there originally.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:19:03 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question , correction!

In article <46f4g5$6u2@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>

>Sorry, I screwed up. I should not answer questions when I am half
>asleep. You are looking for a current limiter but 50V/20mA makes about
>a 2.5K resistor and the dissipation is about 1W. When the 1/2 W
>resistor "smokes" the red turns brown on the color code, so it
>probably was not 240 Ohms. Use a 2W 2.2K or 2.7K. My apologies if my
>prior posting 5 minutes ago caused any problems.

And my apologies for posting a correction before reading your correction.
We're all singing out of the same hymn book now though. I'm beginning to
suspect a fault in another part of the circuit. Obviously, even if the
original resistor were 2400 ohms and a color band turned when it smoked,
that still doesn't address the fact that it was a *half watt resistor*.
There's got to be something else in the circuit that's supposed to limit
current. *That's* the part that probably failed and took the resistor
with it, and is still causing new resistors to smoke.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 19 Oct 95 20:15:04 EST
From: hduff@humnet.humberc.on.ca
Subject: PLL/VCO homebrew designs

>
> In article <801523937403@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
> >"This is one of those projects where anyone who knows enough about the
> >technology to know what is involved" ...would know that bypassing the
> >multiplication stages in the radio and just generating the highest
> >and closest to the operating frequency with the PLL/VCO would be best
> >approach (which IS indeed the way it is going to be done).
>
> Yes, I do know that. I designed a marine radio that worked that way

> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
> >through a bandpass filter, spurs are not an big issue.
>
> That's a good architecture, but it exceeds the frequency range of the '157.

Hmmm...mine's working at 26 MHz !!
Maybe this is pushing it to its limit.

In the search for more of these parts we have discovered that it *MAY*
be a discontinued item. We are considering trying out
the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

>
> >You might want to brush up on your personability skills...
> >"...simple minded synthesizer..." and your approach in general ceratinly
> >don't contribute positively to the spirit of homebrewing !
> >
> >Hugh Duff VA3TO Toronto

>
> Well, sorry, but what you are talking about *is* a simple minded synthesizer.

What is simple minded about a PLL/Loop Filter/VCO when properly
designed ? I didn't intend on building up some half-assed "well, it
kinda works" board. That was the intent of the original post...tell me
what I need to know and/or HELP me design a solid performer !
If you don't want to get involved in a positive way, say nothing !
Perhaps I'm being a bit anal retentive but the net seems to be full
of the "I can tell you you're wrong but I can't tell you how to
do it right" types.

I suggest that your delivery is somewhat abrasive...try having some
compassion for those of us who are attempting to learn. Nothing is more
of a turnoff than having someone who comes off like a "know-it-all"
burst your ballon. Albeit, you may know your stuff *BUT* your delivery
needs some honing.

> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
> people from endless frustration. (BTW, another poster suggested a DDS;
> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

The only frustration so far has been the negativity expressed by
yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph
exhibits somewhat of a kinder approach...more of what I was expecting.)

...is beyond me. Maybe you have a fat head. (It sounds like it...
"If you want to see a sophisticated one, read my...")
Ya, you're cool !

Keep in mind that this newsgroup is the Ham Radio Homebrewing
conference...hobbiests, many of whom are interested to learn,
myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

~ NFX v1.3 [000]

--

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Date: 23 Oct 1995 02:01:09 -0400
From: aviator270@aol.com (Aviator270)
Subject: Radio Shack Pro-51 Mod needed, Please!!!

Does anyone know how to open the freqs on the RS pro-51?
If its not possible please let me know.

Thanks in advance!!

Date: Mon, 23 Oct 1995 13:36:25 GMT
From: glheller@ix.netcom.com
Subject: Source of oil-filled paper electrolytics for Collins PS

Am in need of these caps for both my Collins S-Line and my KWM-2 power
supplies. The ones in the power supplies are dried out and need to be

replaced.

Would like to know the name of any electronic suppliers that handle
this type of capacitor. Prefer a direct replacement.

Thanks in advance.

Gil Heller

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (1)

to: all
A question was asked by kennedy@aol.com

>>I live in the country. Too bad, right? My favorite FM stereo
>>station is 100 miles away on 102.1 FM. The problem is an
>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.

One of the other replies suggested a bigger antenna pointed at the
distant station. That would certainly help make sure you have enough
signal. If the difference in directions to the two stations is near
90 degrees you will pick up some additional reduction in signal strength
of the offending station due to reduced pickup off the side of the
beam. If you ever looked at pictures of antenna patterns in the ARRL
Handbook, you'll see that large antennas have maximum pickup in the
desired (forward) direction and lots of sharp little points of pickup in
the undesired (side and back) directions. Finding a null can give a
20 dB (1/10th) reduction (or more) in signal strength.

Ideally what you want to do is put one of the side lobe NULLS right on
the offending station even if you have to point slightly away from the
desired station. You might be able to see this happen if you disconnect
the antenna from the receiver and just place the coax cable near the
terminals as you turn the antenna. Can't guarantee anything but it
might work. The better way is to use a high value attenuator between
the coax and the radio. Adjust the attenuator for a weak but readable
signal on the receiver meter. Then turn the antenna until the signal
strength meter on the radio shows as low as possible on the offending
station. This gets you the LEAST offending signal possible.

Assuming just changing one antenna isn't enough to fix your problem, I
don't think you'll have any luck at all trying to find any standard
filter to reduce a signal only 800 KHz away. The next option is to use
a second antenna pointed at the offending station and mount the antenna
so the signal it brings into the receiver is 180 degrees out of phase
with the first antenna. The closer you can get to exactly opposite
phase, the more signal will be reduced. Have you ever heard the flutter
of multipath on a station? That is what we are trying to do here.

The second antenna can be much smaller than the main antenna because the station is so close. This will not be easy because you have to match not only the signal phase to cancel but also the signal strength. Start by using the attenuator with the receiver and first antenna to try getting a known signal level on the offending station. Next connect the second antenna in place of the first and use another attenuator or extra length of coax (100's of feet) or maybe just a resistor short at the antenna until you have reduced the signal strength to match the first antenna.

Once the signal strengths are egual, connect BOTH antennas to the receiver at the same time using a 2 way splitter/combiner. Now you begin moving the second antenna around until the offending signal is at minimum. That is the position for maximum cancelation. How far do you have to move it? Well, figure the wavelength of the signal. A half wave is about 495/frequency so a full wave length would be 2*495/106 = 9.3 feet. So somewhere along a line from the first antenna toward the offending station, within a ten foot distance, you should find a null. This doesn't mean you have to be within 10 feet of the first antenna, just a 10 foot movement somewhere in the direction of the offending station. You probably should keep the second antenna ten feet away from the first antenna just to reduce antenna pattern changes since you just got done carefully pointing the first antenna.

Another method of cancelling the signal is by changing the length of the coax from the second antenna to the receiver, because changing the length is just like moving the antenna. Now, the wavelength in coax is shorter than the wavelength in air. This is called the velocity factor of the coax cable. Most foam coax has a velocity factor of around 80%. This means that 10 feet in air is only 8 feet in the coax. So, somewhere in 8 feet of cable is the exact length you need to cancel the offending station. If you choose this method, all you can do is cut off the cable a little bit at a time until you have minimum signal from the offending station. I've never tried this myself so I don't know how small of cuts you should make so you don't go past the null. I'd just figure you'll start with an extra 20 feet of cable and start cutting maybe 6 inches at a time. I assume you'll be able to hear multipath distortion of the signal as you get closer to the right length and can start making smaller cuts.

It is my understanding that this basic technique is frequently used in commercial broadcast radio where they may have similar problems. I understand they use more of a tuneable (low pass?) filter of some sort to adjust the phase shift instead of cutting the coax. This phase cancellation technique is the only one I've ever heard of that might do you any good. The only other options involve replacing the receiver with something much more expensive, designed for extremely high signal overload and superb IF bandwidth filtering. I've never heard of such a receiver but I'm sure they exist if you have a LOT of money.

I really don't have much hope that anything is going to let you receive your desired station. With 50 KW only 5 miles away, everything in your

--==<<< Continued next message >>>==--

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (2)

--==<<< Continued from previous message >>>==--
area is going to bouce some of the signal into the first antenna. The
more random signals you have bouncing around, the less likely you'll be
able to null out the offending station. Good luck.

73's.

Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

* SLMR 2.1a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

---

End of Ham-Homebrew Digest V95 #338
****

--WAA07620.814504136/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 1995 13:29:37 GMT
From: wrt@eskimo.com (Bill Turner)
Subject: Unwanted Fm station (1)

>the undesired (side and back) directions. Finding a null can give a
>20 dB (1/10th) reduction (or more) in signal strength.

Nitpick mode ON:

20 dB is a 100:1 power reduction. 10 dB is 10:1.

Date: 23 Oct 1995 18:41:28 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: Want to jam stupid radio station

In article <46b6ur$59u@ixnews2.ix.netcom.com>,
>writes:
>>
>>Is this possible? I'd only want to jam one particular signal in a
>>small area. I don't know if this'll help me pick up the station I
>>like,>which happens to be right next to it, but I'd like to jam it
>>just out of spite. And yes, I'm sure the FCC isn't going to approve.
>> Stan Kwong
>

When I was in college, I had a vacuum tube operated FM clock radio.
I discovered that the LO radiation on it was so bad that it would
wipe out radios in my dorm room or next door if it was tuned 10.7
MHz. lower in frequency. I had lots of fun silencing my roommates'
(and neighbor's) radios when they listened to music I didn't like.
They never figured out what hit them!

Rick Karlquist
rkarlqu@scd.hp.com

End of Ham-Homebrew Digest V95 #339
****

--XAA07945.814507497/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #340
****

--XAA08149.814510295/ooz.backbone.uoknor.edu--

Date: 23 Oct 1995 18:41:30 GMT
From: ez041502@dale.ucdavis.edu (Psyber)
Subject: Want to filter out stupid radio station

I posted before about jamming a radio station. I wasn't that
serious. I just wanted to express my intense dislike of "young"
country. (I won't call it music, that'd be giving it too much credit.)
I have since gotten advice to ask about how to filter out the hated
station or to get a "more selective receiver". Now does anyone have any
more information on these perfectly legal solutions?
Stan Kwong

End of Ham-Homebrew Digest V95 #341
****

--AAA08421.814512959/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #342
****

--BAA08677.814515626/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 95 15:07:45 PDT
From: Jay Wicklund <jwicklun@mail1.halcyon.com>
Subject: Want: COIL winding machine

In article <1995Oct23.100446.1@netnews.wku.edu>,
<scottcr@wkuvx1.wku.edu> writes:
>
> I am looking for a coil-winding machine. Large or small, motor
driven
> or manual,
>
> What do you have?
>
> Thanx, Chris
>
> WB9NEQ Bowling Green, KY
>
> --
> Chris.Scott@WKU.EDU Chief Engineer, Public Radio- Western KY U
> Telco: (502) 745-3834 Hm & Fax: (502)
781-1232
> ....just another insignificant VAX user. \\\//
> (o o)
>
----------ooO-(_)-Ooo----------

>
You know, I'd like to find one of those too. When I was first
starting out in electronics (we won't go into how many decades ago
that was), I had a simple little cam driven coil winder that was a
lot of fun. Don't know what happened to it, but would love to find
something similar at a hamfest or something.....

73 de KI7RH (Jay)
jwicklun@halcyon.com

End of Ham-Homebrew Digest V95 #343
****

--BAA08828.814517021/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #344
****

--CAA08959.814519038/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #345
****

--CAA09112.814520673/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #346
****

--DAA09282.814522737/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #347
****

--EAA09692.814527612/ooz.backbone.uoknor.edu--

4875. Returned mail: Local configuration error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199510241009.FAA09872@ooz.backbone.uoknor.edu>
Source record: 110036

```
This is a MIME-encapsulated message

--FAA09872.814529363/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 05:09:22 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--FAA09872.814529363/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id FAA09870 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 05:09:22 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id FAA00696 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 05:08:33 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWT1XI93Q8004KLQ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 05:12:57 -0500 (CDT)
Date: Tue, 24 Oct 1995 05:12:55 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #348
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWT1XIAPLE004KLQ@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWT1X7FTG0004LL9@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 05:12:42 -0500 (CDT)
Received: by mail.ucsd.edu; id CAA21503 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 02:51:14 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id CAA21486 sendmail 8.6.12/UCSD-2.2-sun Tue,
```

24 Oct 1995 02:51:12 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 02:51:10 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #348
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240951.CAA21486@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 348

Today's Topics:
40m vertical - How to make?
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 1995 03:43:22 -0400
From: w8jitom@aol.com (W8JI Tom)
Subject: 40m vertical - How to make?

Hi Mortz,
In article <46ggnc$1j8u@info4.rus.uni-stuttgart.de>,
moritz@ipers1.e-technik.uni-stuttgart.de () writes:

>Read a text book, and you find that the 1/4 wave and the 1/2
>wave antennas behave similar over lossy ground, only that the losses are
>less for the latter due to its higher radiation resistance (not to be
>confused with the feed point resistance). There is no fundamental
>difference, as you are trying to make out.
>

I agree with your basic statement. The ground actually serves the antenna
in two very different ways.

One way is to provide something to "push" the antenna against. The ground
is the other terminal of the antenna, and the current forced into the base

of the antenna causes direct I^2R losses in the ground connection. Raising the *base* or feedpoint impedance helps this problem, but we have to be careful not to fool ourselves by ignoring all the current flowing in the ground connection.

Raising the radiation resistance is not important to these losses, but lowering the total current flow into the ground is. Referring to radiation resistance is confusing, since the actual current loop radiation resistance of a 1/4 wl monopole is only a slight amount lower than the current loop radiation resistance of a half wave monopole, yet the base loop resistance and net current flow into the ground is vastly different between the two.
A resonant end-fed 1/4 wave has a feedpoint resistance of less than 30 ohms, while the end-fed 1/2 wave typically has a feedpoint resistance of several hundred ohms or more. So the end-fed half wave vertical still requires a ground to "push against", although the net current flow from feedpoint is perhaps nearly a hundred times lower than the current from a 1/4 wave element.

I think the confusion comes from "free" or "loose" use of the general term radiation resistance, when they actually are referring to the *base* or *feedpoint* resistance.

The other way the ground interacts is because of field effects causing current flow (and losses) in the earth below the antenna. The half wave has a more concentrated electric field near the earth. The base fed 1/4 wave has a dominate magnetic field near the antenna base. Both 1/4 and 1/2 wave antennas (and all feed systems) certainly require some ground below the antenna if losses are to be minimized. Elevating the entire system a large amount is the only way to effectively "eliminate" this second type of earth loss.

73 Tom

Date: 24 Oct 95 09:40:12 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--EAA09692.814527612/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 04:40:11 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--EAA09692.814527612/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id EAA09690 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 04:40:11 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id EAA00678 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 04:39:23 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWT0XEBJ5C004G39@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 04:43:48 -0500 (CDT)
Date: Tue, 24 Oct 1995 04:43:47 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #347
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWT0XEDEO2004G39@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWT0X58XTC0049KK@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 04:43:36 -0500 (CDT)
Received: by mail.ucsd.edu; id CAA18983 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 02:20:24 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id CAA18959 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 02:20:19 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 02:20:17 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #347
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240920.CAA18959@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 347

Today's Topics:
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 08:18:57 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--DAA09282.814522737/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 03:18:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--DAA09282.814522737/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id DAA09280 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 03:18:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id DAA00626 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 03:18:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSY3N6540004QKR@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 03:22:33 -0500 (CDT)
Date: Tue, 24 Oct 1995 03:22:32 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #346
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSY3N7QZM004QKR@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSY3DXNLC004IA2@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 03:22:21 -0500 (CDT)
Received: by mail.ucsd.edu; id AAA05456 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:48:15 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id AAA05443 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:48:14 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 00:48:12 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #346
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240748.AAA05443@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 346

Today's Topics:
an HT from Hong Kong?
Returned mail: Local configuration error

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 95 09:26:14 GMT
From: davie@primenet.com (Dave Easton)
Subject: an HT from Hong Kong?

In article <46elj9$g28$1@mhafm.production.compuserve.com>,
Erik Westgard <71505.341@CompuServe.COM> wrote:

>
>I was in Hong Kong this summer, staying in the Causeway Bay area. I
>was completely surprised by the number of authorized Icom dealers in

>
>Would I go back- yes. Buy some gear- maybe. Fun place- I have never
>been in more Ham Radio dealers in my life.

>

I would like to add to this thread - I was there not too long ago and I
got the feeling many stores were more "communications" stores. They had ham,
two way, commercial HF, you name it. Whatever you wanted, whoever you were,
they were happy to sell it to you. Perfectly legal, of course, as it would be
in the US, as long as you didn't try to use it here, or in HK. I suspect the
HK government keeps after toursts trying out their new toys before they leave!

I also found the HK shop keeper's to be the nastiest, most disinterested,
discourteous S.O.B.'s I have EVER run into. It was so bad I asked my hotel
manager what I was doing wrong. He said "probably nothing", adding "being
Caucasian and wanting less than 10 of anything was not a good combination for
many sales people; a serious problem in HK". All of this right after visiting
Tokyo where the HAM (REAL ham) stores where SO polite and friendly I literally
could not believe it.

Dave, WE6L/ Phoenix

Date: 24 Oct 95 07:44:33 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--CAA09112.814520673/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 02:44:32 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--CAA09112.814520673/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id CAA09110 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 02:44:32 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id CAA00603 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 02:43:44 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSWW0BV0W004DQW@aardvark.ucs.uoknor.edu>; Tue,

24 Oct 1995 02:48:09 -0500 (CDT)
Date: Tue, 24 Oct 1995 02:48:08 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #345
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSWW0E06Q004DQW@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSWVQZMGW004RRQ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:47:56 -0500 (CDT)
Received: by mail.ucsd.edu; id AAA02163 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:24:55 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id AAA02146 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:24:53 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 00:24:51 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #345
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240724.AAA02146@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 345

Today's Topics:
Returned mail: Local configuration error

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policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 07:17:18 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)

Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--CAA08959.814519038/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 02:17:16 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--CAA08959.814519038/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id CAA08957 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 02:17:16 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id CAA00589 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 02:16:28 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSVX7RNA8004P4L@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:20:54 -0500 (CDT)
Date: Tue, 24 Oct 1995 02:20:52 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #344
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSVX7TISY004P4L@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSVWZ0UCG004QIC@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:20:40 -0500 (CDT)
Received: by mail.ucsd.edu; id XAA27359 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:47:09 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id XAA27343 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:47:07 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 23:47:05 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #344

Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240647.XAA27343@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 344

Today's Topics:
Returned mail: Local configuration error

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policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 06:43:41 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--BAA08828.814517021/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:43:40 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08828.814517021/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08826 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:43:40 -0500

From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00567 for <arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:42:51 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu (PMDF V4.3-13 #7521) id <01HWSURHIG28004PHG@aardvark.ucs.uoknor.edu>; Tue, 24 Oct 1995 01:47:15 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:47:13 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #343
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSURHK1XU004PHG@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu (PMDF V4.3-13 #7521) id <01HWSUR69MDC004J5V@aardvark.ucs.uoknor.edu>; Tue, 24 Oct 1995 01:47:01 -0500 (CDT)
Received: by mail.ucsd.edu; id XAA23664 sendmail 8.6.12/UCSD-2.2-sun Mon, 23 Oct 1995 23:23:56 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id XAA23641 sendmail 8.6.12/UCSD-2.2-sun Mon, 23 Oct 1995 23:23:52 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 23:23:51 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #343
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240623.XAA23641@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 343

Today's Topics:
Returned mail: Local configuration error
Want: COIL winding machine

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Date: 24 Oct 95 06:20:26 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--BAA08677.814515626/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:20:24 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08677.814515626/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08675 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:20:24 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00550 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:19:36 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXOZG0G004M6I@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:24:00 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:23:58 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #342
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSTXP1L6A004M6I@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXGE9M8004HFT@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:23:47 -0500 (CDT)
Received: by mail.ucsd.edu; id WAA16807 sendmail 8.6.12/UCSD-2.2-sun Mon,

23 Oct 1995 22:39:29 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id WAA16789 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:27 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 22:39:24 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #342
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240539.WAA16789@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 342

Today's Topics:
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 05:35:59 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--AAA08421.814512959/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 00:35:58 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--AAA08421.814512959/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id AAA08419 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 00:35:58 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id AAA00522 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 00:35:09 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSEJS7SW003PET@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:33 -0500 (CDT)
Date: Tue, 24 Oct 1995 00:39:32 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #341
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSSEJUCYQ003PET@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSE9PQ1C0049CZ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:18 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA10882 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:55:54 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA10839 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:55:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:55:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #341
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240455.VAA10839@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 341

Today's Topics:
Returned mail: Local configuration error
Want to filter out stupid radio station

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
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policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 04:51:35 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA08149.814510295/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:51:34 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA08149.814510295/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA08147 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:51:34 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00481 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:50:46 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQUF1QG0004EUI@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:55:03 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:55:02 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #340
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSQUF458Y004EUI@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQU6KB2O004S2X@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:54:52 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA04516 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:36 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA04489 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:33 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:08:32 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #340
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240408.VAA04489@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 340

Today's Topics:
4CX1000 Prices?
Need Postscript to HP-GL Translator .. Suggestions ?
Returned mail: Local configuration error

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 22 Oct 1995 03:11:28 GMT
From: ab419@freenet.toronto.on.ca (Randie Kochals)
Subject: 4CX1000 Prices?

I am looking around for an Eimac 4CX1000a tube and was wondering
what the going price should be for new and used. If any of you
have seen for sale, or have recently bought one of these, let me
know what I should be prepared to pay.

Thanks

Date: 23 Oct 1995 21:59:07 GMT
From: daveb@buffnet.net (dave)
Subject: Need Postscript to HP-GL Translator .. Suggestions ?

Greetings,

In need of a translator that will convert poscript files to HP - GL (Laserjet 4L).
I'm hoping that someone knows of a freeware/shareware version that will do
the job.

Thanks

daveb@buffnet.net

Date: 24 Oct 95 04:04:57 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA07945.814507497/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:04:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA07945.814507497/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA07942 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:04:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00447 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:04:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7QBIGW003R6O@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:30 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:08:29 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #339
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSP7QD4CI003R6O@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"

MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7IHXI8004S4E@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:20 -0500 (CDT)
Received: by mail.ucsd.edu; id UAA22711 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:13 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id UAA22686 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:09 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 20:13:07 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #339
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240313.UAA22686@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 339

Today's Topics:
'95 Handbook problem, need email or phone reference
50MHz transmitter frequencies for UK
an HT from Hong Kong? (2 msgs)
Best motherboard for minimum rfi
Circuit diagram for a 100+ ft transmitter and receiver
Making labels from transparencies
Radio Control kits/plans
Returned mail: Local configuration error
Unwanted Fm station (1)
Want to jam stupid radio station

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 1995 21:06:12 GMT
From: psoper@encore.com (Pete Soper)
Subject: '95 Handbook problem, need email or phone reference

Hi folks,
I've plugged a lot of numbers into the R1 resistor equation of
the low-pass active filter design description in figure 16.54 on page
16.30 of the '95 "ARRL Handbook". I'm convinced that either the
equation is in error or I've lost my mind. In case it's the former problem
(or to get quickly to the latter), could somebody recommend how I can pursue
this with the ARRL? Is there a department to ask for on the phone (#?)
or an email address for this kind of query?
Please send me email direct if you can help, as postings to this
group are averaging 7-12 days to ooze through our news feed.
My problem is that the "[a^2 + 4b(K-1)]C2^2" subexpression results
in an attempt to take the square root of a negative value because this comes
out smaller than the "4bC1C2" subexpression subtracted from it. If I guess
that parentheses are missing and it should be written "([a^2 + 4b(K-1)]C2)^2"
I get the wrong result for the example values given. I can't come up with
a second guess :-)

Thanks,
Pete

Pete Soper (psoper@encore.com) KS4XG 1+ 919 481 3730, 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA grid FM05oq

---

Date: Mon, 23 Oct 1995 20:49:37 GMT
From: giles@wormwood.demon.co.uk (giles)
Subject: 50MHz transmitter frequencies for UK

I have recently passed my RAE and instead of lashing out on expensive
equipment ,I am going to do some homebrew QRP projects together with
appropriate instrumentation -- see Practical Transmitters for
Novices. What I should like to know:

1) What are best channel frequencies for FM 50MHz? i.e. what rocks to
choose?

2) In order to hear the 6M band I have built a converter to connect
to my Kenwood R5000. I have tried to make a dipole but have no usable
signals yet --- i think a higher antenna is called for. Has anyone any
experience with the 50MHz to 28MHz converter a la Cirkit?

Giles G7VOF

Date: 21 Oct 1995 17:09:22 -0700
From: ad7k@bighorn.accessnv.com (Squeak Porray)
Subject: an HT from Hong Kong?

If you want my name just ask. (timhynde@ix.netcom.com) wrote:

: >to Hong Kong soon and am interested in shopping for an HT. What can
: you
: >advise me about:

: I'd save myselft the trouble and buy from a stateside distributor,

Comments from a "Stateside distributor", who has had experience both ways
...

If you buy a radio from someone you never saw before, and never expect to see again, all he is going to be interested in is getting your money out of your wallet and you on your way.

If you buy from a local (or regional) dealer, you are buying from someone who wants to see YOU happy, since he hopes that you will come back again and again, for all those accessories, mobile radios, antennas and the like that we hams always need to add to our collection.

If you bring in an oversees "Yaekenicostanco" radio, you will have NO US warranty - the American distributors warrant only those radios that they import, and quite possibly might not service them - they are completely within their rights to do so. There very well may be (as has been in the past) board or component differences between various versions of the radio destined for different countries, thus compounding the situation. (Some manufacturers have had up to five different versions of the same radio - with each version destined for a different market area, with different regulations.)

If you buy the radio from a local (or regional) dealer, you have someone you can go to with questions and problems ... but long-distance calls to Hong Kong to get answers to a question get expensive - to say nothing of "how do you ask someone how to program odd splits for repeaters into your new handy - when he is only really fluent, technically, in Chinese?"

I doubt that you will find any significant price differentials in buying in Hong Kong ... that was true years ago (I was there during the VietNam era), but not now, with the global economy/distribution situation now in existance. However, you can find real bargains in Hong Kong on things that are local-labor-intensive (like tailored suits for example).

Enjoy your trip ... take the tram to the top of Victoria Peak and let me know if the view is still as grand as it was on Christmas Day of 1972 ... and good luck to you!

Very 73,

"Squeak" Porray, AD7K
Manager, Amateur Electronic Supply/Las Vegas

ps: I hope you don't think I am touting just our company ... in the above, I speak for the Amateur Radio community in general, and I think that it speaks for all domestic Amateur Radio Dealers as well.

Date: Mon, 23 Oct 1995 18:50:11 GMT
From: rafaels@zimmer.CSUFresno.EDU (Rafael Solis)
Subject: an HT from Hong Kong?

In article <46b7s9$lmj@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (If you want my name just ask.) writes:
>
>>to Hong Kong soon and am interested in shopping for an HT. What can
>you
>>advise me about:
>
>
>I'd save myselft the trouble and buy from a stateside distributor, I've
>heard of guys buying overseas HF gear with features or bands not avail.
>in U.S but I've never heard of any great bargains. What you save by
>shopping Hong Kong may cost you quickly if you have a problem or need
>an accessory for the radio.
>
>I have a Kenwood Dual band HT and like it alot.
>
>73, Tim ka8ddz

I agree with Tim. I've been to HK several times on business trips and it is not worth the hassling of dealing with the salesmen over there (prices are not fixed and you have to deal, yes as in bargaining!). Also there is the problem of the warranty. I don't think any of the major brands (K,I,Y) honor warranties of any equipment bought overseas. What I have bought though are accessories. Bring your AES catalog to check the price differences. Some things are cheaper there but others are around the same or even higher depending on the store. Another suggestion is to get away from the Nathan Rd. stores, those are usually overpriced.

Have fun in HK.

Rafael (KE6JSR)

Date: Mon, 23 Oct 1995 16:42:13 -0700
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Subject: Best motherboard for minimum rfi

Good point Paul. I have exactly the same thoughts but have experienced just about the same level of noise with the modern boards as the old!

On 21 Oct 1995, Paul Erickson wrote:

> Has anyone done any comparisons to see which motherboards are best
> from an rfi point of view?? I am planning on replacing the board in
> my old AT, but my current experiences with my NEC multispeed
> (very noisy on 14mhz) are making me cautious about computer generated

> rfi. Any comments will be appreciated.
>
> cheers, Paul
> ve7cqk
> email: paul1@wizard.ucs.sfu.ca
>
>
>

Date: 23 Oct 1995 20:35:33 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Circuit diagram for a 100+ ft transmitter and receiver

Does anyone know where I could find a circuit diagram for a transmitter and
receiver that could go 100+ feet. One or two channel.

I would like to build one from scratch.

Thanks in advance

scottc@pegasus.cc.ucf.edu

Date: 23 Oct 1995 20:40:43 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Making labels from transparencies

>>Has anyone had experience making panel labels for projects using laser-
>>printed transparencies? With Word for Windows, I can align and print
>>very nice labels. The only problem is gluing them to a panel. Nothing I
>>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>>seems to stick. I assume the plastic is mylar.
>>

I would use clear contact paper over the laser quality print. Contact paper
is great for a lot of things and I've used it before

Date: Mon, 23 Oct 1995 21:12:20 GMT
From: bs872@FreeNet.Carleton.CA (Henry Ian Ross)
Subject: Radio Control kits/plans

If you want my name just ask. (timhynde@ix.netcom.com) writes:
> I would like to build a radio control transmitter and reciever for 6m.
> I have used several commercially available units for 72 MHz but it's
> time to really do it right.
>
> Anyone have plans or knowledge of RC for 6m. I am a builder but have
> never seen anything along those lines.
>

> Regards,
>
> Tim Hynde
> ka8ddz, Rochester MI

Tim,
Many years ago, I built a six-channel radio on 6M using a design
published as a series of articles by Radio Control Modeller (RCM)
magazine. If you can find some older issues circa 1970 or contact
RCM, they may be able to send you the information.

The radio is still running in a Soling 1M yacht that I race occasionally
at our yacht club.

Good luck.
Ian

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

Date: 24 Oct 95 03:08:56 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--WAA07620.814504136/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 22:08:54 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--WAA07620.814504136/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id WAA07618 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 22:08:54 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id WAA00391 for

<areees@elect4.uoknor.edu>; Mon, 23 Oct 1995 22:08:06 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN9AF6N40042TV@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:29 -0500 (CDT)
Date: Mon, 23 Oct 1995 22:12:28 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #338
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSN9AHLGI0042TV@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN911VIO0041N6@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:17 -0500 (CDT)
Received: by mail.ucsd.edu; id TAA11405 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 19:22:18 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id OAA22698 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 14:13:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 14:13:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #338
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510232113.OAA22698@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 338

Today's Topics:
40m vertical - How to make?
AMSOFT SPAM
Anybody used Ramsey FX-440 for 9600?.Humm...
Changing Uniden mic wiring?
Help: Mod 440Mhz to Australian CB Possible?
Ladder Line .. how to make?
LED question (2 msgs)
LED question , correction!
PLL/VCO homebrew designs
Radio Shack Pro-51 Mod needed, Please!!!
Source of oil-filled paper electrolytics for Collins PS
Unwanted Fm station (1)
Unwanted Fm station (2)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 21 Oct 1995 14:01:44 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: 40m vertical - How to make?

In article <467mcf$e6m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>You need no
>>ground whatsoever with a halfwave vertical antenna.
>Don,
>
>Sorry to say so, bot you are wrong here. it is true, that the radiation
>resistance of a halfwave is higher, and hence losses induced by a poor
>ground in the vincinity of the antenna (no or little radials)
>is less than for a shorter antenna.
>
>But if you look into the problem of the radiation pattern, you will find,
>that it is also degraded above poor gound.

Sure, lossy *Earth* near an antenna is always a problem, so keep
your antennas well away from Earth, but that doesn't address his
comment. A halfwave antenna *does not require ground* to function.
It doesn't need it to act as a current mirror the way a quarterwave
does. A halfwave vertical is perfectly content to function properly
in *free space*. A quarterwave needs some sort of counterpoise.
That counterpoise *can* be Earth, but it doesn't have to be. Radials,
or a counterpoise wire, will work just as well, probably better
since they won't be as lossy as Earth.

Gary
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 14:47:40 GMT
From: Jim Strohm <jstrohm@blazer.ucsd.edu>
Subject: AMSOFT SPAM

Bob:

I stand by my previous comment: SPAM-soft.

The gentlemen (NOT) at AMSOFT wisely chose to send their message to at least
ten newsgroups on this round of their shameless advertising. Regardless
of the value of the information they provide, their relentless SPAMMing
of the amateur radio radio newsgroups is unjustifiable and inexcusable.

There was a major SPAM attack from Amsoft the last time they had a new
CD release. And the time before that. AND the time before THAT! They
have an unfortunate history for alienating a lot of us and for wasting a lot
of bandwidth.

That you would support their activity says something about you -- not sure
what, exactly. But it's not in keeping with newsgroup's non-commercial charter.

If you are reading this, it's because I'm wasting bandwidth only on the
rec.radio.* newsgroup I read. And if you reply to my flaming diatribe,
you will do so only to this newsgroup, unless you choose to add groups.
Of course you understand how to add and remove groups from your To:
field in your newsreader. You DO understand how that works, don't you?

Jim N6OTQ
Standard disclaimer

Date: 21 Oct 1995 11:17:40 GMT
From: "J. Silva" <jsilva@zeus.ci.ua.pt>
Subject: Anybody used Ramsey FX-440 for 9600?.Humm...

>>Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
>>I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
>>packet, but nobody has actually been able to get it going quite right.

Some time ago I bought their kit. I found that the receiver suffered
from
many spurious responses which, given right (wrong?) packet frequency
would
make it pretty useless. I did get it to receive 9600 but had a pretty
strong signal to work with and didn't make any performance measurements
so
I can't really comment on the receive performance. The transmitter was
a
disaster! Because they have no shielding anywhere in the radio the
transmitter output got back into the PLL and the resultant signal
resembled
broadband noise. I wasted a lot of time trying to clean that up and
never
was successful. I believe that taking the time to build a good shield
around the PLL would have solved the problem but there are problems with
the board layout that make it a difficult thing to do. I did find a
few
minor design errors which resulted a very long (for 9600 packet) TR
turnaround time. They directly modulate the VCO, like most radios, so

the
transmitter will distort the signal. I never got far enough to worry
about
that.

A friend of mine bought one and had similar problems. Both of us wasted
a
good bit of money. Since then we have discovered the joys of converting
commercial (e.g., Motorola and GE) radios...they work!

My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Interessante ??? CT1DSJ

Date: Mon, 23 Oct 1995 13:37:08 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Changing Uniden mic wiring?

In article <Pine.CVX.3.91.951022183204.6724E-100000@gibbs.oit.unc.edu> Dale Castle
<dbcastle@gibbs.oit.unc.edu> writes:
>
> I have a Standard C508A and I just got a Uniden clip-on mic w/
>ear phone jack. When I plug it in, it keys the radio. The PTT button
>doesn't stop it. The mic sounds great. Can I change the wiring to make it
>work? (bought it used.) Thanks in advance for the help.

Dale, the C508A uses the same "leaky PTT" circuit as Icom/Yaesu/Radio Shack.
Mikes wired for those brands will work. I'm not familiar with the Uniden
mike, but here's roughly what the I/Y/RS circuit looks like:

```
-------------------------x----------------> TIP
| |
| / 2.2k Radio
(M) \
| / __
|------------------------x----o o--------> RING
PTT
```

The mike (M) is actually a FET buffered electret powered from voltage
supplied by the radio. When you close PTT, the mike becomes powered
and the TIP voltage is pulled down by the resistor. The voltage
drop is sensed in the radio and causes it to go into transmit.
The resistor may vary between 2.2k (Yaesu standard) to 10k (Icom
standard). The Yaesu mikes work on either rig, though the audio
level will be a bit low on an Icom, but the Icom mikes won't always
key a Yaesu because they don't sink enough current. My C508A, and
most HTX-202s, don't care, they'll work with either.

It sounds like your Uniden mike uses a different scheme, but since
the audio sounds good, try just rewiring it so the PTT switch is
in series with the ground lead.

Gary
--
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Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 07:25:48 GMT
From: Chris Arai <arai@rahul.net>
Subject: Help: Mod 440Mhz to Australian CB Possible?

I would like to know if it is possible to modify a 440Mhz hand held to
work well on the Australian CB band. I believe it is about 470 Mhz, but
I'm not sure. If anyone knows the answer to that question as well I
would appreciate it.

Thanks

Chris

arai@rahul.net

--
Chris Arai <arai@rahul.net>

Date: 21 Oct 1995 04:14:57 GMT
From: ted <ted@ihnp4.ucsd.edu>
Subject: Ladder Line .. how to make?

Ron and Drew...

.. I remember seeing ladder line where the spacers were made from old
BIC byros (body), if you are going for 2" spacing then a each byro will provide
2 spacers (or a byro per 4' of line - roughly).

Just might save you a bit of sawing... rest of the method the same.

73 Ted VK1BL.

ejg@acslink.net.au

Date: Sat, 21 Oct 1995 14:25:20 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <469kcl$3es@bcfreenet.seflin.lib.fl.us> d010421c@dcfreenet.seflin.lib.fl.us
(Ken Becker) writes:

>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

Ok, lets do some calculations. The original circuit had a 240 ohm
resistor. For 20 ma of diode current, the voltage feeding the
resistor needs to be

E=0.02*240+1.6 = 6.4 volts

and the resistor power dissipation is

P=.02*4.8 = 0.096 watts

So a half-watt resistor offers a comfortable safety margin.
But if the voltage is 50 volts, then we have a power dissipation
in the resistor of

P=48.4^2/240 = 9.76 watts

A half-watt resistor is going to go *poof*, as it indeed did.
So either the value of the original resistor was *not* 240 ohms,
or the design voltage is *not* 50 volts.

Now you replaced the resistor with a 2500 ohm resistor, so the
power dissipation of that resistor would be

P=48.4^2/2500 = 0.937 watt

A 5 watt resistor would be about right to provide an adequate
safety margin. (You never want to run a resistor at its power
dissipation limit, it'll run about 100 C at that power level.)

But the original resistor was a half-watt unit, indicating a
design dissipation of 1/10th watt or less. Clearly something
is wrong here. I'd suspect it's the 50 volts. Are you *sure*
it's *supposed* to be 50 volts?

Gary
--
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534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:12:54 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <46f3u3$7m0@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>With 50V as a supply, you are essentially looking for a current
>limiter. The original 240 Ohms was the correct value but it would be
>dissipating about 20 mA x 50V = 1,000 mW or 1W. No wonder it burned
>out. The current to the LED is not so critical but what you could use
>a 220 or 270 Ohm 2W resistor.

Better run that calc again. You slipped a decimal. That's *50* volts,
not *5.0* volts he's saying. A 220 to 270 ohm resistor would be
correct for *5.0* volts. You got the power right though, a *2400*
ohm resistor would dissipate about 1 watt (actually 0.976 watt).
And that's too much for a half watt part. Either the voltage is
supposed to be much lower, or there's supposed to be something
else in the circuit acting as a current limiter besides the
240 ohm half watt resistor in there originally.

Gary
--
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Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:19:03 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question , correction!

In article <46f4g5$6u2@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>
>Sorry, I screwed up. I should not answer questions when I am half
>asleep. You are looking for a current limiter but 50V/20mA makes about
>a 2.5K resistor and the dissipation is about 1W. When the 1/2 W
>resistor "smokes" the red turns brown on the color code, so it
>probably was not 240 Ohms. Use a 2W 2.2K or 2.7K. My apologies if my
>prior posting 5 minutes ago caused any problems.

And my apologies for posting a correction before reading your correction.
We're all singing out of the same hymn book now though. I'm beginning to
suspect a fault in another part of the circuit. Obviously, even if the
original resistor were 2400 ohms and a color band turned when it smoked,
that still doesn't address the fact that it was a *half watt resistor*.
There's got to be something else in the circuit that's supposed to limit

current. *That's* the part that probably failed and took the resistor
with it, and is still causing new resistors to smoke.

Gary
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 19 Oct 95 20:15:04 EST
From: hduff@humnet.humberc.on.ca
Subject: PLL/VCO homebrew designs

>
> In article <801523937403@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
> >"This is one of those projects where anyone who knows enough about the
> >technology to know what is involved" ...would know that bypassing the
> >multiplication stages in the radio and just generating the highest
> >and closest to the operating frequency with the PLL/VCO would be best
> >approach (which IS indeed the way it is going to be done).
>
> Yes, I do know that. I designed a marine radio that worked that way
> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
> >through a bandpass filter, spurs are not an big issue.
>
> That's a good architecture, but it exceeds the frequency range of the '157.

Hmmm...mine's working at 26 MHz !!
Maybe this is pushing it to its limit.

In the search for more of these parts we have discovered that it *MAY*
be a discontinued item. We are considering trying out
the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

>
> >You might want to brush up on your personability skills...
> >"...simple minded synthesizer..." and your approach in general ceratinly
> >don't contribute positively to the spirit of homebrewing !
> >
> >Hugh Duff VA3TO Toronto

>
> Well, sorry, but what you are talking about *is* a simple minded synthesizer.

What is simple minded about a PLL/Loop Filter/VCO when properly
designed ? I didn't intend on building up some half-assed "well, it
kinda works" board. That was the intent of the original post...tell me
what I need to know and/or HELP me design a solid performer !
If you don't want to get involved in a positive way, say nothing !
Perhaps I'm being a bit anal retentive but the net seems to be full
of the "I can tell you you're wrong but I can't tell you how to
do it right" types.

I suggest that your delivery is somewhat abrasive...try having some
compassion for those of us who are attempting to learn. Nothing is more
of a turnoff than having someone who comes off like a "know-it-all"
burst your ballon. Albeit, you may know your stuff *BUT* your delivery
needs some honing.

> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
> people from endless frustration. (BTW, another poster suggested a DDS;
> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

The only frustration so far has been the negativity expressed by
yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph

exhibits somewhat of a kinder approach...more of what I was expecting.)

...is beyond me. Maybe you have a fat head. (It sounds like it...
"If you want to see a sophisticated one, read my...")
Ya, you're cool !

Keep in mind that this newsgroup is the Ham Radio Homebrewing
conference...hobbiests, many of whom are interested to learn,
myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

~ NFX v1.3 [000]

--

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Date: 23 Oct 1995 02:01:09 -0400
From: aviator270@aol.com (Aviator270)
Subject: Radio Shack Pro-51 Mod needed, Please!!!

Does anyone know how to open the freqs on the RS pro-51?
If its not possible please let me know.

Thanks in advance!!

Date: Mon, 23 Oct 1995 13:36:25 GMT
From: glheller@ix.netcom.com
Subject: Source of oil-filled paper electrolytics for Collins PS

Am in need of these caps for both my Collins S-Line and my KWM-2 power
supplies. The ones in the power supplies are dried out and need to be
replaced.

Would like to know the name of any electronic suppliers that handle
this type of capacitor. Prefer a direct replacement.

Thanks in advance.

Gil Heller

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (1)

to: all
A question was asked by kennedy@aol.com

>>I live in the country. Too bad, right? My favorite FM stereo
>>station is 100 miles away on 102.1 FM. The problem is an
>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.

One of the other replies suggested a bigger antenna pointed at the distant station. That would certainly help make sure you have enough signal. If the difference in directions to the two stations is near 90 degrees you will pick up some additional reduction in signal strength of the offending station due to reduced pickup off the side of the beam. If you ever looked at pictures of antenna patterns in the ARRL Handbook, you'll see that large antennas have maximum pickup in the desired (forward) direction and lots of sharp little points of pickup in the undesired (side and back) directions. Finding a null can give a 20 dB (1/10th) reduction (or more) in signal strength.

Ideally what you want to do is put one of the side lobe NULLS right on the offending station even if you have to point slightly away from the desired station. You might be able to see this happen if you disconnect the antenna from the receiver and just place the coax cable near the terminals as you turn the antenna. Can't guarantee anything but it might work. The better way is to use a high value attenuator between the coax and the radio. Adjust the attenuator for a weak but readable signal on the receiver meter. Then turn the antenna until the signal strength meter on the radio shows as low as possible on the offending station. This gets you the LEAST offending signal possible.

Assuming just changing one antenna isn't enough to fix your problem, I don't think you'll have any luck at all trying to find any standard filter to reduce a signal only 800 KHz away. The next option is to use a second antenna pointed at the offending station and mount the antenna so the signal it brings into the receiver is 180 degrees out of phase with the first antenna. The closer you can get to exactly opposite phase, the more signal will be reduced. Have you ever heard the flutter of multipath on a station? That is what we are trying to do here.

The second antenna can be much smaller than the main antenna because the station is so close. This will not be easy because you have to match not only the signal phase to cancel but also the signal strength. Start by using the attenuator with the receiver and first antenna to try getting a known signal level on the offending station. Next connect the second antenna in place of the first and use another attenuator or extra length of coax (100's of feet) or maybe just a resistor short at the antenna until you have reduced the signal strength to match the first antenna.

Once the signal strengths are egual, connect BOTH antennas to the receiver at the same time using a 2 way splitter/combiner. Now you begin moving the second antenna around until the offending signal is at minimum. That is the position for maximum cancelation. How far do you have to move it? Well, figure the wavelength of the signal. A half

wave is about 495/frequency so a full wave length would be 2*495/106 = 9.3 feet. So somewhere along a line from the first antenna toward the offending station, within a ten foot distance, you should find a null. This doesn't mean you have to be within 10 feet of the first antenna, just a 10 foot movement somewhere in the direction of the offending station. You probably should keep the second antenna ten feet away from the first antenna just to reduce antenna pattern changes since you just got done carefully pointing the first antenna.

Another method of cancelling the signal is by changing the length of the coax from the second antenna to the receiver, because changing the length is just like moving the antenna. Now, the wavelength in coax is shorter than the wavelength in air. This is called the velocity factor of the coax cable. Most foam coax has a velocity factor of around 80%. This means that 10 feet in air is only 8 feet in the coax. So, somewhere in 8 feet of cable is the exact length you need to cancel the offending station. If you choose this method, all you can do is cut off the cable a little bit at a time until you have minimum signal from the offending station. I've never tried this myself so I don't know how small of cuts you should make so you don't go past the null. I'd just figure you'll start with an extra 20 feet of cable and start cutting maybe 6 inches at a time. I assume you'll be able to hear multipath distortion of the signal as you get closer to the right length and can start making smaller cuts.

It is my understanding that this basic technique is frequently used in commercial broadcast radio where they may have similar problems. I understand they use more of a tuneable (low pass?) filter of some sort to adjust the phase shift instead of cutting the coax. This phase cancellation technique is the only one I've ever heard of that might do you any good. The only other options involve replacing the receiver with something much more expensive, designed for extremely high signal overload and superb IF bandwidth filtering. I've never heard of such a receiver but I'm sure they exist if you have a LOT of money.

I really don't have much hope that anything is going to let you receive your desired station. With 50 KW only 5 miles away, everything in your
--==<<< Continued next message >>>==--

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (2)

--==<<< Continued from previous message >>>==--
area is going to bouce some of the signal into the first antenna. The more random signals you have bouncing around, the less likely you'll be able to null out the offending station. Good luck.

73's.

Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

* SLMR 2.1a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

----

End of Ham-Homebrew Digest V95 #338
****

--WAA07620.814504136/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 1995 13:29:37 GMT
From: wrt@eskimo.com (Bill Turner)
Subject: Unwanted Fm station (1)

>the undesired (side and back) directions. Finding a null can give a
>20 dB (1/10th) reduction (or more) in signal strength.

Nitpick mode ON:

20 dB is a 100:1 power reduction. 10 dB is 10:1.

Date: 23 Oct 1995 18:41:28 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: Want to jam stupid radio station

In article <46b6ur$59u@ixnews2.ix.netcom.com>,
>writes:
>>
>>Is this possible? I'd only want to jam one particular signal in a
>>small area. I don't know if this'll help me pick up the station I
>>like,>which happens to be right next to it, but I'd like to jam it
>>just out of spite. And yes, I'm sure the FCC isn't going to approve.
>> Stan Kwong
>

When I was in college, I had a vacuum tube operated FM clock radio.
I discovered that the LO radiation on it was so bad that it would
wipe out radios in my dorm room or next door if it was tuned 10.7
MHz. lower in frequency. I had lots of fun silencing my roommates'
(and neighbor's) radios when they listened to music I didn't like.
They never figured out what hit them!

Rick Karlquist
rkarlqu@scd.hp.com

End of Ham-Homebrew Digest V95 #339
****

--XAA07945.814507497/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #340
****

--XAA08149.814510295/ooz.backbone.uoknor.edu--

Date: 23 Oct 1995 18:41:30 GMT
From: ez041502@dale.ucdavis.edu (Psyber)
Subject: Want to filter out stupid radio station

I posted before about jamming a radio station. I wasn't that
serious. I just wanted to express my intense dislike of "young"
country. (I won't call it music, that'd be giving it too much credit.)
I have since gotten advice to ask about how to filter out the hated
station or to get a "more selective receiver". Now does anyone have any
more information on these perfectly legal solutions?
Stan Kwong

End of Ham-Homebrew Digest V95 #341
****

--AAA08421.814512959/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #342
****

--BAA08677.814515626/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 95 15:07:45 PDT
From: Jay Wicklund <jwicklun@mail1.halcyon.com>
Subject: Want: COIL winding machine

In article <1995Oct23.100446.1@netnews.wku.edu>,
<scottcr@wkuvx1.wku.edu> writes:
>
> I am looking for a coil-winding machine. Large or small, motor
driven
> or manual,
>
> What do you have?
>
> Thanx, Chris
>
> WB9NEQ Bowling Green, KY
>
> --
> Chris.Scott@WKU.EDU Chief Engineer, Public Radio- Western KY U
> Telco: (502) 745-3834 Hm & Fax: (502)

781-1232
> ....just another insignificant VAX user. \\\//
> (o o)
>
--ooO-(_)-Ooo--------------

>
You know, I'd like to find one of those too. When I was first
starting out in electronics (we won't go into how many decades ago
that was), I had a simple little cam driven coil winder that was a
lot of fun. Don't know what happened to it, but would love to find
something similar at a hamfest or something.....

73 de KI7RH (Jay)
jwicklun@halcyon.com

End of Ham-Homebrew Digest V95 #343
****

--BAA08828.814517021/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #344
****

--CAA08959.814519038/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #345
****

--CAA09112.814520673/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #346
****

--DAA09282.814522737/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #347
****

--EAA09692.814527612/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #348
****

--FAA09872.814529363/ooz.backbone.uoknor.edu--

4876. Returned mail: Local configuration error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199510241037.FAA09990@ooz.backbone.uoknor.edu>
Source record: 110037

```
This is a MIME-encapsulated message

--FAA09990.814531028/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 05:37:07 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--FAA09990.814531028/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id FAA09988 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 05:37:07 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id FAA00714 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 05:36:18 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWT2WYBEKG004U95@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 05:40:44 -0500 (CDT)
Date: Tue, 24 Oct 1995 05:40:42 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #349
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWT2WYD0FM004U95@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWT2WP5274004LYG@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 05:40:30 -0500 (CDT)
Received: by mail.ucsd.edu; id DAA23170 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 03:13:12 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id DAA23158 sendmail 8.6.12/UCSD-2.2-sun Tue,
```

24 Oct 1995 03:13:09 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 03:13:08 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #349
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510241013.DAA23158@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 349

Today's Topics:
Returned mail: Local configuration error

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 10:09:23 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--FAA09872.814529363/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 05:09:22 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--FAA09872.814529363/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id FAA09870 for <arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 05:09:22 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id FAA00696 for <arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 05:08:33 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu (PMDF V4.3-13 #7521) id <01HWT1XI93Q8004KLQ@aardvark.ucs.uoknor.edu>; Tue, 24 Oct 1995 05:12:57 -0500 (CDT)
Date: Tue, 24 Oct 1995 05:12:55 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #348
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWT1XIAPLE004KLQ@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu (PMDF V4.3-13 #7521) id <01HWT1X7FTG0004LL9@aardvark.ucs.uoknor.edu>; Tue, 24 Oct 1995 05:12:42 -0500 (CDT)
Received: by mail.ucsd.edu; id CAA21503 sendmail 8.6.12/UCSD-2.2-sun Tue, 24 Oct 1995 02:51:14 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id CAA21486 sendmail 8.6.12/UCSD-2.2-sun Tue, 24 Oct 1995 02:51:12 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 02:51:10 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #348
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240951.CAA21486@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 348

Today's Topics:
40m vertical - How to make?
Returned mail: Local configuration error

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 1995 03:43:22 -0400
From: w8jitom@aol.com (W8JI Tom)
Subject: 40m vertical - How to make?

Hi Mortz,
In article <46ggnc$1j8u@info4.rus.uni-stuttgart.de>,
moritz@ipers1.e-technik.uni-stuttgart.de () writes:

>Read a text book, and you find that the 1/4 wave and the 1/2
>wave antennas behave similar over lossy ground, only that the losses are
>less for the latter due to its higher radiation resistance (not to be
>confused with the feed point resistance). There is no fundamental
>difference, as you are trying to make out.
>

I agree with your basic statement. The ground actually serves the antenna
in two very different ways.

One way is to provide something to "push" the antenna against. The ground
is the other terminal of the antenna, and the current forced into the base
of the antenna causes direct I^2R losses in the ground connection. Raising
the *base* or feedpoint impedance helps this problem, but we have to be
careful not to fool ourselves by ignoring all the current flowing in the
ground connection.

Raising the radiation resistance is not important to these losses, but
lowering the total current flow into the ground is. Referring to radiation
resistance is confusing, since the actual current loop radiation
resistance of a 1/4 wl monopole is only a slight amount lower than the
current loop radiation resistance of a half wave monopole, yet the base
loop resistance and net current flow into the ground is vastly different
between the two.
A resonant end-fed 1/4 wave has a feedpoint resistance of less than 30
ohms, while the end-fed 1/2 wave typically has a feedpoint resistance of
several hundred ohms or more. So the end-fed half wave vertical still
requires a ground to "push against", although the net current flow from
feedpoint is perhaps nearly a hundred times lower than the current from a
1/4 wave element.

I think the confusion comes from "free" or "loose" use of the general term
radiation resistance, when they actually are referring to the *base* or
feedpoint resistance.

The other way the ground interacts is because of field effects causing
current flow (and losses) in the earth below the antenna. The half wave
has a more concentrated electric field near the earth. The base fed 1/4

wave has a dominate magnetic field near the antenna base. Both 1/4 and 1/2
wave antennas (and all feed systems) certainly require some ground below
the antenna if losses are to be minimized. Elevating the entire system a
large amount is the only way to effectively "eliminate" this second type
of earth loss.

73 Tom

Date: 24 Oct 95 09:40:12 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--EAA09692.814527612/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 04:40:11 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--EAA09692.814527612/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id EAA09690 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 04:40:11 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id EAA00678 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 04:39:23 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWT0XEBJ5C004G39@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 04:43:48 -0500 (CDT)
Date: Tue, 24 Oct 1995 04:43:47 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #347
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWT0XEDEO2004G39@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWT0X58XTC0049KK@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 04:43:36 -0500 (CDT)
Received: by mail.ucsd.edu; id CAA18983 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 02:20:24 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id CAA18959 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 02:20:19 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 02:20:17 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #347
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240920.CAA18959@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 347

Today's Topics:
Returned mail: Local configuration error

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 08:18:57 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--DAA09282.814522737/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 03:18:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu

554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--DAA09282.814522737/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id DAA09280 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 03:18:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id DAA00626 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 03:18:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSY3N6540004QKR@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 03:22:33 -0500 (CDT)
Date: Tue, 24 Oct 1995 03:22:32 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #346
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSY3N7QZM004QKR@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSY3DXNLC004IA2@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 03:22:21 -0500 (CDT)
Received: by mail.ucsd.edu; id AAA05456 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:48:15 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id AAA05443 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:48:14 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 00:48:12 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #346
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240748.AAA05443@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 346

Today's Topics:
an HT from Hong Kong?
Returned mail: Local configuration error

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 95 09:26:14 GMT
From: davie@primenet.com (Dave Easton)
Subject: an HT from Hong Kong?

In article <46elj9$g28$1@mhafm.production.compuserve.com>,
Erik Westgard <71505.341@CompuServe.COM> wrote:

>
>I was in Hong Kong this summer, staying in the Causeway Bay area. I
>was completely surprised by the number of authorized Icom dealers in

>
>Would I go back- yes. Buy some gear- maybe. Fun place- I have never
>been in more Ham Radio dealers in my life.
>

I would like to add to this thread - I was there not too long ago and I
got the feeling many stores were more "communications" stores. They had ham,
two way, commercial HF, you name it. Whatever you wanted, whoever you were,
they were happy to sell it to you. Perfectly legal, of course, as it would be
in the US, as long as you didn't try to use it here, or in HK. I suspect the
HK government keeps after toursts trying out their new toys before they leave!

I also found the HK shop keeper's to be the nastiest, most disinterested,
discourteous S.O.B.'s I have EVER run into. It was so bad I asked my hotel
manager what I was doing wrong. He said "probably nothing", adding "being
Caucasian and wanting less than 10 of anything was not a good combination for
many sales people; a serious problem in HK". All of this right after visiting
Tokyo where the HAM (REAL ham) stores where SO polite and friendly I literally
could not believe it.

Dave, WE6L/ Phoenix

Date: 24 Oct 95 07:44:33 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--CAA09112.814520673/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 02:44:32 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--CAA09112.814520673/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id CAA09110 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 02:44:32 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id CAA00603 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 02:43:44 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSWW0BV0W004DQW@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:48:09 -0500 (CDT)
Date: Tue, 24 Oct 1995 02:48:08 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #345
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSWW0E06Q004DQW@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSWVQZMGW004RRQ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:47:56 -0500 (CDT)
Received: by mail.ucsd.edu; id AAA02163 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:24:55 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id AAA02146 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:24:53 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 00:24:51 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #345
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu

Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240724.AAA02146@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 345

Today's Topics:
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 07:17:18 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--CAA08959.814519038/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 02:17:16 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--CAA08959.814519038/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id CAA08957 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 02:17:16 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id CAA00589 for

<areas@elect4.uoknor.edu>; Tue, 24 Oct 1995 02:16:28 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSVX7RNA8004P4L@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:20:54 -0500 (CDT)
Date: Tue, 24 Oct 1995 02:20:52 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #344
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSVX7TISY004P4L@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSVWZ0UCG004QIC@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:20:40 -0500 (CDT)
Received: by mail.ucsd.edu; id XAA27359 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:47:09 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id XAA27343 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:47:07 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 23:47:05 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #344
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240647.XAA27343@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 344

Today's Topics:
Returned mail: Local configuration error

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policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 06:43:41 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--BAA08828.814517021/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:43:40 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08828.814517021/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08826 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:43:40 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00567 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:42:51 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSURHIG28004PHG@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:47:15 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:47:13 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #343
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSURHK1XU004PHG@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSUR69MDC004J5V@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:47:01 -0500 (CDT)
Received: by mail.ucsd.edu; id XAA23664 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:23:56 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id XAA23641 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:23:52 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 23:23:51 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>

Subject: Ham-Homebrew Digest V95 #343
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240623.XAA23641@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 343

Today's Topics:
Returned mail: Local configuration error
Want: COIL winding machine

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 06:20:26 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--BAA08677.814515626/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:20:24 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08677.814515626/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by

ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08675 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:20:24 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00550 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:19:36 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXOZG0G004M6I@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:24:00 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:23:58 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #342
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSTXP1L6A004M6I@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXGE9M8004HFT@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:23:47 -0500 (CDT)
Received: by mail.ucsd.edu; id WAA16807 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:29 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id WAA16789 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:27 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 22:39:24 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #342
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240539.WAA16789@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 342

Today's Topics:
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 05:35:59 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--AAA08421.814512959/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 00:35:58 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--AAA08421.814512959/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id AAA08419 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 00:35:58 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id AAA00522 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 00:35:09 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSEJS7SW003PET@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:33 -0500 (CDT)
Date: Tue, 24 Oct 1995 00:39:32 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #341
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSSEJUCYQ003PET@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSE9PQ1C0049CZ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:18 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA10882 sendmail 8.6.12/UCSD-2.2-sun Mon,

23 Oct 1995 21:55:54 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA10839 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:55:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:55:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #341
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240455.VAA10839@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 341

Today's Topics:
Returned mail: Local configuration error
Want to filter out stupid radio station

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
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Date: 24 Oct 95 04:51:35 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA08149.814510295/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:51:34 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA08149.814510295/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA08147 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:51:34 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00481 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:50:46 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQUF1QG0004EUI@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:55:03 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:55:02 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #340
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSQUF458Y004EUI@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQU6KB2O004S2X@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:54:52 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA04516 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:36 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA04489 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:33 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:08:32 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #340
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240408.VAA04489@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 340

Today's Topics:
4CX1000 Prices?
Need Postscript to HP-GL Translator .. Suggestions ?
Returned mail: Local configuration error

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
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policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 22 Oct 1995 03:11:28 GMT
From: ab419@freenet.toronto.on.ca (Randie Kochals)
Subject: 4CX1000 Prices?

I am looking around for an Eimac 4CX1000a tube and was wondering
what the going price should be for new and used. If any of you
have seen for sale, or have recently bought one of these, let me
know what I should be prepared to pay.

Thanks

Date: 23 Oct 1995 21:59:07 GMT
From: daveb@buffnet.net (dave)
Subject: Need Postscript to HP-GL Translator .. Suggestions ?

Greetings,

In need of a translator that will convert poscript files to HP - GL (Laserjet 4L).
I'm hoping that someone knows of a freeware/shareware version that will do
the job.

Thanks

daveb@buffnet.net

Date: 24 Oct 95 04:04:57 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA07945.814507497/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:04:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu

554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA07945.814507497/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA07942 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:04:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00447 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:04:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7QBIGW003R6O@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:30 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:08:29 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #339
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSP7QD4CI003R6O@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7IHXI8004S4E@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:20 -0500 (CDT)
Received: by mail.ucsd.edu; id UAA22711 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:13 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id UAA22686 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:09 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 20:13:07 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #339
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240313.UAA22686@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 339

Today's Topics:
'95 Handbook problem, need email or phone reference
50MHz transmitter frequencies for UK
an HT from Hong Kong? (2 msgs)
Best motherboard for minimum rfi
Circuit diagram for a 100+ ft transmitter and receiver
Making labels from transparencies
Radio Control kits/plans
Returned mail: Local configuration error
Unwanted Fm station (1)
Want to jam stupid radio station

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 1995 21:06:12 GMT
From: psoper@encore.com (Pete Soper)
Subject: '95 Handbook problem, need email or phone reference

Hi folks,
I've plugged a lot of numbers into the R1 resistor equation of
the low-pass active filter design description in figure 16.54 on page
16.30 of the '95 "ARRL Handbook". I'm convinced that either the
equation is in error or I've lost my mind. In case it's the former problem
(or to get quickly to the latter), could somebody recommend how I can pursue
this with the ARRL? Is there a department to ask for on the phone (#?)
or an email address for this kind of query?
Please send me email direct if you can help, as postings to this
group are averaging 7-12 days to ooze through our news feed.
My problem is that the "[a^2 + 4b(K-1)]C2^2" subexpression results
in an attempt to take the square root of a negative value because this comes
out smaller than the "4bC1C2" subexpression subtracted from it. If I guess
that parentheses are missing and it should be written "([a^2 + 4b(K-1)]C2)^2"
I get the wrong result for the example values given. I can't come up with
a second guess :-)

Thanks,
Pete

Pete Soper (psoper@encore.com) KS4XG 1+ 919 481 3730, 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA grid FM05oq

---

Date: Mon, 23 Oct 1995 20:49:37 GMT
From: giles@wormwood.demon.co.uk (giles)
Subject: 50MHz transmitter frequencies for UK

I have recently passed my RAE and instead of lashing out on expensive equipment ,I am going to do some homebrew QRP projects together with appropriate instrumentation -- see Practical Transmitters for Novices. What I should like to know:

1) What are best channel frequencies for FM 50MHz? i.e. what rocks to choose?

2) In order to hear the 6M band I have built a converter to connect to my Kenwood R5000. I have tried to make a dipole but have no usable signals yet --- i think a higher antenna is called for. Has anyone any experience with the 50MHz to 28MHz converter a la Cirkit?

Giles G7VOF

Date: 21 Oct 1995 17:09:22 -0700
From: ad7k@bighorn.accessnv.com (Squeak Porray)
Subject: an HT from Hong Kong?

If you want my name just ask. (timhynde@ix.netcom.com) wrote:

: >to Hong Kong soon and am interested in shopping for an HT. What can
: you
: >advise me about:

: I'd save myselft the trouble and buy from a stateside distributor,

Comments from a "Stateside distributor", who has had experience both ways ...

If you buy a radio from someone you never saw before, and never expect to see again, all he is going to be interested in is getting your money out of your wallet and you on your way.

If you buy from a local (or regional) dealer, you are buying from someone who wants to see YOU happy, since he hopes that you will come back again and again, for all those accessories, mobile radios, antennas and the like that we hams always need to add to our collection.

If you bring in an oversees "Yaekenicostanco" radio, you will have NO US warranty - the American distributors warrant only those radios that they import, and quite possibly might not service them - they are completely within their rights to do so. There very well may be (as has been in the past) board or component differences between various versions of the radio destined for different countries, thus compounding the situation. (Some manufacturers have had up to five different versions of the same radio - with each version destined for a different market area, with different regulations.)

If you buy the radio from a local (or regional) dealer, you have someone you can go to with questions and problems ... but long-distance calls to Hong Kong to get answers to a question get expensive - to say nothing of "how do you ask someone how to program odd splits for repeaters into your new handy - when he is only really fluent, technically, in Chinese?"

I doubt that you will find any significant price differentials in buying in Hong Kong ... that was true years ago (I was there during the VietNam era), but not now, with the global economy/distribution situation now in existance. However, you can find real bargains in Hong Kong on things that are local-labor-intensive (like tailored suits for example).

Enjoy your trip ... take the tram to the top of Victoria Peak and let me know if the view is still as grand as it was on Christmas Day of 1972 ... and good luck to you!

Very 73,

"Squeak" Porray, AD7K
Manager, Amateur Electronic Supply/Las Vegas

ps: I hope you don't think I am touting just our company ... in the above, I speak for the Amateur Radio community in general, and I think that it speaks for all domestic Amateur Radio Dealers as well.

Date: Mon, 23 Oct 1995 18:50:11 GMT
From: rafaels@zimmer.CSUFresno.EDU (Rafael Solis)
Subject: an HT from Hong Kong?

In article <46b7s9$lmj@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (If you want my name just ask.) writes:
>
>>to Hong Kong soon and am interested in shopping for an HT. What can
>you
>>advise me about:
>
>
>I'd save myselft the trouble and buy from a stateside distributor, I've
>heard of guys buying overseas HF gear with features or bands not avail.
>in U.S but I've never heard of any great bargains. What you save by
>shopping Hong Kong may cost you quickly if you have a problem or need
>an accessory for the radio.
>
>I have a Kenwood Dual band HT and like it alot.
>
>73, Tim ka8ddz

I agree with Tim. I've been to HK several times on business trips and it is not worth the hassling of dealing with the salesmen over there (prices are not fixed and you have to deal, yes as in bargaining!). Also there is the problem of the warranty. I don't think any of the major brands (K,I,Y) honor warranties of any equipment bought

overseas. What I have bought though are accessories. Bring your AES
catalog to check the price differences. Some things are cheaper there
but others are around the same or even higher depending on the store.
Another suggestion is to get away from the Nathan Rd. stores, those
are usually overpriced.

Have fun in HK.

Rafael (KE6JSR)

Date: Mon, 23 Oct 1995 16:42:13 -0700
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Subject: Best motherboard for minimum rfi

Good point Paul. I have exactly the same thoughts but have experienced
just about the same level of noise with the modern boards as the old!

On 21 Oct 1995, Paul Erickson wrote:

> Has anyone done any comparisons to see which motherboards are best
> from an rfi point of view?? I am planning on replacing the board in
> my old AT, but my current experiences with my NEC multispeed
> (very noisy on 14mhz) are making me cautious about computer generated
> rfi. Any comments will be appreciated.
>
> cheers, Paul
> ve7cqk
> email: paul1@wizard.ucs.sfu.ca
>
>
>

Date: 23 Oct 1995 20:35:33 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Circuit diagram for a 100+ ft transmitter and receiver

Does anyone know where I could find a circuit diagram for a transmitter and
receiver that could go 100+ feet. One or two channel.

I would like to build one from scratch.

Thanks in advance

scottc@pegasus.cc.ucf.edu

Date: 23 Oct 1995 20:40:43 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Making labels from transparencies

>>Has anyone had experience making panel labels for projects using laser-
>>printed transparencies? With Word for Windows, I can align and print
>>very nice labels. The only problem is gluing them to a panel. Nothing I
>>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>>seems to stick. I assume the plastic is mylar.
>>

I would use clear contact paper over the laser quality print. Contact paper
is great for a lot of things and I've used it before

Date: Mon, 23 Oct 1995 21:12:20 GMT
From: bs872@FreeNet.Carleton.CA (Henry Ian Ross)
Subject: Radio Control kits/plans

If you want my name just ask. (timhynde@ix.netcom.com) writes:
> I would like to build a radio control transmitter and reciever for 6m.
> I have used several commercially available units for 72 MHz but it's
> time to really do it right.
>
> Anyone have plans or knowledge of RC for 6m. I am a builder but have
> never seen anything along those lines.
>
> Regards,
>
> Tim Hynde
> ka8ddz, Rochester MI

Tim,
Many years ago, I built a six-channel radio on 6M using a design
published as a series of articles by Radio Control Modeller (RCM)
magazine. If you can find some older issues circa 1970 or contact
RCM, they may be able to send you the information.

The radio is still running in a Soling 1M yacht that I race occasionally
at our yacht club.

Good luck.
Ian

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

Date: 24 Oct 95 03:08:56 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--WAA07620.814504136/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 22:08:54 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--WAA07620.814504136/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id WAA07618 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 22:08:54 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id WAA00391 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 22:08:06 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN9AF6N40042TV@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:29 -0500 (CDT)
Date: Mon, 23 Oct 1995 22:12:28 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #338
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSN9AHLGI0042TV@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN911VIO0041N6@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:17 -0500 (CDT)
Received: by mail.ucsd.edu; id TAA11405 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 19:22:18 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id OAA22698 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 14:13:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 14:13:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #338
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu

Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510232113.OAA22698@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 338

Today's Topics:
40m vertical - How to make?
AMSOFT SPAM
Anybody used Ramsey FX-440 for 9600?.Humm...
Changing Uniden mic wiring?
Help: Mod 440Mhz to Australian CB Possible?
Ladder Line .. how to make?
LED question (2 msgs)
LED question , correction!
PLL/VCO homebrew designs
Radio Shack Pro-51 Mod needed, Please!!!
Source of oil-filled paper electrolytics for Collins PS
Unwanted Fm station (1)
Unwanted Fm station (2)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 21 Oct 1995 14:01:44 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: 40m vertical - How to make?

In article <467mcf$e6m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>You need no
>>ground whatsoever with a halfwave vertical antenna.
>Don,
>
>Sorry to say so, bot you are wrong here. it is true, that the radiation
>resistance of a halfwave is higher, and hence losses induced by a poor
>ground in the vincinity of the antenna (no or little radials)
>is less than for a shorter antenna.
>
>But if you look into the problem of the radiation pattern, you will find,

>that it is also degraded above poor gound.

Sure, lossy *Earth* near an antenna is always a problem, so keep
your antennas well away from Earth, but that doesn't address his
comment. A halfwave antenna *does not require ground* to function.
It doesn't need it to act as a current mirror the way a quarterwave
does. A halfwave vertical is perfectly content to function properly
in *free space*. A quarterwave needs some sort of counterpoise.
That counterpoise *can* be Earth, but it doesn't have to be. Radials,
or a counterpoise wire, will work just as well, probably better
since they won't be as lossy as Earth.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 14:47:40 GMT
From: Jim Strohm <jstrohm@blazer.ucsd.edu>
Subject: AMSOFT SPAM

Bob:

I stand by my previous comment: SPAM-soft.

The gentlemen (NOT) at AMSOFT wisely chose to send their message to at least
ten newsgroups on this round of their shameless advertising. Regardless
of the value of the information they provide, their relentless SPAMMing
of the amateur radio radio newsgroups is unjustifiable and inexcusable.

There was a major SPAM attack from Amsoft the last time they had a new
CD release. And the time before that. AND the time before THAT! They
have an unfortunate history for alienating a lot of us and for wasting a lot
of bandwidth.

That you would support their activity says something about you -- not sure
what, exactly. But it's not in keeping with newsgroup's non-commercial charter.

If you are reading this, it's because I'm wasting bandwidth only on the
rec.radio.* newsgroup I read. And if you reply to my flaming diatribe,
you will do so only to this newsgroup, unless you choose to add groups.
Of course you understand how to add and remove groups from your To:
field in your newsreader. You DO understand how that works, don't you?

Jim N6OTQ
Standard disclaimer

Date: 21 Oct 1995 11:17:40 GMT
From: "J. Silva" <jsilva@zeus.ci.ua.pt>
Subject: Anybody used Ramsey FX-440 for 9600?.Humm...

>>Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
>>I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
>>packet, but nobody has actually been able to get it going quite right.

Some time ago I bought their kit. I found that the receiver suffered
from
many spurious responses which, given right (wrong?) packet frequency
would
make it pretty useless. I did get it to receive 9600 but had a pretty
strong signal to work with and didn't make any performance measurements
so
I can't really comment on the receive performance. The transmitter was
a
disaster! Because they have no shielding anywhere in the radio the
transmitter output got back into the PLL and the resultant signal
resembled
broadband noise. I wasted a lot of time trying to clean that up and
never
was successful. I believe that taking the time to build a good shield
around the PLL would have solved the problem but there are problems with
the board layout that make it a difficult thing to do. I did find a
few
minor design errors which resulted a very long (for 9600 packet) TR
turnaround time. They directly modulate the VCO, like most radios, so
the
transmitter will distort the signal. I never got far enough to worry
about
that.

A friend of mine bought one and had similar problems. Both of us wasted
a
good bit of money. Since then we have discovered the joys of converting
commercial (e.g., Motorola and GE) radios...they work!

My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Interessante ??? CT1DSJ

Date: Mon, 23 Oct 1995 13:37:08 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Changing Uniden mic wiring?

In article <Pine.CVX.3.91.951022183204.6724E-100000@gibbs.oit.unc.edu> Dale Castle
<dbcastle@gibbs.oit.unc.edu> writes:
>

> I have a Standard C508A and I just got a Uniden clip-on mic w/
>ear phone jack. When I plug it in, it keys the radio. The PTT button
>doesn't stop it. The mic sounds great. Can I change the wiring to make it
>work? (bought it used.) Thanks in advance for the help.

Dale, the C508A uses the same "leaky PTT" circuit as Icom/Yaesu/Radio Shack.
Mikes wired for those brands will work. I'm not familiar with the Uniden
mike, but here's roughly what the I/Y/RS circuit looks like:

```
-------------------------x----------------> TIP
| |
| / 2.2k Radio
(M) \
| / __
|-------------------------x----o o--------> RING
PTT
```

The mike (M) is actually a FET buffered electret powered from voltage
supplied by the radio. When you close PTT, the mike becomes powered
and the TIP voltage is pulled down by the resistor. The voltage
drop is sensed in the radio and causes it to go into transmit.
The resistor may vary between 2.2k (Yaesu standard) to 10k (Icom
standard). The Yaesu mikes work on either rig, though the audio
level will be a bit low on an Icom, but the Icom mikes won't always
key a Yaesu because they don't sink enough current. My C508A, and
most HTX-202s, don't care, they'll work with either.

It sounds like your Uniden mike uses a different scheme, but since
the audio sounds good, try just rewiring it so the PTT switch is
in series with the ground lead.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 07:25:48 GMT
From: Chris Arai <arai@rahul.net>
Subject: Help: Mod 440Mhz to Australian CB Possible?

I would like to know if it is possible to modify a 440Mhz hand held to
work well on the Australian CB band. I believe it is about 470 Mhz, but
I'm not sure. If anyone knows the answer to that question as well I
would appreciate it.

Thanks

Chris

arai@rahul.net

--
Chris Arai <arai@rahul.net>

Date: 21 Oct 1995 04:14:57 GMT
From: ted <ted@ihnp4.ucsd.edu>
Subject: Ladder Line .. how to make?

Ron and Drew...

.. I remember seeing ladder line where the spacers were made from old
BIC byros (body), if you are going for 2" spacing then a each byro will provide
2 spacers (or a byro per 4' of line - roughly).

Just might save you a bit of sawing... rest of the method the same.

73 Ted VK1BL.

ejg@acslink.net.au

Date: Sat, 21 Oct 1995 14:25:20 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <469kcl$3es@bcfreenet.seflin.lib.fl.us> d010421c@dcfreenet.seflin.lib.fl.us
(Ken Becker) writes:
>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

Ok, lets do some calculations. The original circuit had a 240 ohm
resistor. For 20 ma of diode current, the voltage feeding the
resistor needs to be

E=0.02*240+1.6 = 6.4 volts

and the resistor power dissipation is

P=.02*4.8 = 0.096 watts

So a half-watt resistor offers a comfortable safety margin.
But if the voltage is 50 volts, then we have a power dissipation
in the resistor of

P=48.4^2/240 = 9.76 watts

A half-watt resistor is going to go *poof*, as it indeed did.
So either the value of the original resistor was *not* 240 ohms,
or the design voltage is *not* 50 volts.

Now you replaced the resistor with a 2500 ohm resistor, so the
power dissipation of that resistor would be

P=48.4^2/2500 = 0.937 watt

A 5 watt resistor would be about right to provide an adequate
safety margin. (You never want to run a resistor at its power
dissipation limit, it'll run about 100 C at that power level.)

But the original resistor was a half-watt unit, indicating a
design dissipation of 1/10th watt or less. Clearly something
is wrong here. I'd suspect it's the 50 volts. Are you *sure*
it's *supposed* to be 50 volts?

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:12:54 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <46f3u3$7m0@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>With 50V as a supply, you are essentially looking for a current
>limiter. The original 240 Ohms was the correct value but it would be
>dissipating about 20 mA x 50V = 1,000 mW or 1W. No wonder it burned
>out. The current to the LED is not so critical but what you could use
>a 220 or 270 Ohm 2W resistor.

Better run that calc again. You slipped a decimal. That's *50* volts,
not *5.0* volts he's saying. A 220 to 270 ohm resistor would be
correct for *5.0* volts. You got the power right though, a *2400*
ohm resistor would dissipate about 1 watt (actually 0.976 watt).
And that's too much for a half watt part. Either the voltage is
supposed to be much lower, or there's supposed to be something
else in the circuit acting as a current limiter besides the
240 ohm half watt resistor in there originally.

Gary
--

Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:19:03 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question , correction!

In article <46f4g5$6u2@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>
>Sorry, I screwed up. I should not answer questions when I am half
>asleep. You are looking for a current limiter but 50V/20mA makes about
>a 2.5K resistor and the dissipation is about 1W. When the 1/2 W
>resistor "smokes" the red turns brown on the color code, so it
>probably was not 240 Ohms. Use a 2W 2.2K or 2.7K. My apologies if my
>prior posting 5 minutes ago caused any problems.

And my apologies for posting a correction before reading your correction.
We're all singing out of the same hymn book now though. I'm beginning to
suspect a fault in another part of the circuit. Obviously, even if the
original resistor were 2400 ohms and a color band turned when it smoked,
that still doesn't address the fact that it was a *half watt resistor*.
There's got to be something else in the circuit that's supposed to limit
current. *That's* the part that probably failed and took the resistor
with it, and is still causing new resistors to smoke.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 19 Oct 95 20:15:04 EST
From: hduff@humnet.humberc.on.ca
Subject: PLL/VCO homebrew designs

>
> In article <801523937403@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
> >"This is one of those projects where anyone who knows enough about the
> >technology to know what is involved" ...would know that bypassing the
> >multiplication stages in the radio and just generating the highest
> >and closest to the operating frequency with the PLL/VCO would be best
> >approach (which IS indeed the way it is going to be done).
>
> Yes, I do know that. I designed a marine radio that worked that way
> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
> >through a bandpass filter, spurs are not an big issue.
>
> That's a good architecture, but it exceeds the frequency range of the '157.

Hmmm...mine's working at 26 MHz !!
Maybe this is pushing it to its limit.

In the search for more of these parts we have discovered that it *MAY*
be a discontinued item. We are considering trying out
the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

>
> >You might want to brush up on your personability skills...
> >"...simple minded synthesizer..." and your approach in general ceratinly
> >don't contribute positively to the spirit of homebrewing !
> >
> >Hugh Duff VA3TO Toronto

>
> Well, sorry, but what you are talking about *is* a simple minded synthesizer.

What is simple minded about a PLL/Loop Filter/VCO when properly
designed ? I didn't intend on building up some half-assed "well, it
kinda works" board. That was the intent of the original post...tell me
what I need to know and/or HELP me design a solid performer !
If you don't want to get involved in a positive way, say nothing !
Perhaps I'm being a bit anal retentive but the net seems to be full
of the "I can tell you you're wrong but I can't tell you how to
do it right" types.

I suggest that your delivery is somewhat abrasive...try having some
compassion for those of us who are attempting to learn. Nothing is more
of a turnoff than having someone who comes off like a "know-it-all"

burst your ballon. Albeit, you may know your stuff *BUT* your delivery
needs some honing.

> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
> people from endless frustration. (BTW, another poster suggested a DDS;
> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

The only frustration so far has been the negativity expressed by
yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph
exhibits somewhat of a kinder approach...more of what I was expecting.)

...is beyond me. Maybe you have a fat head. (It sounds like it...
"If you want to see a sophisticated one, read my...")
Ya, you're cool !

Keep in mind that this newsgroup is the Ham Radio Homebrewing
conference...hobbiests, many of whom are interested to learn,
myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

~ NFX v1.3 [000]

--

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Date: 23 Oct 1995 02:01:09 -0400
From: aviator270@aol.com (Aviator270)
Subject: Radio Shack Pro-51 Mod needed, Please!!!

Does anyone know how to open the freqs on the RS pro-51?
If its not possible please let me know.

Thanks in advance!!

Date: Mon, 23 Oct 1995 13:36:25 GMT
From: glheller@ix.netcom.com
Subject: Source of oil-filled paper electrolytics for Collins PS

Am in need of these caps for both my Collins S-Line and my KWM-2 power supplies. The ones in the power supplies are dried out and need to be replaced.

Would like to know the name of any electronic suppliers that handle this type of capacitor. Prefer a direct replacement.

Thanks in advance.

Gil Heller

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (1)

to: all
A question was asked by kennedy@aol.com

>>I live in the country. Too bad, right? My favorite FM stereo
>>station is 100 miles away on 102.1 FM. The problem is an
>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.

One of the other replies suggested a bigger antenna pointed at the distant station. That would certainly help make sure you have enough signal. If the difference in directions to the two stations is near 90 degrees you will pick up some additional reduction in signal strength of the offending station due to reduced pickup off the side of the beam. If you ever looked at pictures of antenna patterns in the ARRL Handbook, you'll see that large antennas have maximum pickup in the desired (forward) direction and lots of sharp little points of pickup in the undesired (side and back) directions. Finding a null can give a 20 dB (1/10th) reduction (or more) in signal strength.

Ideally what you want to do is put one of the side lobe NULLS right on the offending station even if you have to point slightly away from the desired station. You might be able to see this happen if you disconnect the antenna from the receiver and just place the coax cable near the terminals as you turn the antenna. Can't guarantee anything but it might work. The better way is to use a high value attenuator between the coax and the radio. Adjust the attenuator for a weak but readable signal on the receiver meter. Then turn the antenna until the signal strength meter on the radio shows as low as possible on the offending

station. This gets you the LEAST offending signal possible.

Assuming just changing one antenna isn't enough to fix your problem, I don't think you'll have any luck at all trying to find any standard filter to reduce a signal only 800 KHz away. The next option is to use a second antenna pointed at the offending station and mount the antenna so the signal it brings into the receiver is 180 degrees out of phase with the first antenna. The closer you can get to exactly opposite phase, the more signal will be reduced. Have you ever heard the flutter of multipath on a station? That is what we are trying to do here.

The second antenna can be much smaller than the main antenna because the station is so close. This will not be easy because you have to match not only the signal phase to cancel but also the signal strength. Start by using the attenuator with the receiver and first antenna to try getting a known signal level on the offending station. Next connect the second antenna in place of the first and use another attenuator or extra length of coax (100's of feet) or maybe just a resistor short at the antenna until you have reduced the signal strength to match the first antenna.

Once the signal strengths are egual, connect BOTH antennas to the receiver at the same time using a 2 way splitter/combiner. Now you begin moving the second antenna around until the offending signal is at minimum. That is the position for maximum cancelation. How far do you have to move it? Well, figure the wavelength of the signal. A half wave is about 495/frequency so a full wave length would be 2*495/106 = 9.3 feet. So somewhere along a line from the first antenna toward the offending station, within a ten foot distance, you should find a null. This doesn't mean you have to be within 10 feet of the first antenna, just a 10 foot movement somewhere in the direction of the offending station. You probably should keep the second antenna ten feet away from the first antenna just to reduce antenna pattern changes since you just got done carefully pointing the first antenna.

Another method of cancelling the signal is by changing the length of the coax from the second antenna to the receiver, because changing the length is just like moving the antenna. Now, the wavelength in coax is shorter than the wavelength in air. This is called the velocity factor of the coax cable. Most foam coax has a velocity factor of around 80%. This means that 10 feet in air is only 8 feet in the coax. So, somewhere in 8 feet of cable is the exact length you need to cancel the offending station. If you choose this method, all you can do is cut off the cable a little bit at a time until you have minimum signal from the offending station. I've never tried this myself so I don't know how small of cuts you should make so you don't go past the null. I'd just figure you'll start with an extra 20 feet of cable and start cutting maybe 6 inches at a time. I assume you'll be able to hear multipath distortion of the signal as you get closer to the right length and can start making smaller cuts.

It is my understanding that this basic technique is frequently used in commercial broadcast radio where they may have similar problems. I understand they use more of a tuneable (low pass?) filter of some sort to adjust the phase shift instead of cutting the coax. This phase cancellation technique is the only one I've ever heard of that might do you any good. The only other options involve replacing the receiver with something much more expensive, designed for extremely high signal overload and superb IF bandwidth filtering. I've never heard of such a receiver but I'm sure they exist if you have a LOT of money.

I really don't have much hope that anything is going to let you receive your desired station. With 50 KW only 5 miles away, everything in your
--==<<< Continued next message >>>==--

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (2)

--==<<< Continued from previous message >>>==--
area is going to bouce some of the signal into the first antenna. The more random signals you have bouncing around, the less likely you'll be able to null out the offending station. Good luck.

73's.

Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

* SLMR 2.1a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

---

End of Ham-Homebrew Digest V95 #338
****

--WAA07620.814504136/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 1995 13:29:37 GMT
From: wrt@eskimo.com (Bill Turner)
Subject: Unwanted Fm station (1)

>the undesired (side and back) directions. Finding a null can give a
>20 dB (1/10th) reduction (or more) in signal strength.

Nitpick mode ON:

20 dB is a 100:1 power reduction. 10 dB is 10:1.

Date: 23 Oct 1995 18:41:28 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: Want to jam stupid radio station

In article <46b6ur$59u@ixnews2.ix.netcom.com>,
>writes:
>>
>>Is this possible? I'd only want to jam one particular signal in a
>>small area. I don't know if this'll help me pick up the station I
>>like,>which happens to be right next to it, but I'd like to jam it
>>just out of spite. And yes, I'm sure the FCC isn't going to approve.
>> Stan Kwong
>

When I was in college, I had a vacuum tube operated FM clock radio.
I discovered that the LO radiation on it was so bad that it would
wipe out radios in my dorm room or next door if it was tuned 10.7
MHz. lower in frequency. I had lots of fun silencing my roommates'
(and neighbor's) radios when they listened to music I didn't like.
They never figured out what hit them!

Rick Karlquist
rkarlqu@scd.hp.com

End of Ham-Homebrew Digest V95 #339
****

--XAA07945.814507497/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #340
****

--XAA08149.814510295/ooz.backbone.uoknor.edu--

Date: 23 Oct 1995 18:41:30 GMT
From: ez041502@dale.ucdavis.edu (Psyber)
Subject: Want to filter out stupid radio station

I posted before about jamming a radio station. I wasn't that
serious. I just wanted to express my intense dislike of "young"
country. (I won't call it music, that'd be giving it too much credit.)
I have since gotten advice to ask about how to filter out the hated
station or to get a "more selective receiver". Now does anyone have any
more information on these perfectly legal solutions?
Stan Kwong

End of Ham-Homebrew Digest V95 #341
****

--AAA08421.814512959/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #342
****

--BAA08677.814515626/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 95 15:07:45 PDT
From: Jay Wicklund <jwicklun@mail1.halcyon.com>
Subject: Want: COIL winding machine

In article <1995Oct23.100446.1@netnews.wku.edu>,
<scottcr@wkuvx1.wku.edu> writes:
>
> I am looking for a coil-winding machine. Large or small, motor
driven
> or manual,
>
> What do you have?
>
> Thanx, Chris
>
> WB9NEQ Bowling Green, KY
>
> --
> Chris.Scott@WKU.EDU Chief Engineer, Public Radio- Western KY U
> Telco: (502) 745-3834 Hm & Fax: (502)
781-1232
> ....just another insignificant VAX user. \\\//
> (o o)
>
----------ooO-(_)-Ooo----------

>
You know, I'd like to find one of those too. When I was first
starting out in electronics (we won't go into how many decades ago
that was), I had a simple little cam driven coil winder that was a
lot of fun. Don't know what happened to it, but would love to find
something similar at a hamfest or something.....

73 de KI7RH (Jay)
jwicklun@halcyon.com

End of Ham-Homebrew Digest V95 #343
****

--BAA08828.814517021/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #344
****

--CAA08959.814519038/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #345
****

--CAA09112.814520673/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #346
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--DAA09282.814522737/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #347
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--EAA09692.814527612/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #348
****

--FAA09872.814529363/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #349
****

--FAA09990.814531028/ooz.backbone.uoknor.edu--

4877. Re: Balanced Line Microphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <46isci$5ta@detroit.freenet.org>
Source record: 110038

Balanced feed microphones are outputed by an internal transformer
with an impedance of 150 ohms (nominal). A separate ground shield
that also connects to the mike case, makes the third connection.
For matching reasons, (and certainly for RF shielding also), use
an XLR (the type of connector usually used for balanced mikes) to
Unbalanced in-line transformer. As mentioned, R/S does have one
available. Some low impedance balanced mikes , included some
R/S have offered, alllow an internal connection to provide for
an unbalanced output, but this may not be the proper impedance
for your use.
--

4878. Re: LIGHTINING * HELP *

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: mike <slmusr03@MBnet.MB.CA>
Message-ID: <Pine.SUN.3.91.951024094219.11640B-100000@access.mbnet.mb.ca>
Source record: 110039

On Sun, 22 Oct 1995, Gary Coffman wrote:

> You're right to be alarmed. Lightning can be a great hazard if station
> layout isn't done properly to guard against it. But if the proper steps
> are taken you can even continue to operate during direct strikes. Those
> steps may be extreme in some cases, but it can be, and is, routinely
> done in the broadcast field.
>

In the Amateur Radio field, chances are very very high that operating during a direct strike will more or less kill you, along with all your equipment, regardless of the protection you have invested in. Even if you have 4 or so 8' copper rods pounded into the ground, lightning arrestors or gaps that are connected to the rods through HYDRO wire, etc.

Don't operate your station during a severe lightning storm. Disconnect all your radio equipment including other equipment in the vicinity of your radio equipment. By disconnect, I mean UNPLUG power cables from the mains, and UNPLUG antenna cables. You can go further and ground the termination of the antenna cable.

Even a good ground system will not protect you from a direct strike, cause all you need is a little trickle past the system to do the damage.

I'm not kidding...

Mike
VE4KLM

| SLM Software Inc. |
| slmusr03@SLMSoft.CA |

4879. Re: '95 Handbook problem (problem solved)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: psoper@encore.com
Message-ID: <DGyK6D.Dxy@encore.com>
Source record: 110040

Yesterday I wrote about a problem with making a program for low pass
filter design. I thought there was an error in one of the equations I
based the program on. Email from SABINW@CRPL.CEDAR-RAPIDS.LIB.IA.US
indicates the Handbook equations came from "ITT Handbook", page 10-3,
6th ed 1975 and are accurately copied in the ARRL Handbook. This
gentleperson also had no problem with the example values using "Mathcad"
except that the calculated values don't actually match the Handbook example
(but they are close). My results for all but R1 matched SABIN's exactly.

But here's what the problem is. Some of you folks familiar with floating
point implementations on computers may get a chuckle out of this.

The subexpression with the problem looks like this:

sqrt((X * C2 ^2) - Y)

That is, the square root of X times C2 squared minus Y. The squaring of
C2 is done by multiplying it by itself, not with a power function. This gave
me a domain error because a negative value was being presented to the
computer's square root function. After reading SABIN's mail, I went back
for one more look at my program and by chance futzing rewrote the expression
like this:

sqrt((X * C2 * C2) - Y)

This works! You readers used to perfect math implementations might be pretty
annoyed to find that "X * (C2*C2)" is not the same as "X * C2 * C2" on a
computer. But the float hardware I'm using does produce a *very very small*
difference in results. This tiny difference means that in the OK
case the product comes out to the same value as Y and so the square root gets a
zero argument. In the failing case it gets a very, very small negative value as
an argument because the product is larger than Y.

So no need to bother the ARRL about this one and I can get on with what it was
I was doing to start with.

Regards,
Pete

Pete Soper (psoper@encore.com) KS4XG 1+ 919 481 3730, 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA grid FM05oq

4880. New Weather Satellite Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: wowee@msn.com
Message-ID: <00001fee+00000c08@msn.com>
Source record: 110041

Hello fellow electronics enthusiasts!

Being an engineer at Ramsey Electronics has put me in an exiting position to bring fun to build and use electronic kits to electronic hobbyists such as myself. Can you believe that I am performing a job that is my hobby as well? (Amazing!) Well, because kit building is my hobby, it turns out that in creating them, we come up with some really cool ideas for products that we would like to build ourselves. My newest, and Ramsey's latest is the Weather Satellite Receiver system. Yes, there are other satellite receivers out there, but how many are kits?

After virtually a year of work on the hardware and the software, I am proud to present an easy to use APT (automatic picture transmission) satellite system. Much work has gone into creating an easy to build electronic kit with clear and concise directions of putting it together, as well as a simple to use and understand graphical interface on the software. We have decided to remove most of the "bells and whistles" out of the program to make it easier for students and inexperienced computer users to learn and use.

Ramsey Electronics is now offering this kit which includes five major parts as follows:

1. Weather satellite antenna - A simple to assemble turnstile antenna system for receiving satellites from horizon to horizon.

2. Antenna Pre-amplifier - A mast mounted RF-Amplifier designed especially for the purpose of weather satellite transmissions. It is powered remotely from the Weather Satellite Receiver through the transmission line.

3. Weather satellite receiver (WSR-1A) - A wide band FM receiver operating around 137.5MHz.

4. Weather satellite decoder board (SD-24) - A "Smart Card" PC interface board that digitizes the signal from the WSR-1A at a very accurate sample rate.

5. Imaging Software (Weather Viewer) - A graphical program written exclusively for the weather satellite systems. It combines the commands most commonly used for satellite image enhancement into one package.

For more information on this subject e-mail me at the following address, and I will send you some technical information and also a sample image taken from a tape recording. This image will demonstrate

how well the satellite decoder card locks onto and aligns the satellite signals.

Yours sincerely;

Mark Wyman

WOWEE@MSN.COM

4881. Re: Radio Control kits/plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: bs872@FreeNet.Carleton.CA
Message-ID: <DGyMnu.Ett@freenet.carleton.ca>
Source record: 110042

snip ---
> Many years ago, I built a six-channel radio on 6M using a design
> published as a series of articles by Radio Control Modeller (RCM)
> magazine. If you can find some older issues circa 1970 or contact
> RCM, they may be able to send you the information.

Tim,
I checked my copy - the issues of RCM are April 1968 to January 1969.

Hope this helps ...
Ian

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

4882. Re: Modulation transformer question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDGynv8.Ev9@netcom.com>
Source record: 110043

in <46g8j4$asj@newsstand.cit.cornell.edu>, Joel Govostes wrote:
: I'm interested in building a low-power AM transmitter for 75/40 meters.
: I have access to the needed tubes, but need to know: Is there a source
: for new or operational modulation transformers, as would be used in this
: case? I don't recall this type of thing appearing in parts catalogs
: anymore. Thanks N1AEP

You could use an output transformer for a tube audio amp, and feed it
backwards" with a low impedance solid state audio amp. Make sure
that the one you find can deal with the DC current needed. Most high
powered audio amp output transformers would be push pull and in their
normal operation the DC would balance out.

Or you could use the autotransformer trick used in the 160 meter rig in
the 1968 ARRL handbook. This is where you only use the primary of an
output transformer. One side goes to the final's power, the other side
to a single ended audio output, and the power goes to the center tap.

Or you could try winding your own. Try finding "Practical Transformer
Design Handbook" by Lowdon.

Or you could skip the transformer. Some of the later tube AM broadcast
band transmitters use a cathode follower modulation stage totem poled on
top of the final. (In that case, power dissipation is kept down by
driving the audio stage with a 70 kHz pulse width modulated signal.
Some serious filtering is needed between this stage and the RF final.)

Or use screen grid modulation.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

4883. Pete Soper's ARRL HB calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <46j677$nsa@flood.weeg.uiowa.edu>
Source record: 110044

I have had the same problem that certain PC's had difficulty with
such things as X^2 and needed X*X to get the job done.

4884. Returned mail: Local configuration error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199510240451.XAA08149@ooz.backbone.uoknor.edu>
Source record: 110045

```
This is a MIME-encapsulated message

--XAA08149.814510295/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:51:34 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA08149.814510295/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA08147 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:51:34 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00481 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:50:46 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQUF1QG0004EUI@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:55:03 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:55:02 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #340
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSQUF458Y004EUI@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQU6KB2O004S2X@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:54:52 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA04516 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:36 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA04489 sendmail 8.6.12/UCSD-2.2-sun Mon,
```

23 Oct 1995 21:08:33 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:08:32 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #340
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240408.VAA04489@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 340

Today's Topics:
4CX1000 Prices?
Need Postscript to HP-GL Translator .. Suggestions ?
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 22 Oct 1995 03:11:28 GMT
From: ab419@freenet.toronto.on.ca (Randie Kochals)
Subject: 4CX1000 Prices?

I am looking around for an Eimac 4CX1000a tube and was wondering
what the going price should be for new and used. If any of you
have seen for sale, or have recently bought one of these, let me
know what I should be prepared to pay.

Thanks

Date: 23 Oct 1995 21:59:07 GMT
From: daveb@buffnet.net (dave)
Subject: Need Postscript to HP-GL Translator .. Suggestions ?

Greetings,

In need of a translator that will convert poscript files to HP - GL (Laserjet 4L).
I'm hoping that someone knows of a freeware/shareware version that will do
the job.

Thanks

daveb@buffnet.net

Date: 24 Oct 95 04:04:57 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA07945.814507497/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:04:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA07945.814507497/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA07942 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:04:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00447 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:04:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7QBIGW003R6O@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:30 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:08:29 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #339
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSP7QD4CI003R6O@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7IHXI8004S4E@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:20 -0500 (CDT)
Received: by mail.ucsd.edu; id UAA22711 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:13 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id UAA22686 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:09 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 20:13:07 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #339
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240313.UAA22686@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 339

Today's Topics:
'95 Handbook problem, need email or phone reference
50MHz transmitter frequencies for UK
an HT from Hong Kong? (2 msgs)
Best motherboard for minimum rfi
Circuit diagram for a 100+ ft transmitter and receiver
Making labels from transparencies
Radio Control kits/plans
Returned mail: Local configuration error
Unwanted Fm station (1)
Want to jam stupid radio station

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 1995 21:06:12 GMT
From: psoper@encore.com (Pete Soper)
Subject: '95 Handbook problem, need email or phone reference

Hi folks,
I've plugged a lot of numbers into the R1 resistor equation of
the low-pass active filter design description in figure 16.54 on page
16.30 of the '95 "ARRL Handbook". I'm convinced that either the
equation is in error or I've lost my mind. In case it's the former problem
(or to get quickly to the latter), could somebody recommend how I can pursue
this with the ARRL? Is there a department to ask for on the phone (#?)
or an email address for this kind of query?
Please send me email direct if you can help, as postings to this
group are averaging 7-12 days to ooze through our news feed.
My problem is that the "[a^2 + 4b(K-1)]C2^2" subexpression results
in an attempt to take the square root of a negative value because this comes
out smaller than the "4bC1C2" subexpression subtracted from it. If I guess
that parentheses are missing and it should be written "([a^2 + 4b(K-1)]C2)^2"
I get the wrong result for the example values given. I can't come up with
a second guess :-)

Thanks,
Pete

Pete Soper (psoper@encore.com) KS4XG 1+ 919 481 3730, 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA grid FM05oq

---

Date: Mon, 23 Oct 1995 20:49:37 GMT
From: giles@wormwood.demon.co.uk (giles)
Subject: 50MHz transmitter frequencies for UK

I have recently passed my RAE and instead of lashing out on expensive
equipment ,I am going to do some homebrew QRP projects together with
appropriate instrumentation -- see Practical Transmitters for
Novices. What I should like to know:

1) What are best channel frequencies for FM 50MHz? i.e. what rocks to
choose?

2) In order to hear the 6M band I have built a converter to connect
to my Kenwood R5000. I have tried to make a dipole but have no usable
signals yet --- i think a higher antenna is called for. Has anyone any
experience with the 50MHz to 28MHz converter a la Cirkit?

Giles G7VOF

Date: 21 Oct 1995 17:09:22 -0700
From: ad7k@bighorn.accessnv.com (Squeak Porray)
Subject: an HT from Hong Kong?

If you want my name just ask. (timhynde@ix.netcom.com) wrote:

: >to Hong Kong soon and am interested in shopping for an HT. What can
: you

: >advise me about:

: I'd save myselft the trouble and buy from a stateside distributor,

Comments from a "Stateside distributor", who has had experience both ways ...

If you buy a radio from someone you never saw before, and never expect to see again, all he is going to be interested in is getting your money out of your wallet and you on your way.

If you buy from a local (or regional) dealer, you are buying from someone who wants to see YOU happy, since he hopes that you will come back again and again, for all those accessories, mobile radios, antennas and the like that we hams always need to add to our collection.

If you bring in an oversees "Yaekenicostanco" radio, you will have NO US warranty - the American distributors warrant only those radios that they import, and quite possibly might not service them - they are completely within their rights to do so. There very well may be (as has been in the past) board or component differences between various versions of the radio destined for different countries, thus compounding the situation. (Some manufacturers have had up to five different versions of the same radio - with each version destined for a different market area, with different regulations.)

If you buy the radio from a local (or regional) dealer, you have someone you can go to with questions and problems ... but long-distance calls to Hong Kong to get answers to a question get expensive - to say nothing of "how do you ask someone how to program odd splits for repeaters into your new handy - when he is only really fluent, technically, in Chinese?"

I doubt that you will find any significant price differentials in buying in Hong Kong ... that was true years ago (I was there during the VietNam era), but not now, with the global economy/distribution situation now in existance. However, you can find real bargains in Hong Kong on things that are local-labor-intensive (like tailored suits for example).

Enjoy your trip ... take the tram to the top of Victoria Peak and let me know if the view is still as grand as it was on Christmas Day of 1972 ... and good luck to you!

Very 73,

"Squeak" Porray, AD7K
Manager, Amateur Electronic Supply/Las Vegas

ps: I hope you don't think I am touting just our company ... in the above, I speak for the Amateur Radio community in general, and I think that it speaks for all domestic Amateur Radio Dealers as well.

Date: Mon, 23 Oct 1995 18:50:11 GMT
From: rafaels@zimmer.CSUFresno.EDU (Rafael Solis)
Subject: an HT from Hong Kong?

In article <46b7s9$lmj@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (If you want my name just ask.) writes:
>
>>to Hong Kong soon and am interested in shopping for an HT. What can
>you
>>advise me about:
>
>
>I'd save myselft the trouble and buy from a stateside distributor, I've
>heard of guys buying overseas HF gear with features or bands not avail.
>in U.S but I've never heard of any great bargains. What you save by
>shopping Hong Kong may cost you quickly if you have a problem or need
>an accessory for the radio.
>
>I have a Kenwood Dual band HT and like it alot.
>
>73, Tim ka8ddz

I agree with Tim. I've been to HK several times on business trips and it is not worth the hassling of dealing with the salesmen over there (prices are not fixed and you have to deal, yes as in bargaining!). Also there is the problem of the warranty. I don't think any of the major brands (K,I,Y) honor warranties of any equipment bought overseas. What I have bought though are accessories. Bring your AES catalog to check the price differences. Some things are cheaper there but others are around the same or even higher depending on the store. Another suggestion is to get away from the Nathan Rd. stores, those are usually overpriced.

Have fun in HK.

Rafael (KE6JSR)

Date: Mon, 23 Oct 1995 16:42:13 -0700
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Subject: Best motherboard for minimum rfi

Good point Paul. I have exactly the same thoughts but have experienced just about the same level of noise with the modern boards as the old!

On 21 Oct 1995, Paul Erickson wrote:

> Has anyone done any comparisons to see which motherboards are best
> from an rfi point of view?? I am planning on replacing the board in
> my old AT, but my current experiences with my NEC multispeed
> (very noisy on 14mhz) are making me cautious about computer generated
> rfi. Any comments will be appreciated.
>

> cheers, Paul
> ve7cqk
> email: paul1@wizard.ucs.sfu.ca
>
>
>

Date: 23 Oct 1995 20:35:33 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Circuit diagram for a 100+ ft transmitter and receiver

Does anyone know where I could find a circuit diagram for a transmitter and
receiver that could go 100+ feet. One or two channel.

I would like to build one from scratch.

Thanks in advance

scottc@pegasus.cc.ucf.edu

Date: 23 Oct 1995 20:40:43 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Making labels from transparencies

>>Has anyone had experience making panel labels for projects using laser-
>>printed transparencies? With Word for Windows, I can align and print
>>very nice labels. The only problem is gluing them to a panel. Nothing I
>>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>>seems to stick. I assume the plastic is mylar.
>>

I would use clear contact paper over the laser quality print. Contact paper
is great for a lot of things and I've used it before

Date: Mon, 23 Oct 1995 21:12:20 GMT
From: bs872@FreeNet.Carleton.CA (Henry Ian Ross)
Subject: Radio Control kits/plans

If you want my name just ask. (timhynde@ix.netcom.com) writes:
> I would like to build a radio control transmitter and reciever for 6m.
> I have used several commercially available units for 72 MHz but it's
> time to really do it right.
>
> Anyone have plans or knowledge of RC for 6m. I am a builder but have
> never seen anything along those lines.
>
> Regards,
>

> Tim Hynde
> ka8ddz, Rochester MI

Tim,
Many years ago, I built a six-channel radio on 6M using a design
published as a series of articles by Radio Control Modeller (RCM)
magazine. If you can find some older issues circa 1970 or contact
RCM, they may be able to send you the information.

The radio is still running in a Soling 1M yacht that I race occasionally
at our yacht club.

Good luck.
Ian

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

Date: 24 Oct 95 03:08:56 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--WAA07620.814504136/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 22:08:54 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--WAA07620.814504136/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id WAA07618 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 22:08:54 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id WAA00391 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 22:08:06 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu

(PMDF V4.3-13 #7521) id <01HWSN9AF6N40042TV@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:29 -0500 (CDT)
Date: Mon, 23 Oct 1995 22:12:28 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #338
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSN9AHLGI0042TV@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN911VIO0041N6@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:17 -0500 (CDT)
Received: by mail.ucsd.edu; id TAA11405 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 19:22:18 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id OAA22698 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 14:13:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 14:13:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #338
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510232113.OAA22698@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 338

Today's Topics:
40m vertical - How to make?
AMSOFT SPAM
Anybody used Ramsey FX-440 for 9600?.Humm...
Changing Uniden mic wiring?
Help: Mod 440Mhz to Australian CB Possible?
Ladder Line .. how to make?
LED question (2 msgs)
LED question , correction!
PLL/VCO homebrew designs
Radio Shack Pro-51 Mod needed, Please!!!
Source of oil-filled paper electrolytics for Collins PS
Unwanted Fm station (1)
Unwanted Fm station (2)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 21 Oct 1995 14:01:44 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: 40m vertical - How to make?

In article <467mcf$e6m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>You need no
>>ground whatsoever with a halfwave vertical antenna.
>Don,
>
>Sorry to say so, bot you are wrong here. it is true, that the radiation
>resistance of a halfwave is higher, and hence losses induced by a poor
>ground in the vincinity of the antenna (no or little radials)
>is less than for a shorter antenna.
>
>But if you look into the problem of the radiation pattern, you will find,
>that it is also degraded above poor gound.

Sure, lossy *Earth* near an antenna is always a problem, so keep
your antennas well away from Earth, but that doesn't address his
comment. A halfwave antenna *does not require ground* to function.
It doesn't need it to act as a current mirror the way a quarterwave
does. A halfwave vertical is perfectly content to function properly
in *free space*. A quarterwave needs some sort of counterpoise.
That counterpoise *can* be Earth, but it doesn't have to be. Radials,
or a counterpoise wire, will work just as well, probably better
since they won't be as lossy as Earth.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 14:47:40 GMT
From: Jim Strohm <jstrohm@blazer.ucsd.edu>
Subject: AMSOFT SPAM

Bob:

I stand by my previous comment: SPAM-soft.

The gentlemen (NOT) at AMSOFT wisely chose to send their message to at least
ten newsgroups on this round of their shameless advertising. Regardless
of the value of the information they provide, their relentless SPAMMing
of the amateur radio radio newsgroups is unjustifiable and inexcusable.

There was a major SPAM attack from Amsoft the last time they had a new
CD release. And the time before that. AND the time before THAT! They
have an unfortunate history for alienating a lot of us and for wasting a lot
of bandwidth.

That you would support their activity says something about you -- not sure
what, exactly. But it's not in keeping with newsgroup's non-commercial charter.

If you are reading this, it's because I'm wasting bandwidth only on the
rec.radio.* newsgroup I read. And if you reply to my flaming diatribe,
you will do so only to this newsgroup, unless you choose to add groups.
Of course you understand how to add and remove groups from your To:
field in your newsreader. You DO understand how that works, don't you?

Jim N6OTQ
Standard disclaimer

Date: 21 Oct 1995 11:17:40 GMT
From: "J. Silva" <jsilva@zeus.ci.ua.pt>
Subject: Anybody used Ramsey FX-440 for 9600?.Humm...

>>Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
>>I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
>>packet, but nobody has actually been able to get it going quite right.

Some time ago I bought their kit. I found that the receiver suffered
from
many spurious responses which, given right (wrong?) packet frequency
would
make it pretty useless. I did get it to receive 9600 but had a pretty
strong signal to work with and didn't make any performance measurements
so
I can't really comment on the receive performance. The transmitter was
a
disaster! Because they have no shielding anywhere in the radio the
transmitter output got back into the PLL and the resultant signal
resembled
broadband noise. I wasted a lot of time trying to clean that up and
never
was successful. I believe that taking the time to build a good shield
around the PLL would have solved the problem but there are problems with
the board layout that make it a difficult thing to do. I did find a
few
minor design errors which resulted a very long (for 9600 packet) TR
turnaround time. They directly modulate the VCO, like most radios, so

the
transmitter will distort the signal. I never got far enough to worry
about
that.

A friend of mine bought one and had similar problems. Both of us wasted
a
good bit of money. Since then we have discovered the joys of converting
commercial (e.g., Motorola and GE) radios...they work!

My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Interessante ??? CT1DSJ

Date: Mon, 23 Oct 1995 13:37:08 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Changing Uniden mic wiring?

In article <Pine.CVX.3.91.951022183204.6724E-100000@gibbs.oit.unc.edu> Dale Castle
<dbcastle@gibbs.oit.unc.edu> writes:
>
> I have a Standard C508A and I just got a Uniden clip-on mic w/
>ear phone jack. When I plug it in, it keys the radio. The PTT button
>doesn't stop it. The mic sounds great. Can I change the wiring to make it
>work? (bought it used.) Thanks in advance for the help.

Dale, the C508A uses the same "leaky PTT" circuit as Icom/Yaesu/Radio Shack.
Mikes wired for those brands will work. I'm not familiar with the Uniden
mike, but here's roughly what the I/Y/RS circuit looks like:

```
-------------------------x----------------> TIP
| |
| / 2.2k Radio
(M) \
| / __
|------------------------x----o o--------> RING
PTT
```

The mike (M) is actually a FET buffered electret powered from voltage
supplied by the radio. When you close PTT, the mike becomes powered
and the TIP voltage is pulled down by the resistor. The voltage
drop is sensed in the radio and causes it to go into transmit.
The resistor may vary between 2.2k (Yaesu standard) to 10k (Icom
standard). The Yaesu mikes work on either rig, though the audio
level will be a bit low on an Icom, but the Icom mikes won't always
key a Yaesu because they don't sink enough current. My C508A, and
most HTX-202s, don't care, they'll work with either.

It sounds like your Uniden mike uses a different scheme, but since
the audio sounds good, try just rewiring it so the PTT switch is
in series with the ground lead.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 07:25:48 GMT
From: Chris Arai <arai@rahul.net>
Subject: Help: Mod 440Mhz to Australian CB Possible?

I would like to know if it is possible to modify a 440Mhz hand held to
work well on the Australian CB band. I believe it is about 470 Mhz, but
I'm not sure. If anyone knows the answer to that question as well I
would appreciate it.

Thanks

Chris

arai@rahul.net

--
Chris Arai <arai@rahul.net>

Date: 21 Oct 1995 04:14:57 GMT
From: ted <ted@ihnp4.ucsd.edu>
Subject: Ladder Line .. how to make?

Ron and Drew...

.. I remember seeing ladder line where the spacers were made from old
BIC byros (body), if you are going for 2" spacing then a each byro will provide
2 spacers (or a byro per 4' of line - roughly).

Just might save you a bit of sawing... rest of the method the same.

73 Ted VK1BL.

ejg@acslink.net.au

Date: Sat, 21 Oct 1995 14:25:20 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <469kcl$3es@bcfreenet.seflin.lib.fl.us> d010421c@dcfreenet.seflin.lib.fl.us
(Ken Becker) writes:

>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

Ok, lets do some calculations. The original circuit had a 240 ohm
resistor. For 20 ma of diode current, the voltage feeding the
resistor needs to be

E=0.02*240+1.6 = 6.4 volts

and the resistor power dissipation is

P=.02*4.8 = 0.096 watts

So a half-watt resistor offers a comfortable safety margin.
But if the voltage is 50 volts, then we have a power dissipation
in the resistor of

P=48.4^2/240 = 9.76 watts

A half-watt resistor is going to go *poof*, as it indeed did.
So either the value of the original resistor was *not* 240 ohms,
or the design voltage is *not* 50 volts.

Now you replaced the resistor with a 2500 ohm resistor, so the
power dissipation of that resistor would be

P=48.4^2/2500 = 0.937 watt

A 5 watt resistor would be about right to provide an adequate
safety margin. (You never want to run a resistor at its power
dissipation limit, it'll run about 100 C at that power level.)

But the original resistor was a half-watt unit, indicating a
design dissipation of 1/10th watt or less. Clearly something
is wrong here. I'd suspect it's the 50 volts. Are you *sure*
it's *supposed* to be 50 volts?

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary

534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:12:54 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <46f3u3$7m0@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>With 50V as a supply, you are essentially looking for a current
>limiter. The original 240 Ohms was the correct value but it would be
>dissipating about 20 mA x 50V = 1,000 mW or 1W. No wonder it burned
>out. The current to the LED is not so critical but what you could use
>a 220 or 270 Ohm 2W resistor.

Better run that calc again. You slipped a decimal. That's *50* volts,
not *5.0* volts he's saying. A 220 to 270 ohm resistor would be
correct for *5.0* volts. You got the power right though, a *2400*
ohm resistor would dissipate about 1 watt (actually 0.976 watt).
And that's too much for a half watt part. Either the voltage is
supposed to be much lower, or there's supposed to be something
else in the circuit acting as a current limiter besides the
240 ohm half watt resistor in there originally.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:19:03 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question , correction!

In article <46f4g5$6u2@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>
>Sorry, I screwed up. I should not answer questions when I am half
>asleep. You are looking for a current limiter but 50V/20mA makes about
>a 2.5K resistor and the dissipation is about 1W. When the 1/2 W
>resistor "smokes" the red turns brown on the color code, so it
>probably was not 240 Ohms. Use a 2W 2.2K or 2.7K. My apologies if my
>prior posting 5 minutes ago caused any problems.

And my apologies for posting a correction before reading your correction.
We're all singing out of the same hymn book now though. I'm beginning to
suspect a fault in another part of the circuit. Obviously, even if the
original resistor were 2400 ohms and a color band turned when it smoked,
that still doesn't address the fact that it was a *half watt resistor*.
There's got to be something else in the circuit that's supposed to limit

current. *That's* the part that probably failed and took the resistor
with it, and is still causing new resistors to smoke.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 19 Oct 95 20:15:04 EST
From: hduff@humnet.humberc.on.ca
Subject: PLL/VCO homebrew designs

>
> In article <801523937403@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
> >"This is one of those projects where anyone who knows enough about the
> >technology to know what is involved" ...would know that bypassing the
> >multiplication stages in the radio and just generating the highest
> >and closest to the operating frequency with the PLL/VCO would be best
> >approach (which IS indeed the way it is going to be done).
>
> Yes, I do know that. I designed a marine radio that worked that way
> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
> >through a bandpass filter, spurs are not an big issue.
>
> That's a good architecture, but it exceeds the frequency range of the '157.

Hmmm...mine's working at 26 MHz !!
Maybe this is pushing it to its limit.

In the search for more of these parts we have discovered that it *MAY*
be a discontinued item. We are considering trying out
the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

>
> >You might want to brush up on your personability skills...
> >"...simple minded synthesizer..." and your approach in general ceratinly
> >don't contribute positively to the spirit of homebrewing !
> >
> >Hugh Duff VA3TO Toronto

>
> Well, sorry, but what you are talking about *is* a simple minded synthesizer.

What is simple minded about a PLL/Loop Filter/VCO when properly
designed ? I didn't intend on building up some half-assed "well, it
kinda works" board. That was the intent of the original post...tell me
what I need to know and/or HELP me design a solid performer !
If you don't want to get involved in a positive way, say nothing !
Perhaps I'm being a bit anal retentive but the net seems to be full
of the "I can tell you you're wrong but I can't tell you how to
do it right" types.

I suggest that your delivery is somewhat abrasive...try having some
compassion for those of us who are attempting to learn. Nothing is more
of a turnoff than having someone who comes off like a "know-it-all"
burst your ballon. Albeit, you may know your stuff *BUT* your delivery
needs some honing.

> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
> people from endless frustration. (BTW, another poster suggested a DDS;
> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

The only frustration so far has been the negativity expressed by
yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph

exhibits somewhat of a kinder approach...more of what I was expecting.)

...is beyond me. Maybe you have a fat head. (It sounds like it...
"If you want to see a sophisticated one, read my...")
Ya, you're cool !

Keep in mind that this newsgroup is the Ham Radio Homebrewing
conference...hobbiests, many of whom are interested to learn,
myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

~ NFX v1.3 [000]

--

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Date: 23 Oct 1995 02:01:09 -0400
From: aviator270@aol.com (Aviator270)
Subject: Radio Shack Pro-51 Mod needed, Please!!!

Does anyone know how to open the freqs on the RS pro-51?
If its not possible please let me know.

Thanks in advance!!

Date: Mon, 23 Oct 1995 13:36:25 GMT
From: glheller@ix.netcom.com
Subject: Source of oil-filled paper electrolytics for Collins PS

Am in need of these caps for both my Collins S-Line and my KWM-2 power
supplies. The ones in the power supplies are dried out and need to be
replaced.

Would like to know the name of any electronic suppliers that handle
this type of capacitor. Prefer a direct replacement.

Thanks in advance.

Gil Heller

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (1)

to: all
A question was asked by kennedy@aol.com

>>I live in the country. Too bad, right? My favorite FM stereo
>>station is 100 miles away on 102.1 FM. The problem is an
>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.

One of the other replies suggested a bigger antenna pointed at the distant station. That would certainly help make sure you have enough signal. If the difference in directions to the two stations is near 90 degrees you will pick up some additional reduction in signal strength of the offending station due to reduced pickup off the side of the beam. If you ever looked at pictures of antenna patterns in the ARRL Handbook, you'll see that large antennas have maximum pickup in the desired (forward) direction and lots of sharp little points of pickup in the undesired (side and back) directions. Finding a null can give a 20 dB (1/10th) reduction (or more) in signal strength.

Ideally what you want to do is put one of the side lobe NULLS right on the offending station even if you have to point slightly away from the desired station. You might be able to see this happen if you disconnect the antenna from the receiver and just place the coax cable near the terminals as you turn the antenna. Can't guarantee anything but it might work. The better way is to use a high value attenuator between the coax and the radio. Adjust the attenuator for a weak but readable signal on the receiver meter. Then turn the antenna until the signal strength meter on the radio shows as low as possible on the offending station. This gets you the LEAST offending signal possible.

Assuming just changing one antenna isn't enough to fix your problem, I don't think you'll have any luck at all trying to find any standard filter to reduce a signal only 800 KHz away. The next option is to use a second antenna pointed at the offending station and mount the antenna so the signal it brings into the receiver is 180 degrees out of phase with the first antenna. The closer you can get to exactly opposite phase, the more signal will be reduced. Have you ever heard the flutter of multipath on a station? That is what we are trying to do here.

The second antenna can be much smaller than the main antenna because the station is so close. This will not be easy because you have to match not only the signal phase to cancel but also the signal strength. Start by using the attenuator with the receiver and first antenna to try getting a known signal level on the offending station. Next connect the second antenna in place of the first and use another attenuator or extra length of coax (100's of feet) or maybe just a resistor short at the antenna until you have reduced the signal strength to match the first antenna.

Once the signal strengths are egual, connect BOTH antennas to the receiver at the same time using a 2 way splitter/combiner. Now you begin moving the second antenna around until the offending signal is at minimum. That is the position for maximum cancelation. How far do you have to move it? Well, figure the wavelength of the signal. A half

wave is about 495/frequency so a full wave length would be 2*495/106 = 9.3 feet. So somewhere along a line from the first antenna toward the offending station, within a ten foot distance, you should find a null. This doesn't mean you have to be within 10 feet of the first antenna, just a 10 foot movement somewhere in the direction of the offending station. You probably should keep the second antenna ten feet away from the first antenna just to reduce antenna pattern changes since you just got done carefully pointing the first antenna.

Another method of cancelling the signal is by changing the length of the coax from the second antenna to the receiver, because changing the length is just like moving the antenna. Now, the wavelength in coax is shorter than the wavelength in air. This is called the velocity factor of the coax cable. Most foam coax has a velocity factor of around 80%. This means that 10 feet in air is only 8 feet in the coax. So, somewhere in 8 feet of cable is the exact length you need to cancel the offending station. If you choose this method, all you can do is cut off the cable a little bit at a time until you have minimum signal from the offending station. I've never tried this myself so I don't know how small of cuts you should make so you don't go past the null. I'd just figure you'll start with an extra 20 feet of cable and start cutting maybe 6 inches at a time. I assume you'll be able to hear multipath distortion of the signal as you get closer to the right length and can start making smaller cuts.

It is my understanding that this basic technique is frequently used in commercial broadcast radio where they may have similar problems. I understand they use more of a tuneable (low pass?) filter of some sort to adjust the phase shift instead of cutting the coax. This phase cancellation technique is the only one I've ever heard of that might do you any good. The only other options involve replacing the receiver with something much more expensive, designed for extremely high signal overload and superb IF bandwidth filtering. I've never heard of such a receiver but I'm sure they exist if you have a LOT of money.

I really don't have much hope that anything is going to let you receive your desired station. With 50 KW only 5 miles away, everything in your
--==<<< Continued next message >>>==--

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (2)

--==<<< Continued from previous message >>>==--
area is going to bouce some of the signal into the first antenna. The more random signals you have bouncing around, the less likely you'll be able to null out the offending station. Good luck.

73's.

Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

* SLMR 2.1a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

----

End of Ham-Homebrew Digest V95 #338
****

--WAA07620.814504136/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 1995 13:29:37 GMT
From: wrt@eskimo.com (Bill Turner)
Subject: Unwanted Fm station (1)

>the undesired (side and back) directions. Finding a null can give a
>20 dB (1/10th) reduction (or more) in signal strength.

Nitpick mode ON:

20 dB is a 100:1 power reduction. 10 dB is 10:1.

Date: 23 Oct 1995 18:41:28 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: Want to jam stupid radio station

In article <46b6ur$59u@ixnews2.ix.netcom.com>,
>writes:
>>
>>Is this possible? I'd only want to jam one particular signal in a
>>small area. I don't know if this'll help me pick up the station I
>>like,>which happens to be right next to it, but I'd like to jam it
>>just out of spite. And yes, I'm sure the FCC isn't going to approve.
>> Stan Kwong
>

When I was in college, I had a vacuum tube operated FM clock radio.
I discovered that the LO radiation on it was so bad that it would
wipe out radios in my dorm room or next door if it was tuned 10.7
MHz. lower in frequency. I had lots of fun silencing my roommates'
(and neighbor's) radios when they listened to music I didn't like.
They never figured out what hit them!

Rick Karlquist
rkarlqu@scd.hp.com

End of Ham-Homebrew Digest V95 #339
****

--XAA07945.814507497/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #340
****

--XAA08149.814510295/ooz.backbone.uoknor.edu--

4885. Returned mail: Local configuration error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199510240643.BAA08828@ooz.backbone.uoknor.edu>
Source record: 110046

```
This is a MIME-encapsulated message

--BAA08828.814517021/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:43:40 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08828.814517021/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08826 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:43:40 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00567 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:42:51 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSURHIG28004PHG@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:47:15 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:47:13 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #343
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSURHK1XU004PHG@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSUR69MDC004J5V@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:47:01 -0500 (CDT)
Received: by mail.ucsd.edu; id XAA23664 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:23:56 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id XAA23641 sendmail 8.6.12/UCSD-2.2-sun Mon,
```

23 Oct 1995 23:23:52 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 23:23:51 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #343
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240623.XAA23641@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 343

Today's Topics:
Returned mail: Local configuration error
Want: COIL winding machine

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 06:20:26 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--BAA08677.814515626/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:20:24 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08677.814515626/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08675 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:20:24 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00550 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:19:36 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXOZG0G004M6I@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:24:00 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:23:58 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #342
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSTXP1L6A004M6I@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXGE9M8004HFT@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:23:47 -0500 (CDT)
Received: by mail.ucsd.edu; id WAA16807 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:29 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id WAA16789 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:27 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 22:39:24 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #342
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240539.WAA16789@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 342

Today's Topics:
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>

Problems you can't solve otherwise to brian@ucsd.edu.

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(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 05:35:59 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--AAA08421.814512959/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 00:35:58 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--AAA08421.814512959/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id AAA08419 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 00:35:58 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id AAA00522 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 00:35:09 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSEJS7SW003PET@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:33 -0500 (CDT)
Date: Tue, 24 Oct 1995 00:39:32 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #341
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSSEJUCYQ003PET@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSE9PQ1C0049CZ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:18 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA10882 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:55:54 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA10839 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:55:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:55:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #341
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240455.VAA10839@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 341

Today's Topics:
Returned mail: Local configuration error
Want to filter out stupid radio station

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policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 04:51:35 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA08149.814510295/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:51:34 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA08149.814510295/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA08147 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:51:34 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00481 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:50:46 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQUF1QG0004EUI@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:55:03 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:55:02 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #340
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSQUF458Y004EUI@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQU6KB2O004S2X@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:54:52 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA04516 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:36 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA04489 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:33 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:08:32 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #340
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240408.VAA04489@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 340

Today's Topics:
4CX1000 Prices?
Need Postscript to HP-GL Translator .. Suggestions ?
Returned mail: Local configuration error

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 22 Oct 1995 03:11:28 GMT
From: ab419@freenet.toronto.on.ca (Randie Kochals)
Subject: 4CX1000 Prices?

I am looking around for an Eimac 4CX1000a tube and was wondering
what the going price should be for new and used. If any of you
have seen for sale, or have recently bought one of these, let me
know what I should be prepared to pay.

Thanks

Date: 23 Oct 1995 21:59:07 GMT
From: daveb@buffnet.net (dave)
Subject: Need Postscript to HP-GL Translator .. Suggestions ?

Greetings,

In need of a translator that will convert poscript files to HP - GL (Laserjet 4L).
I'm hoping that someone knows of a freeware/shareware version that will do
the job.

Thanks

daveb@buffnet.net

Date: 24 Oct 95 04:04:57 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA07945.814507497/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:04:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA07945.814507497/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA07942 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:04:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00447 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:04:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7QBIGW003R6O@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:30 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:08:29 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #339
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSP7QD4CI003R6O@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7IHXI8004S4E@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:20 -0500 (CDT)
Received: by mail.ucsd.edu; id UAA22711 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:13 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id UAA22686 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:09 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 20:13:07 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #339
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240313.UAA22686@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List

Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 339

Today's Topics:
'95 Handbook problem, need email or phone reference
50MHz transmitter frequencies for UK
an HT from Hong Kong? (2 msgs)
Best motherboard for minimum rfi
Circuit diagram for a 100+ ft transmitter and receiver
Making labels from transparencies
Radio Control kits/plans
Returned mail: Local configuration error
Unwanted Fm station (1)
Want to jam stupid radio station

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policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 1995 21:06:12 GMT
From: psoper@encore.com (Pete Soper)
Subject: '95 Handbook problem, need email or phone reference

Hi folks,
I've plugged a lot of numbers into the R1 resistor equation of
the low-pass active filter design description in figure 16.54 on page
16.30 of the '95 "ARRL Handbook". I'm convinced that either the
equation is in error or I've lost my mind. In case it's the former problem
(or to get quickly to the latter), could somebody recommend how I can pursue
this with the ARRL? Is there a department to ask for on the phone (#?)
or an email address for this kind of query?
Please send me email direct if you can help, as postings to this
group are averaging 7-12 days to ooze through our news feed.
My problem is that the "[a^2 + 4b(K-1)]C2^2" subexpression results
in an attempt to take the square root of a negative value because this comes
out smaller than the "4bC1C2" subexpression subtracted from it. If I guess
that parentheses are missing and it should be written "([a^2 + 4b(K-1)]C2)^2"
I get the wrong result for the example values given. I can't come up with
a second guess :-)

Thanks,
Pete

Pete Soper (psoper@encore.com) KS4XG 1+ 919 481 3730, 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA grid FM05oq

---

Date: Mon, 23 Oct 1995 20:49:37 GMT
From: giles@wormwood.demon.co.uk (giles)
Subject: 50MHz transmitter frequencies for UK

I have recently passed my RAE and instead of lashing out on expensive equipment ,I am going to do some homebrew QRP projects together with appropriate instrumentation -- see Practical Transmitters for Novices. What I should like to know:

1) What are best channel frequencies for FM 50MHz? i.e. what rocks to choose?

2) In order to hear the 6M band I have built a converter to connect to my Kenwood R5000. I have tried to make a dipole but have no usable signals yet --- i think a higher antenna is called for. Has anyone any experience with the 50MHz to 28MHz converter a la Cirkit?

Giles G7VOF

Date: 21 Oct 1995 17:09:22 -0700
From: ad7k@bighorn.accessnv.com (Squeak Porray)
Subject: an HT from Hong Kong?

If you want my name just ask. (timhynde@ix.netcom.com) wrote:

: >to Hong Kong soon and am interested in shopping for an HT. What can
: you
: >advise me about:

: I'd save myselft the trouble and buy from a stateside distributor,

Comments from a "Stateside distributor", who has had experience both ways ...

If you buy a radio from someone you never saw before, and never expect to see again, all he is going to be interested in is getting your money out of your wallet and you on your way.

If you buy from a local (or regional) dealer, you are buying from someone who wants to see YOU happy, since he hopes that you will come back again and again, for all those accessories, mobile radios, antennas and the like that we hams always need to add to our collection.

If you bring in an oversees "Yaekenicostanco" radio, you will have NO US warranty - the American distributors warrant only those radios that they import, and quite possibly might not service them - they are completely within their rights to do so. There very well may be (as has been in the past) board or component differences between various versions of the

radio destined for different countries, thus compounding the situation. (Some manufacturers have had up to five different versions of the same radio - with each version destined for a different market area, with different regulations.)

If you buy the radio from a local (or regional) dealer, you have someone you can go to with questions and problems ... but long-distance calls to Hong Kong to get answers to a question get expensive - to say nothing of "how do you ask someone how to program odd splits for repeaters into your new handy - when he is only really fluent, technically, in Chinese?"

I doubt that you will find any significant price differentials in buying in Hong Kong ... that was true years ago (I was there during the VietNam era), but not now, with the global economy/distribution situation now in existance. However, you can find real bargains in Hong Kong on things that are local-labor-intensive (like tailored suits for example).

Enjoy your trip ... take the tram to the top of Victoria Peak and let me know if the view is still as grand as it was on Christmas Day of 1972 ... and good luck to you!

Very 73,

"Squeak" Porray, AD7K
Manager, Amateur Electronic Supply/Las Vegas

ps: I hope you don't think I am touting just our company ... in the above, I speak for the Amateur Radio community in general, and I think that it speaks for all domestic Amateur Radio Dealers as well.

Date: Mon, 23 Oct 1995 18:50:11 GMT
From: rafaels@zimmer.CSUFresno.EDU (Rafael Solis)
Subject: an HT from Hong Kong?

In article <46b7s9$lmj@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (If you want my name just ask.) writes:
>
>>to Hong Kong soon and am interested in shopping for an HT. What can
>you
>>advise me about:
>
>
>I'd save myselft the trouble and buy from a stateside distributor, I've
>heard of guys buying overseas HF gear with features or bands not avail.
>in U.S but I've never heard of any great bargains. What you save by
>shopping Hong Kong may cost you quickly if you have a problem or need
>an accessory for the radio.
>
>I have a Kenwood Dual band HT and like it alot.
>
>73, Tim ka8ddz

I agree with Tim. I've been to HK several times on business trips and
it is not worth the hassling of dealing with the salesmen over there
(prices are not fixed and you have to deal, yes as in bargaining!).
Also there is the problem of the warranty. I don't think any of the
major brands (K,I,Y) honor warranties of any equipment bought
overseas. What I have bought though are accessories. Bring your AES
catalog to check the price differences. Some things are cheaper there
but others are around the same or even higher depending on the store.
Another suggestion is to get away from the Nathan Rd. stores, those
are usually overpriced.

Have fun in HK.

Rafael (KE6JSR)

Date: Mon, 23 Oct 1995 16:42:13 -0700
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Subject: Best motherboard for minimum rfi

Good point Paul. I have exactly the same thoughts but have experienced
just about the same level of noise with the modern boards as the old!

On 21 Oct 1995, Paul Erickson wrote:

> Has anyone done any comparisons to see which motherboards are best
> from an rfi point of view?? I am planning on replacing the board in
> my old AT, but my current experiences with my NEC multispeed
> (very noisy on 14mhz) are making me cautious about computer generated
> rfi. Any comments will be appreciated.
>
> cheers, Paul
> ve7cqk
> email: paul1@wizard.ucs.sfu.ca
>
>
>

Date: 23 Oct 1995 20:35:33 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Circuit diagram for a 100+ ft transmitter and receiver

Does anyone know where I could find a circuit diagram for a transmitter and
receiver that could go 100+ feet. One or two channel.

I would like to build one from scratch.

Thanks in advance

scottc@pegasus.cc.ucf.edu

Date: 23 Oct 1995 20:40:43 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Making labels from transparencies

>>Has anyone had experience making panel labels for projects using laser-
>>printed transparencies? With Word for Windows, I can align and print
>>very nice labels. The only problem is gluing them to a panel. Nothing I
>>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>>seems to stick. I assume the plastic is mylar.
>>

I would use clear contact paper over the laser quality print. Contact paper
is great for a lot of things and I've used it before

Date: Mon, 23 Oct 1995 21:12:20 GMT
From: bs872@FreeNet.Carleton.CA (Henry Ian Ross)
Subject: Radio Control kits/plans

If you want my name just ask. (timhynde@ix.netcom.com) writes:
> I would like to build a radio control transmitter and reciever for 6m.
> I have used several commercially available units for 72 MHz but it's
> time to really do it right.
>
> Anyone have plans or knowledge of RC for 6m. I am a builder but have
> never seen anything along those lines.
>
> Regards,
>
> Tim Hynde
> ka8ddz, Rochester MI

Tim,
Many years ago, I built a six-channel radio on 6M using a design
published as a series of articles by Radio Control Modeller (RCM)
magazine. If you can find some older issues circa 1970 or contact
RCM, they may be able to send you the information.

The radio is still running in a Soling 1M yacht that I race occasionally
at our yacht club.

Good luck.
Ian

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

Date: 24 Oct 95 03:08:56 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)

Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--WAA07620.814504136/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 22:08:54 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--WAA07620.814504136/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id WAA07618 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 22:08:54 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id WAA00391 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 22:08:06 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN9AF6N40042TV@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:29 -0500 (CDT)
Date: Mon, 23 Oct 1995 22:12:28 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #338
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSN9AHLGI0042TV@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN911VIO0041N6@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:17 -0500 (CDT)
Received: by mail.ucsd.edu; id TAA11405 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 19:22:18 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id OAA22698 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 14:13:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 14:13:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #338

Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510232113.OAA22698@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 338

Today's Topics:
40m vertical - How to make?
AMSOFT SPAM
Anybody used Ramsey FX-440 for 9600?.Humm...
Changing Uniden mic wiring?
Help: Mod 440Mhz to Australian CB Possible?
Ladder Line .. how to make?
LED question (2 msgs)
LED question , correction!
PLL/VCO homebrew designs
Radio Shack Pro-51 Mod needed, Please!!!
Source of oil-filled paper electrolytics for Collins PS
Unwanted Fm station (1)
Unwanted Fm station (2)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 21 Oct 1995 14:01:44 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: 40m vertical - How to make?

In article <467mcf$e6m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>You need no
>>ground whatsoever with a halfwave vertical antenna.
>Don,
>
>Sorry to say so, bot you are wrong here. it is true, that the radiation
>resistance of a halfwave is higher, and hence losses induced by a poor

>ground in the vincinity of the antenna (no or little radials)
>is less than for a shorter antenna.
>
>But if you look into the problem of the radiation pattern, you will find,
>that it is also degraded above poor gound.

Sure, lossy *Earth* near an antenna is always a problem, so keep
your antennas well away from Earth, but that doesn't address his
comment. A halfwave antenna *does not require ground* to function.
It doesn't need it to act as a current mirror the way a quarterwave
does. A halfwave vertical is perfectly content to function properly
in *free space*. A quarterwave needs some sort of counterpoise.
That counterpoise *can* be Earth, but it doesn't have to be. Radials,
or a counterpoise wire, will work just as well, probably better
since they won't be as lossy as Earth.

Gary
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 14:47:40 GMT
From: Jim Strohm <jstrohm@blazer.ucsd.edu>
Subject: AMSOFT SPAM

Bob:

I stand by my previous comment: SPAM-soft.

The gentlemen (NOT) at AMSOFT wisely chose to send their message to at least
ten newsgroups on this round of their shameless advertising. Regardless
of the value of the information they provide, their relentless SPAMMing
of the amateur radio radio newsgroups is unjustifiable and inexcusable.

There was a major SPAM attack from Amsoft the last time they had a new
CD release. And the time before that. AND the time before THAT! They
have an unfortunate history for alienating a lot of us and for wasting a lot
of bandwidth.

That you would support their activity says something about you -- not sure
what, exactly. But it's not in keeping with newsgroup's non-commercial charter.

If you are reading this, it's because I'm wasting bandwidth only on the
rec.radio.* newsgroup I read. And if you reply to my flaming diatribe,
you will do so only to this newsgroup, unless you choose to add groups.
Of course you understand how to add and remove groups from your To:
field in your newsreader. You DO understand how that works, don't you?

Jim N6OTQ
Standard disclaimer

Date: 21 Oct 1995 11:17:40 GMT
From: "J. Silva" <jsilva@zeus.ci.ua.pt>
Subject: Anybody used Ramsey FX-440 for 9600?.Humm...

>>Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
>>I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
>>packet, but nobody has actually been able to get it going quite right.

Some time ago I bought their kit. I found that the receiver suffered
from
many spurious responses which, given right (wrong?) packet frequency
would
make it pretty useless. I did get it to receive 9600 but had a pretty
strong signal to work with and didn't make any performance measurements
so
I can't really comment on the receive performance. The transmitter was
a
disaster! Because they have no shielding anywhere in the radio the
transmitter output got back into the PLL and the resultant signal
resembled
broadband noise. I wasted a lot of time trying to clean that up and
never
was successful. I believe that taking the time to build a good shield
around the PLL would have solved the problem but there are problems with
the board layout that make it a difficult thing to do. I did find a
few
minor design errors which resulted a very long (for 9600 packet) TR
turnaround time. They directly modulate the VCO, like most radios, so
the
transmitter will distort the signal. I never got far enough to worry
about
that.

A friend of mine bought one and had similar problems. Both of us wasted
a
good bit of money. Since then we have discovered the joys of converting
commercial (e.g., Motorola and GE) radios...they work!

My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Interessante ??? CT1DSJ

Date: Mon, 23 Oct 1995 13:37:08 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Changing Uniden mic wiring?

In article <Pine.CVX.3.91.951022183204.6724E-100000@gibbs.oit.unc.edu> Dale Castle
<dbcastle@gibbs.oit.unc.edu> writes:
>
> I have a Standard C508A and I just got a Uniden clip-on mic w/
>ear phone jack. When I plug it in, it keys the radio. The PTT button
>doesn't stop it. The mic sounds great. Can I change the wiring to make it
>work? (bought it used.) Thanks in advance for the help.

Dale, the C508A uses the same "leaky PTT" circuit as Icom/Yaesu/Radio Shack.
Mikes wired for those brands will work. I'm not familiar with the Uniden
mike, but here's roughly what the I/Y/RS circuit looks like:

```
-------------------------x----------------> TIP
| |
| / 2.2k Radio
(M) \
| / __
|------------------------x----o o--------> RING
PTT
```

The mike (M) is actually a FET buffered electret powered from voltage
supplied by the radio. When you close PTT, the mike becomes powered
and the TIP voltage is pulled down by the resistor. The voltage
drop is sensed in the radio and causes it to go into transmit.
The resistor may vary between 2.2k (Yaesu standard) to 10k (Icom
standard). The Yaesu mikes work on either rig, though the audio
level will be a bit low on an Icom, but the Icom mikes won't always
key a Yaesu because they don't sink enough current. My C508A, and
most HTX-202s, don't care, they'll work with either.

It sounds like your Uniden mike uses a different scheme, but since
the audio sounds good, try just rewiring it so the PTT switch is
in series with the ground lead.

Gary
--
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Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 07:25:48 GMT
From: Chris Arai <arai@rahul.net>
Subject: Help: Mod 440Mhz to Australian CB Possible?

I would like to know if it is possible to modify a 440Mhz hand held to
work well on the Australian CB band. I believe it is about 470 Mhz, but
I'm not sure. If anyone knows the answer to that question as well I
would appreciate it.

Thanks

Chris

arai@rahul.net

--
Chris Arai <arai@rahul.net>

Date: 21 Oct 1995 04:14:57 GMT
From: ted <ted@ihnp4.ucsd.edu>
Subject: Ladder Line .. how to make?

Ron and Drew...

.. I remember seeing ladder line where the spacers were made from old
BIC byros (body), if you are going for 2" spacing then a each byro will provide
2 spacers (or a byro per 4' of line - roughly).

Just might save you a bit of sawing... rest of the method the same.

73 Ted VK1BL.

ejg@acslink.net.au

Date: Sat, 21 Oct 1995 14:25:20 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <469kcl$3es@bcfreenet.seflin.lib.fl.us> d010421c@dcfreenet.seflin.lib.fl.us
(Ken Becker) writes:
>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

Ok, lets do some calculations. The original circuit had a 240 ohm
resistor. For 20 ma of diode current, the voltage feeding the
resistor needs to be

E=0.02*240+1.6 = 6.4 volts

and the resistor power dissipation is

P=.02*4.8 = 0.096 watts

So a half-watt resistor offers a comfortable safety margin.
But if the voltage is 50 volts, then we have a power dissipation
in the resistor of

P=48.4^2/240 = 9.76 watts

A half-watt resistor is going to go *poof*, as it indeed did.
So either the value of the original resistor was *not* 240 ohms,
or the design voltage is *not* 50 volts.

Now you replaced the resistor with a 2500 ohm resistor, so the
power dissipation of that resistor would be

P=48.4^2/2500 = 0.937 watt

A 5 watt resistor would be about right to provide an adequate
safety margin. (You never want to run a resistor at its power
dissipation limit, it'll run about 100 C at that power level.)

But the original resistor was a half-watt unit, indicating a
design dissipation of 1/10th watt or less. Clearly something
is wrong here. I'd suspect it's the 50 volts. Are you *sure*
it's *supposed* to be 50 volts?

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:12:54 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <46f3u3$7m0@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>With 50V as a supply, you are essentially looking for a current
>limiter. The original 240 Ohms was the correct value but it would be
>dissipating about 20 mA x 50V = 1,000 mW or 1W. No wonder it burned
>out. The current to the LED is not so critical but what you could use
>a 220 or 270 Ohm 2W resistor.

Better run that calc again. You slipped a decimal. That's *50* volts,
not *5.0* volts he's saying. A 220 to 270 ohm resistor would be
correct for *5.0* volts. You got the power right though, a *2400*
ohm resistor would dissipate about 1 watt (actually 0.976 watt).
And that's too much for a half watt part. Either the voltage is
supposed to be much lower, or there's supposed to be something
else in the circuit acting as a current limiter besides the
240 ohm half watt resistor in there originally.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
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Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:19:03 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question , correction!

In article <46f4g5$6u2@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>
>Sorry, I screwed up. I should not answer questions when I am half
>asleep. You are looking for a current limiter but 50V/20mA makes about
>a 2.5K resistor and the dissipation is about 1W. When the 1/2 W
>resistor "smokes" the red turns brown on the color code, so it
>probably was not 240 Ohms. Use a 2W 2.2K or 2.7K. My apologies if my
>prior posting 5 minutes ago caused any problems.

And my apologies for posting a correction before reading your correction.
We're all singing out of the same hymn book now though. I'm beginning to
suspect a fault in another part of the circuit. Obviously, even if the
original resistor were 2400 ohms and a color band turned when it smoked,
that still doesn't address the fact that it was a *half watt resistor*.
There's got to be something else in the circuit that's supposed to limit
current. *That's* the part that probably failed and took the resistor
with it, and is still causing new resistors to smoke.

Gary
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 19 Oct 95 20:15:04 EST
From: hduff@humnet.humberc.on.ca
Subject: PLL/VCO homebrew designs

>
> In article <801523937403@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
> >"This is one of those projects where anyone who knows enough about the
> >technology to know what is involved" ...would know that bypassing the
> >multiplication stages in the radio and just generating the highest
> >and closest to the operating frequency with the PLL/VCO would be best
> >approach (which IS indeed the way it is going to be done).
>
> Yes, I do know that. I designed a marine radio that worked that way
> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
> >through a bandpass filter, spurs are not an big issue.
>
> That's a good architecture, but it exceeds the frequency range of the '157.

Hmmm...mine's working at 26 MHz !!
Maybe this is pushing it to its limit.

In the search for more of these parts we have discovered that it *MAY*
be a discontinued item. We are considering trying out
the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

>
> >You might want to brush up on your personability skills...
> >"...simple minded synthesizer..." and your approach in general ceratinly
> >don't contribute positively to the spirit of homebrewing !
> >
> >Hugh Duff VA3TO Toronto

>
> Well, sorry, but what you are talking about *is* a simple minded synthesizer.

What is simple minded about a PLL/Loop Filter/VCO when properly
designed ? I didn't intend on building up some half-assed "well, it
kinda works" board. That was the intent of the original post...tell me
what I need to know and/or HELP me design a solid performer !
If you don't want to get involved in a positive way, say nothing !
Perhaps I'm being a bit anal retentive but the net seems to be full
of the "I can tell you you're wrong but I can't tell you how to
do it right" types.

I suggest that your delivery is somewhat abrasive...try having some
compassion for those of us who are attempting to learn. Nothing is more
of a turnoff than having someone who comes off like a "know-it-all"

burst your ballon. Albeit, you may know your stuff *BUT* your delivery
needs some honing.

> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
> people from endless frustration. (BTW, another poster suggested a DDS;
> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

The only frustration so far has been the negativity expressed by
yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph
exhibits somewhat of a kinder approach...more of what I was expecting.)

...is beyond me. Maybe you have a fat head. (It sounds like it...
"If you want to see a sophisticated one, read my...")
Ya, you're cool !

Keep in mind that this newsgroup is the Ham Radio Homebrewing
conference...hobbiests, many of whom are interested to learn,
myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

~ NFX v1.3 [000]

--

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Date: 23 Oct 1995 02:01:09 -0400
From: aviator270@aol.com (Aviator270)
Subject: Radio Shack Pro-51 Mod needed, Please!!!

Does anyone know how to open the freqs on the RS pro-51?
If its not possible please let me know.

Thanks in advance!!

Date: Mon, 23 Oct 1995 13:36:25 GMT
From: glheller@ix.netcom.com
Subject: Source of oil-filled paper electrolytics for Collins PS

Am in need of these caps for both my Collins S-Line and my KWM-2 power supplies. The ones in the power supplies are dried out and need to be replaced.

Would like to know the name of any electronic suppliers that handle this type of capacitor. Prefer a direct replacement.

Thanks in advance.

Gil Heller

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (1)

to: all
A question was asked by kennedy@aol.com

>>I live in the country. Too bad, right? My favorite FM stereo
>>station is 100 miles away on 102.1 FM. The problem is an
>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.

One of the other replies suggested a bigger antenna pointed at the distant station. That would certainly help make sure you have enough signal. If the difference in directions to the two stations is near 90 degrees you will pick up some additional reduction in signal strength of the offending station due to reduced pickup off the side of the beam. If you ever looked at pictures of antenna patterns in the ARRL Handbook, you'll see that large antennas have maximum pickup in the desired (forward) direction and lots of sharp little points of pickup in the undesired (side and back) directions. Finding a null can give a 20 dB (1/10th) reduction (or more) in signal strength.

Ideally what you want to do is put one of the side lobe NULLS right on the offending station even if you have to point slightly away from the desired station. You might be able to see this happen if you disconnect the antenna from the receiver and just place the coax cable near the terminals as you turn the antenna. Can't guarantee anything but it might work. The better way is to use a high value attenuator between the coax and the radio. Adjust the attenuator for a weak but readable signal on the receiver meter. Then turn the antenna until the signal strength meter on the radio shows as low as possible on the offending

station. This gets you the LEAST offending signal possible.

Assuming just changing one antenna isn't enough to fix your problem, I don't think you'll have any luck at all trying to find any standard filter to reduce a signal only 800 KHz away. The next option is to use a second antenna pointed at the offending station and mount the antenna so the signal it brings into the receiver is 180 degrees out of phase with the first antenna. The closer you can get to exactly opposite phase, the more signal will be reduced. Have you ever heard the flutter of multipath on a station? That is what we are trying to do here.

The second antenna can be much smaller than the main antenna because the station is so close. This will not be easy because you have to match not only the signal phase to cancel but also the signal strength. Start by using the attenuator with the receiver and first antenna to try getting a known signal level on the offending station. Next connect the second antenna in place of the first and use another attenuator or extra length of coax (100's of feet) or maybe just a resistor short at the antenna until you have reduced the signal strength to match the first antenna.

Once the signal strengths are egual, connect BOTH antennas to the receiver at the same time using a 2 way splitter/combiner. Now you begin moving the second antenna around until the offending signal is at minimum. That is the position for maximum cancelation. How far do you have to move it? Well, figure the wavelength of the signal. A half wave is about 495/frequency so a full wave length would be 2*495/106 = 9.3 feet. So somewhere along a line from the first antenna toward the offending station, within a ten foot distance, you should find a null. This doesn't mean you have to be within 10 feet of the first antenna, just a 10 foot movement somewhere in the direction of the offending station. You probably should keep the second antenna ten feet away from the first antenna just to reduce antenna pattern changes since you just got done carefully pointing the first antenna.

Another method of cancelling the signal is by changing the length of the coax from the second antenna to the receiver, because changing the length is just like moving the antenna. Now, the wavelength in coax is shorter than the wavelength in air. This is called the velocity factor of the coax cable. Most foam coax has a velocity factor of around 80%. This means that 10 feet in air is only 8 feet in the coax. So, somewhere in 8 feet of cable is the exact length you need to cancel the offending station. If you choose this method, all you can do is cut off the cable a little bit at a time until you have minimum signal from the offending station. I've never tried this myself so I don't know how small of cuts you should make so you don't go past the null. I'd just figure you'll start with an extra 20 feet of cable and start cutting maybe 6 inches at a time. I assume you'll be able to hear multipath distortion of the signal as you get closer to the right length and can start making smaller cuts.

It is my understanding that this basic technique is frequently used in commercial broadcast radio where they may have similar problems. I understand they use more of a tuneable (low pass?) filter of some sort to adjust the phase shift instead of cutting the coax. This phase cancellation technique is the only one I've ever heard of that might do you any good. The only other options involve replacing the receiver with something much more expensive, designed for extremely high signal overload and superb IF bandwidth filtering. I've never heard of such a receiver but I'm sure they exist if you have a LOT of money.

I really don't have much hope that anything is going to let you receive your desired station. With 50 KW only 5 miles away, everything in your
--==<<< Continued next message >>>==--

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (2)

--==<<< Continued from previous message >>>==--
area is going to bouce some of the signal into the first antenna. The more random signals you have bouncing around, the less likely you'll be able to null out the offending station. Good luck.

73's.

Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

* SLMR 2.1a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

---

End of Ham-Homebrew Digest V95 #338
****

--WAA07620.814504136/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 1995 13:29:37 GMT
From: wrt@eskimo.com (Bill Turner)
Subject: Unwanted Fm station (1)

>the undesired (side and back) directions. Finding a null can give a
>20 dB (1/10th) reduction (or more) in signal strength.

Nitpick mode ON:

20 dB is a 100:1 power reduction. 10 dB is 10:1.

Date: 23 Oct 1995 18:41:28 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: Want to jam stupid radio station

In article <46b6ur$59u@ixnews2.ix.netcom.com>,
>writes:
>>
>>Is this possible? I'd only want to jam one particular signal in a
>>small area. I don't know if this'll help me pick up the station I
>>like,>which happens to be right next to it, but I'd like to jam it
>>just out of spite. And yes, I'm sure the FCC isn't going to approve.
>> Stan Kwong
>

When I was in college, I had a vacuum tube operated FM clock radio.
I discovered that the LO radiation on it was so bad that it would
wipe out radios in my dorm room or next door if it was tuned 10.7
MHz. lower in frequency. I had lots of fun silencing my roommates'
(and neighbor's) radios when they listened to music I didn't like.
They never figured out what hit them!

Rick Karlquist
rkarlqu@scd.hp.com

End of Ham-Homebrew Digest V95 #339
****

--XAA07945.814507497/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #340
****

--XAA08149.814510295/ooz.backbone.uoknor.edu--

Date: 23 Oct 1995 18:41:30 GMT
From: ez041502@dale.ucdavis.edu (Psyber)
Subject: Want to filter out stupid radio station

I posted before about jamming a radio station. I wasn't that
serious. I just wanted to express my intense dislike of "young"
country. (I won't call it music, that'd be giving it too much credit.)
I have since gotten advice to ask about how to filter out the hated
station or to get a "more selective receiver". Now does anyone have any
more information on these perfectly legal solutions?
Stan Kwong

End of Ham-Homebrew Digest V95 #341
****

--AAA08421.814512959/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #342
****

--BAA08677.814515626/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 95 15:07:45 PDT
From: Jay Wicklund <jwicklun@mail1.halcyon.com>
Subject: Want: COIL winding machine

In article <1995Oct23.100446.1@netnews.wku.edu>,
<scottcr@wkuvx1.wku.edu> writes:
>
> I am looking for a coil-winding machine. Large or small, motor
driven
> or manual,
>
> What do you have?
>
> Thanx, Chris
>
> WB9NEQ Bowling Green, KY
>
> --
> Chris.Scott@WKU.EDU Chief Engineer, Public Radio- Western KY U
> Telco: (502) 745-3834 Hm & Fax: (502)
781-1232
> ....just another insignificant VAX user. \\\//
> (o o)
>
----------ooO-(_)-Ooo----------

>
You know, I'd like to find one of those too. When I was first
starting out in electronics (we won't go into how many decades ago
that was), I had a simple little cam driven coil winder that was a
lot of fun. Don't know what happened to it, but would love to find
something similar at a hamfest or something.....

73 de KI7RH (Jay)
jwicklun@halcyon.com

End of Ham-Homebrew Digest V95 #343
****

--BAA08828.814517021/ooz.backbone.uoknor.edu--

4886. Returned mail: Local configuration error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199510240620.BAA08677@ooz.backbone.uoknor.edu>
Source record: 110047

```
This is a MIME-encapsulated message

--BAA08677.814515626/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:20:24 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08677.814515626/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08675 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:20:24 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00550 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:19:36 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXOZG0G004M6I@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:24:00 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:23:58 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #342
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSTXP1L6A004M6I@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXGE9M8004HFT@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:23:47 -0500 (CDT)
Received: by mail.ucsd.edu; id WAA16807 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:29 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id WAA16789 sendmail 8.6.12/UCSD-2.2-sun Mon,
```

23 Oct 1995 22:39:27 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 22:39:24 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #342
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240539.WAA16789@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 342

Today's Topics:
Returned mail: Local configuration error

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policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 05:35:59 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--AAA08421.814512959/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 00:35:58 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--AAA08421.814512959/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id AAA08419 for <arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 00:35:58 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id AAA00522 for <arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 00:35:09 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu (PMDF V4.3-13 #7521) id <01HWSSEJS7SW003PET@aardvark.ucs.uoknor.edu>; Tue, 24 Oct 1995 00:39:33 -0500 (CDT)
Date: Tue, 24 Oct 1995 00:39:32 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #341
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSSEJUCYQ003PET@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu (PMDF V4.3-13 #7521) id <01HWSSE9PQ1C0049CZ@aardvark.ucs.uoknor.edu>; Tue, 24 Oct 1995 00:39:18 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA10882 sendmail 8.6.12/UCSD-2.2-sun Mon, 23 Oct 1995 21:55:54 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA10839 sendmail 8.6.12/UCSD-2.2-sun Mon, 23 Oct 1995 21:55:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:55:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #341
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240455.VAA10839@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 341

Today's Topics:
Returned mail: Local configuration error
Want to filter out stupid radio station

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 04:51:35 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA08149.814510295/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:51:34 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA08149.814510295/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA08147 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:51:34 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00481 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:50:46 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQUF1QG0004EUI@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:55:03 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:55:02 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #340
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSQUF458Y004EUI@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQU6KB2O004S2X@aardvark.ucs.uoknor.edu>; Mon,

23 Oct 1995 23:54:52 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA04516 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:36 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA04489 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:33 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:08:32 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #340
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240408.VAA04489@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 340

Today's Topics:
4CX1000 Prices?
Need Postscript to HP-GL Translator .. Suggestions ?
Returned mail: Local configuration error

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 22 Oct 1995 03:11:28 GMT
From: ab419@freenet.toronto.on.ca (Randie Kochals)
Subject: 4CX1000 Prices?

I am looking around for an Eimac 4CX1000a tube and was wondering
what the going price should be for new and used. If any of you
have seen for sale, or have recently bought one of these, let me
know what I should be prepared to pay.

Thanks

Date: 23 Oct 1995 21:59:07 GMT
From: daveb@buffnet.net (dave)

Subject: Need Postscript to HP-GL Translator .. Suggestions ?

Greetings,

In need of a translator that will convert poscript files to HP - GL (Laserjet 4L).
I'm hoping that someone knows of a freeware/shareware version that will do
the job.

Thanks

daveb@buffnet.net

Date: 24 Oct 95 04:04:57 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA07945.814507497/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:04:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA07945.814507497/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA07942 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:04:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00447 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:04:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7QBIGW003R6O@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:30 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:08:29 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #339
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSP7QD4CI003R6O@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0

Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7IHXI8004S4E@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:20 -0500 (CDT)
Received: by mail.ucsd.edu; id UAA22711 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:13 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id UAA22686 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:09 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 20:13:07 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #339
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240313.UAA22686@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 339

Today's Topics:
'95 Handbook problem, need email or phone reference
50MHz transmitter frequencies for UK
an HT from Hong Kong? (2 msgs)
Best motherboard for minimum rfi
Circuit diagram for a 100+ ft transmitter and receiver
Making labels from transparencies
Radio Control kits/plans
Returned mail: Local configuration error
Unwanted Fm station (1)
Want to jam stupid radio station

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policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 1995 21:06:12 GMT
From: psoper@encore.com (Pete Soper)
Subject: '95 Handbook problem, need email or phone reference

Hi folks,
I've plugged a lot of numbers into the R1 resistor equation of
the low-pass active filter design description in figure 16.54 on page
16.30 of the '95 "ARRL Handbook". I'm convinced that either the
equation is in error or I've lost my mind. In case it's the former problem
(or to get quickly to the latter), could somebody recommend how I can pursue
this with the ARRL? Is there a department to ask for on the phone (#?)
or an email address for this kind of query?
Please send me email direct if you can help, as postings to this
group are averaging 7-12 days to ooze through our news feed.
My problem is that the "[a^2 + 4b(K-1)]C2^2" subexpression results
in an attempt to take the square root of a negative value because this comes
out smaller than the "4bC1C2" subexpression subtracted from it. If I guess
that parentheses are missing and it should be written "([a^2 + 4b(K-1)]C2)^2"
I get the wrong result for the example values given. I can't come up with
a second guess :-)

Thanks,
Pete

Pete Soper (psoper@encore.com) KS4XG 1+ 919 481 3730, 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA grid FM05oq

---

Date: Mon, 23 Oct 1995 20:49:37 GMT
From: giles@wormwood.demon.co.uk (giles)
Subject: 50MHz transmitter frequencies for UK

I have recently passed my RAE and instead of lashing out on expensive
equipment ,I am going to do some homebrew QRP projects together with
appropriate instrumentation -- see Practical Transmitters for
Novices. What I should like to know:

1) What are best channel frequencies for FM 50MHz? i.e. what rocks to
choose?

2) In order to hear the 6M band I have built a converter to connect
to my Kenwood R5000. I have tried to make a dipole but have no usable
signals yet --- i think a higher antenna is called for. Has anyone any
experience with the 50MHz to 28MHz converter a la Cirkit?

Giles G7VOF

Date: 21 Oct 1995 17:09:22 -0700
From: ad7k@bighorn.accessnv.com (Squeak Porray)
Subject: an HT from Hong Kong?

If you want my name just ask. (timhynde@ix.netcom.com) wrote:

: >to Hong Kong soon and am interested in shopping for an HT. What can
: you
: >advise me about:

: I'd save myselft the trouble and buy from a stateside distributor,

Comments from a "Stateside distributor", who has had experience both ways
...

If you buy a radio from someone you never saw before, and never expect to see again, all he is going to be interested in is getting your money out of your wallet and you on your way.

If you buy from a local (or regional) dealer, you are buying from someone who wants to see YOU happy, since he hopes that you will come back again and again, for all those accessories, mobile radios, antennas and the like that we hams always need to add to our collection.

If you bring in an oversees "Yaekenicostanco" radio, you will have NO US warranty - the American distributors warrant only those radios that they import, and quite possibly might not service them - they are completely within their rights to do so. There very well may be (as has been in the past) board or component differences between various versions of the radio destined for different countries, thus compounding the situation. (Some manufacturers have had up to five different versions of the same radio - with each version destined for a different market area, with different regulations.)

If you buy the radio from a local (or regional) dealer, you have someone you can go to with questions and problems ... but long-distance calls to Hong Kong to get answers to a question get expensive - to say nothing of "how do you ask someone how to program odd splits for repeaters into your new handy - when he is only really fluent, technically, in Chinese?"

I doubt that you will find any significant price differentials in buying in Hong Kong ... that was true years ago (I was there during the VietNam era), but not now, with the global economy/distribution situation now in existance. However, you can find real bargains in Hong Kong on things that are local-labor-intensive (like tailored suits for example).

Enjoy your trip ... take the tram to the top of Victoria Peak and let me know if the view is still as grand as it was on Christmas Day of 1972 ... and good luck to you!

Very 73,

"Squeak" Porray, AD7K
Manager, Amateur Electronic Supply/Las Vegas

ps: I hope you don't think I am touting just our company ... in the above, I speak for the Amateur Radio community in general, and I think that it speaks for all domestic Amateur Radio Dealers as well.

Date: Mon, 23 Oct 1995 18:50:11 GMT
From: rafaels@zimmer.CSUFresno.EDU (Rafael Solis)
Subject: an HT from Hong Kong?

In article <46b7s9$lmj@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (If you want my name just ask.) writes:
>
>>to Hong Kong soon and am interested in shopping for an HT. What can
>you
>>advise me about:
>
>
>I'd save myselft the trouble and buy from a stateside distributor, I've
>heard of guys buying overseas HF gear with features or bands not avail.
>in U.S but I've never heard of any great bargains. What you save by
>shopping Hong Kong may cost you quickly if you have a problem or need
>an accessory for the radio.
>
>I have a Kenwood Dual band HT and like it alot.
>
>73, Tim ka8ddz

I agree with Tim. I've been to HK several times on business trips and it is not worth the hassling of dealing with the salesmen over there (prices are not fixed and you have to deal, yes as in bargaining!). Also there is the problem of the warranty. I don't think any of the major brands (K,I,Y) honor warranties of any equipment bought overseas. What I have bought though are accessories. Bring your AES catalog to check the price differences. Some things are cheaper there but others are around the same or even higher depending on the store. Another suggestion is to get away from the Nathan Rd. stores, those are usually overpriced.

Have fun in HK.

Rafael (KE6JSR)

Date: Mon, 23 Oct 1995 16:42:13 -0700
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Subject: Best motherboard for minimum rfi

Good point Paul. I have exactly the same thoughts but have experienced just about the same level of noise with the modern boards as the old!

On 21 Oct 1995, Paul Erickson wrote:

> Has anyone done any comparisons to see which motherboards are best
> from an rfi point of view?? I am planning on replacing the board in
> my old AT, but my current experiences with my NEC multispeed
> (very noisy on 14mhz) are making me cautious about computer generated

> rfi. Any comments will be appreciated.
>
> cheers, Paul
> ve7cqk
> email: paul1@wizard.ucs.sfu.ca
>
>
>

Date: 23 Oct 1995 20:35:33 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Circuit diagram for a 100+ ft transmitter and receiver

Does anyone know where I could find a circuit diagram for a transmitter and
receiver that could go 100+ feet. One or two channel.

I would like to build one from scratch.

Thanks in advance

scottc@pegasus.cc.ucf.edu

Date: 23 Oct 1995 20:40:43 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Making labels from transparencies

>>Has anyone had experience making panel labels for projects using laser-
>>printed transparencies? With Word for Windows, I can align and print
>>very nice labels. The only problem is gluing them to a panel. Nothing I
>>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>>seems to stick. I assume the plastic is mylar.
>>

I would use clear contact paper over the laser quality print. Contact paper
is great for a lot of things and I've used it before

Date: Mon, 23 Oct 1995 21:12:20 GMT
From: bs872@FreeNet.Carleton.CA (Henry Ian Ross)
Subject: Radio Control kits/plans

If you want my name just ask. (timhynde@ix.netcom.com) writes:
> I would like to build a radio control transmitter and reciever for 6m.
> I have used several commercially available units for 72 MHz but it's
> time to really do it right.
>
> Anyone have plans or knowledge of RC for 6m. I am a builder but have
> never seen anything along those lines.
>

> Regards,
>
> Tim Hynde
> ka8ddz, Rochester MI

Tim,
Many years ago, I built a six-channel radio on 6M using a design
published as a series of articles by Radio Control Modeller (RCM)
magazine. If you can find some older issues circa 1970 or contact
RCM, they may be able to send you the information.

The radio is still running in a Soling 1M yacht that I race occasionally
at our yacht club.

Good luck.
Ian

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

Date: 24 Oct 95 03:08:56 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--WAA07620.814504136/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 22:08:54 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--WAA07620.814504136/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id WAA07618 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 22:08:54 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id WAA00391 for

<areees@elect4.uoknor.edu>; Mon, 23 Oct 1995 22:08:06 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN9AF6N40042TV@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:29 -0500 (CDT)
Date: Mon, 23 Oct 1995 22:12:28 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #338
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSN9AHLGI0042TV@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN911VIO0041N6@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:17 -0500 (CDT)
Received: by mail.ucsd.edu; id TAA11405 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 19:22:18 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id OAA22698 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 14:13:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 14:13:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #338
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510232113.OAA22698@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 338

Today's Topics:
40m vertical - How to make?
AMSOFT SPAM
Anybody used Ramsey FX-440 for 9600?.Humm...
Changing Uniden mic wiring?
Help: Mod 440Mhz to Australian CB Possible?
Ladder Line .. how to make?
LED question (2 msgs)
LED question , correction!
PLL/VCO homebrew designs
Radio Shack Pro-51 Mod needed, Please!!!
Source of oil-filled paper electrolytics for Collins PS
Unwanted Fm station (1)
Unwanted Fm station (2)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 21 Oct 1995 14:01:44 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: 40m vertical - How to make?

In article <467mcf$e6m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>You need no
>>ground whatsoever with a halfwave vertical antenna.
>Don,
>
>Sorry to say so, bot you are wrong here. it is true, that the radiation
>resistance of a halfwave is higher, and hence losses induced by a poor
>ground in the vincinity of the antenna (no or little radials)
>is less than for a shorter antenna.
>
>But if you look into the problem of the radiation pattern, you will find,
>that it is also degraded above poor gound.

Sure, lossy *Earth* near an antenna is always a problem, so keep
your antennas well away from Earth, but that doesn't address his
comment. A halfwave antenna *does not require ground* to function.
It doesn't need it to act as a current mirror the way a quarterwave
does. A halfwave vertical is perfectly content to function properly
in *free space*. A quarterwave needs some sort of counterpoise.
That counterpoise *can* be Earth, but it doesn't have to be. Radials,
or a counterpoise wire, will work just as well, probably better
since they won't be as lossy as Earth.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 14:47:40 GMT
From: Jim Strohm <jstrohm@blazer.ucsd.edu>
Subject: AMSOFT SPAM

Bob:

I stand by my previous comment: SPAM-soft.

The gentlemen (NOT) at AMSOFT wisely chose to send their message to at least
ten newsgroups on this round of their shameless advertising. Regardless
of the value of the information they provide, their relentless SPAMMing
of the amateur radio radio newsgroups is unjustifiable and inexcusable.

There was a major SPAM attack from Amsoft the last time they had a new
CD release. And the time before that. AND the time before THAT! They
have an unfortunate history for alienating a lot of us and for wasting a lot
of bandwidth.

That you would support their activity says something about you -- not sure
what, exactly. But it's not in keeping with newsgroup's non-commercial charter.

If you are reading this, it's because I'm wasting bandwidth only on the
rec.radio.* newsgroup I read. And if you reply to my flaming diatribe,
you will do so only to this newsgroup, unless you choose to add groups.
Of course you understand how to add and remove groups from your To:
field in your newsreader. You DO understand how that works, don't you?

Jim N6OTQ
Standard disclaimer

Date: 21 Oct 1995 11:17:40 GMT
From: "J. Silva" <jsilva@zeus.ci.ua.pt>
Subject: Anybody used Ramsey FX-440 for 9600?.Humm...

>>Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
>>I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
>>packet, but nobody has actually been able to get it going quite right.

Some time ago I bought their kit. I found that the receiver suffered
from
many spurious responses which, given right (wrong?) packet frequency
would
make it pretty useless. I did get it to receive 9600 but had a pretty
strong signal to work with and didn't make any performance measurements
so
I can't really comment on the receive performance. The transmitter was
a
disaster! Because they have no shielding anywhere in the radio the
transmitter output got back into the PLL and the resultant signal
resembled
broadband noise. I wasted a lot of time trying to clean that up and
never
was successful. I believe that taking the time to build a good shield
around the PLL would have solved the problem but there are problems with
the board layout that make it a difficult thing to do. I did find a
few
minor design errors which resulted a very long (for 9600 packet) TR
turnaround time. They directly modulate the VCO, like most radios, so

the
transmitter will distort the signal. I never got far enough to worry
about
that.

A friend of mine bought one and had similar problems. Both of us wasted
a
good bit of money. Since then we have discovered the joys of converting
commercial (e.g., Motorola and GE) radios...they work!

My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Interessante ??? CT1DSJ

Date: Mon, 23 Oct 1995 13:37:08 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Changing Uniden mic wiring?

In article <Pine.CVX.3.91.951022183204.6724E-100000@gibbs.oit.unc.edu> Dale Castle
<dbcastle@gibbs.oit.unc.edu> writes:
>
> I have a Standard C508A and I just got a Uniden clip-on mic w/
>ear phone jack. When I plug it in, it keys the radio. The PTT button
>doesn't stop it. The mic sounds great. Can I change the wiring to make it
>work? (bought it used.) Thanks in advance for the help.

Dale, the C508A uses the same "leaky PTT" circuit as Icom/Yaesu/Radio Shack.
Mikes wired for those brands will work. I'm not familiar with the Uniden
mike, but here's roughly what the I/Y/RS circuit looks like:

```
-------------------------x----------------> TIP
| |
| / 2.2k Radio
(M) \
| / __
|------------------------x----o o--------> RING
PTT
```

The mike (M) is actually a FET buffered electret powered from voltage
supplied by the radio. When you close PTT, the mike becomes powered
and the TIP voltage is pulled down by the resistor. The voltage
drop is sensed in the radio and causes it to go into transmit.
The resistor may vary between 2.2k (Yaesu standard) to 10k (Icom
standard). The Yaesu mikes work on either rig, though the audio
level will be a bit low on an Icom, but the Icom mikes won't always
key a Yaesu because they don't sink enough current. My C508A, and
most HTX-202s, don't care, they'll work with either.

It sounds like your Uniden mike uses a different scheme, but since
the audio sounds good, try just rewiring it so the PTT switch is
in series with the ground lead.

Gary
--
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534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 07:25:48 GMT
From: Chris Arai <arai@rahul.net>
Subject: Help: Mod 440Mhz to Australian CB Possible?

I would like to know if it is possible to modify a 440Mhz hand held to
work well on the Australian CB band. I believe it is about 470 Mhz, but
I'm not sure. If anyone knows the answer to that question as well I
would appreciate it.

Thanks

Chris

arai@rahul.net

--
Chris Arai <arai@rahul.net>

Date: 21 Oct 1995 04:14:57 GMT
From: ted <ted@ihnp4.ucsd.edu>
Subject: Ladder Line .. how to make?

Ron and Drew...

.. I remember seeing ladder line where the spacers were made from old
BIC byros (body), if you are going for 2" spacing then a each byro will provide
2 spacers (or a byro per 4' of line - roughly).

Just might save you a bit of sawing... rest of the method the same.

73 Ted VK1BL.

ejg@acslink.net.au

Date: Sat, 21 Oct 1995 14:25:20 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <469kcl$3es@bcfreenet.seflin.lib.fl.us> d010421c@dcfreenet.seflin.lib.fl.us
(Ken Becker) writes:

>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

Ok, lets do some calculations. The original circuit had a 240 ohm
resistor. For 20 ma of diode current, the voltage feeding the
resistor needs to be

E=0.02*240+1.6 = 6.4 volts

and the resistor power dissipation is

P=.02*4.8 = 0.096 watts

So a half-watt resistor offers a comfortable safety margin.
But if the voltage is 50 volts, then we have a power dissipation
in the resistor of

P=48.4^2/240 = 9.76 watts

A half-watt resistor is going to go *poof*, as it indeed did.
So either the value of the original resistor was *not* 240 ohms,
or the design voltage is *not* 50 volts.

Now you replaced the resistor with a 2500 ohm resistor, so the
power dissipation of that resistor would be

P=48.4^2/2500 = 0.937 watt

A 5 watt resistor would be about right to provide an adequate
safety margin. (You never want to run a resistor at its power
dissipation limit, it'll run about 100 C at that power level.)

But the original resistor was a half-watt unit, indicating a
design dissipation of 1/10th watt or less. Clearly something
is wrong here. I'd suspect it's the 50 volts. Are you *sure*
it's *supposed* to be 50 volts?

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary

534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:12:54 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <46f3u3$7m0@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>With 50V as a supply, you are essentially looking for a current
>limiter. The original 240 Ohms was the correct value but it would be
>dissipating about 20 mA x 50V = 1,000 mW or 1W. No wonder it burned
>out. The current to the LED is not so critical but what you could use
>a 220 or 270 Ohm 2W resistor.

Better run that calc again. You slipped a decimal. That's *50* volts,
not *5.0* volts he's saying. A 220 to 270 ohm resistor would be
correct for *5.0* volts. You got the power right though, a *2400*
ohm resistor would dissipate about 1 watt (actually 0.976 watt).
And that's too much for a half watt part. Either the voltage is
supposed to be much lower, or there's supposed to be something
else in the circuit acting as a current limiter besides the
240 ohm half watt resistor in there originally.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:19:03 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question , correction!

In article <46f4g5$6u2@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>
>Sorry, I screwed up. I should not answer questions when I am half
>asleep. You are looking for a current limiter but 50V/20mA makes about
>a 2.5K resistor and the dissipation is about 1W. When the 1/2 W
>resistor "smokes" the red turns brown on the color code, so it
>probably was not 240 Ohms. Use a 2W 2.2K or 2.7K. My apologies if my
>prior posting 5 minutes ago caused any problems.

And my apologies for posting a correction before reading your correction.
We're all singing out of the same hymn book now though. I'm beginning to
suspect a fault in another part of the circuit. Obviously, even if the
original resistor were 2400 ohms and a color band turned when it smoked,
that still doesn't address the fact that it was a *half watt resistor*.
There's got to be something else in the circuit that's supposed to limit

current. *That's* the part that probably failed and took the resistor
with it, and is still causing new resistors to smoke.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 19 Oct 95 20:15:04 EST
From: hduff@humnet.humberc.on.ca
Subject: PLL/VCO homebrew designs

>
> In article <801523937403@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
> >"This is one of those projects where anyone who knows enough about the
> >technology to know what is involved" ...would know that bypassing the
> >multiplication stages in the radio and just generating the highest
> >and closest to the operating frequency with the PLL/VCO would be best
> >approach (which IS indeed the way it is going to be done).
>
> Yes, I do know that. I designed a marine radio that worked that way
> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
> >through a bandpass filter, spurs are not an big issue.
>
> That's a good architecture, but it exceeds the frequency range of the '157.

Hmmm...mine's working at 26 MHz !!
Maybe this is pushing it to its limit.

In the search for more of these parts we have discovered that it *MAY*
be a discontinued item. We are considering trying out
the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

>
> >You might want to brush up on your personability skills...
> >"...simple minded synthesizer..." and your approach in general ceratinly
> >don't contribute positively to the spirit of homebrewing !
> >
> >Hugh Duff VA3TO Toronto

>
> Well, sorry, but what you are talking about *is* a simple minded synthesizer.

What is simple minded about a PLL/Loop Filter/VCO when properly
designed ? I didn't intend on building up some half-assed "well, it
kinda works" board. That was the intent of the original post...tell me
what I need to know and/or HELP me design a solid performer !
If you don't want to get involved in a positive way, say nothing !
Perhaps I'm being a bit anal retentive but the net seems to be full
of the "I can tell you you're wrong but I can't tell you how to
do it right" types.

I suggest that your delivery is somewhat abrasive...try having some
compassion for those of us who are attempting to learn. Nothing is more
of a turnoff than having someone who comes off like a "know-it-all"
burst your ballon. Albeit, you may know your stuff *BUT* your delivery
needs some honing.

> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
> people from endless frustration. (BTW, another poster suggested a DDS;
> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

The only frustration so far has been the negativity expressed by
yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph

exhibits somewhat of a kinder approach...more of what I was expecting.)

...is beyond me. Maybe you have a fat head. (It sounds like it...
"If you want to see a sophisticated one, read my...")
Ya, you're cool !

Keep in mind that this newsgroup is the Ham Radio Homebrewing
conference...hobbiests, many of whom are interested to learn,
myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

~ NFX v1.3 [000]

--

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Date: 23 Oct 1995 02:01:09 -0400
From: aviator270@aol.com (Aviator270)
Subject: Radio Shack Pro-51 Mod needed, Please!!!

Does anyone know how to open the freqs on the RS pro-51?
If its not possible please let me know.

Thanks in advance!!

Date: Mon, 23 Oct 1995 13:36:25 GMT
From: glheller@ix.netcom.com
Subject: Source of oil-filled paper electrolytics for Collins PS

Am in need of these caps for both my Collins S-Line and my KWM-2 power
supplies. The ones in the power supplies are dried out and need to be
replaced.

Would like to know the name of any electronic suppliers that handle
this type of capacitor. Prefer a direct replacement.

Thanks in advance.

Gil Heller

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (1)

to: all
A question was asked by kennedy@aol.com

>>I live in the country. Too bad, right? My favorite FM stereo
>>station is 100 miles away on 102.1 FM. The problem is an
>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.

One of the other replies suggested a bigger antenna pointed at the distant station. That would certainly help make sure you have enough signal. If the difference in directions to the two stations is near 90 degrees you will pick up some additional reduction in signal strength of the offending station due to reduced pickup off the side of the beam. If you ever looked at pictures of antenna patterns in the ARRL Handbook, you'll see that large antennas have maximum pickup in the desired (forward) direction and lots of sharp little points of pickup in the undesired (side and back) directions. Finding a null can give a 20 dB (1/10th) reduction (or more) in signal strength.

Ideally what you want to do is put one of the side lobe NULLS right on the offending station even if you have to point slightly away from the desired station. You might be able to see this happen if you disconnect the antenna from the receiver and just place the coax cable near the terminals as you turn the antenna. Can't guarantee anything but it might work. The better way is to use a high value attenuator between the coax and the radio. Adjust the attenuator for a weak but readable signal on the receiver meter. Then turn the antenna until the signal strength meter on the radio shows as low as possible on the offending station. This gets you the LEAST offending signal possible.

Assuming just changing one antenna isn't enough to fix your problem, I don't think you'll have any luck at all trying to find any standard filter to reduce a signal only 800 KHz away. The next option is to use a second antenna pointed at the offending station and mount the antenna so the signal it brings into the receiver is 180 degrees out of phase with the first antenna. The closer you can get to exactly opposite phase, the more signal will be reduced. Have you ever heard the flutter of multipath on a station? That is what we are trying to do here.

The second antenna can be much smaller than the main antenna because the station is so close. This will not be easy because you have to match not only the signal phase to cancel but also the signal strength. Start by using the attenuator with the receiver and first antenna to try getting a known signal level on the offending station. Next connect the second antenna in place of the first and use another attenuator or extra length of coax (100's of feet) or maybe just a resistor short at the antenna until you have reduced the signal strength to match the first antenna.

Once the signal strengths are egual, connect BOTH antennas to the receiver at the same time using a 2 way splitter/combiner. Now you begin moving the second antenna around until the offending signal is at minimum. That is the position for maximum cancelation. How far do you have to move it? Well, figure the wavelength of the signal. A half

wave is about 495/frequency so a full wave length would be 2*495/106 = 9.3 feet. So somewhere along a line from the first antenna toward the offending station, within a ten foot distance, you should find a null. This doesn't mean you have to be within 10 feet of the first antenna, just a 10 foot movement somewhere in the direction of the offending station. You probably should keep the second antenna ten feet away from the first antenna just to reduce antenna pattern changes since you just got done carefully pointing the first antenna.

Another method of cancelling the signal is by changing the length of the coax from the second antenna to the receiver, because changing the length is just like moving the antenna. Now, the wavelength in coax is shorter than the wavelength in air. This is called the velocity factor of the coax cable. Most foam coax has a velocity factor of around 80%. This means that 10 feet in air is only 8 feet in the coax. So, somewhere in 8 feet of cable is the exact length you need to cancel the offending station. If you choose this method, all you can do is cut off the cable a little bit at a time until you have minimum signal from the offending station. I've never tried this myself so I don't know how small of cuts you should make so you don't go past the null. I'd just figure you'll start with an extra 20 feet of cable and start cutting maybe 6 inches at a time. I assume you'll be able to hear multipath distortion of the signal as you get closer to the right length and can start making smaller cuts.

It is my understanding that this basic technique is frequently used in commercial broadcast radio where they may have similar problems. I understand they use more of a tuneable (low pass?) filter of some sort to adjust the phase shift instead of cutting the coax. This phase cancellation technique is the only one I've ever heard of that might do you any good. The only other options involve replacing the receiver with something much more expensive, designed for extremely high signal overload and superb IF bandwidth filtering. I've never heard of such a receiver but I'm sure they exist if you have a LOT of money.

I really don't have much hope that anything is going to let you receive your desired station. With 50 KW only 5 miles away, everything in your
--==<<< Continued next message >>>==--

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (2)

--==<<< Continued from previous message >>>==--
area is going to bouce some of the signal into the first antenna. The more random signals you have bouncing around, the less likely you'll be able to null out the offending station. Good luck.

73's.

Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

* SLMR 2.1a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

----

End of Ham-Homebrew Digest V95 #338
****

--WAA07620.814504136/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 1995 13:29:37 GMT
From: wrt@eskimo.com (Bill Turner)
Subject: Unwanted Fm station (1)

>the undesired (side and back) directions. Finding a null can give a
>20 dB (1/10th) reduction (or more) in signal strength.

Nitpick mode ON:

20 dB is a 100:1 power reduction. 10 dB is 10:1.

Date: 23 Oct 1995 18:41:28 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: Want to jam stupid radio station

In article <46b6ur$59u@ixnews2.ix.netcom.com>,
>writes:
>>
>>Is this possible? I'd only want to jam one particular signal in a
>>small area. I don't know if this'll help me pick up the station I
>>like,>which happens to be right next to it, but I'd like to jam it
>>just out of spite. And yes, I'm sure the FCC isn't going to approve.
>> Stan Kwong
>

When I was in college, I had a vacuum tube operated FM clock radio.
I discovered that the LO radiation on it was so bad that it would
wipe out radios in my dorm room or next door if it was tuned 10.7
MHz. lower in frequency. I had lots of fun silencing my roommates'
(and neighbor's) radios when they listened to music I didn't like.
They never figured out what hit them!

Rick Karlquist
rkarlqu@scd.hp.com

End of Ham-Homebrew Digest V95 #339
****

--XAA07945.814507497/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #340
****

--XAA08149.814510295/ooz.backbone.uoknor.edu--

Date: 23 Oct 1995 18:41:30 GMT
From: ez041502@dale.ucdavis.edu (Psyber)
Subject: Want to filter out stupid radio station

I posted before about jamming a radio station. I wasn't that
serious. I just wanted to express my intense dislike of "young"
country. (I won't call it music, that'd be giving it too much credit.)
I have since gotten advice to ask about how to filter out the hated
station or to get a "more selective receiver". Now does anyone have any
more information on these perfectly legal solutions?
Stan Kwong

End of Ham-Homebrew Digest V95 #341
****

--AAA08421.814512959/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #342
****

--BAA08677.814515626/ooz.backbone.uoknor.edu--

4887. Returned mail: Local configuration error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: MAILER-DAEMON@uoknor.EDU
Message-ID: <199510240744.CAA09112@ooz.backbone.uoknor.edu>
Source record: 110048

```
This is a MIME-encapsulated message

--CAA09112.814520673/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 02:44:32 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--CAA09112.814520673/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id CAA09110 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 02:44:32 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id CAA00603 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 02:43:44 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSWW0BV0W004DQW@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:48:09 -0500 (CDT)
Date: Tue, 24 Oct 1995 02:48:08 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #345
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSWW0E06Q004DQW@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSWVQZMGW004RRQ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 02:47:56 -0500 (CDT)
Received: by mail.ucsd.edu; id AAA02163 sendmail 8.6.12/UCSD-2.2-sun Tue,
24 Oct 1995 00:24:55 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id AAA02146 sendmail 8.6.12/UCSD-2.2-sun Tue,
```

24 Oct 1995 00:24:53 -0700 for ham-homebrew-ddist
Date: Tue, 24 Oct 1995 00:24:51 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #345
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240724.AAA02146@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Tue, 24 Oct 95 Volume 95 : Issue 345

Today's Topics:
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 07:17:18 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--CAA08959.814519038/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 02:17:16 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--CAA08959.814519038/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id CAA08957 for <arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 02:17:16 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id CAA00589 for <arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 02:16:28 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu (PMDF V4.3-13 #7521) id <01HWSVX7RNA8004P4L@aardvark.ucs.uoknor.edu>; Tue, 24 Oct 1995 02:20:54 -0500 (CDT)
Date: Tue, 24 Oct 1995 02:20:52 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #344
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSVX7TISY004P4L@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu (PMDF V4.3-13 #7521) id <01HWSVWZ0UCG004QIC@aardvark.ucs.uoknor.edu>; Tue, 24 Oct 1995 02:20:40 -0500 (CDT)
Received: by mail.ucsd.edu; id XAA27359 sendmail 8.6.12/UCSD-2.2-sun Mon, 23 Oct 1995 23:47:09 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id XAA27343 sendmail 8.6.12/UCSD-2.2-sun Mon, 23 Oct 1995 23:47:07 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 23:47:05 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #344
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240647.XAA27343@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 344

Today's Topics:
Returned mail: Local configuration error

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policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 06:43:41 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--BAA08828.814517021/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:43:40 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08828.814517021/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08826 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:43:40 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00567 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:42:51 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSURHIG28004PHG@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:47:15 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:47:13 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #343
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSURHK1XU004PHG@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSUR69MDC004J5V@aardvark.ucs.uoknor.edu>; Tue,

24 Oct 1995 01:47:01 -0500 (CDT)
Received: by mail.ucsd.edu; id XAA23664 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:23:56 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id XAA23641 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 23:23:52 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 23:23:51 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #343
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240623.XAA23641@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 343

Today's Topics:
Returned mail: Local configuration error
Want: COIL winding machine

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policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 06:20:26 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--BAA08677.814515626/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 01:20:24 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--BAA08677.814515626/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@UCSD.EDU
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id BAA08675 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 01:20:24 -0500
From: Ham-Homebrew@UCSD.EDU
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id BAA00550 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 01:19:36 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXOZG0G004M6I@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:24:00 -0500 (CDT)
Date: Tue, 24 Oct 1995 01:23:58 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #342
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSTXP1L6A004M6I@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@UCSD.EDU"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSTXGE9M8004HFT@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 01:23:47 -0500 (CDT)
Received: by mail.ucsd.edu; id WAA16807 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:29 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id WAA16789 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 22:39:27 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 22:39:24 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Subject: Ham-Homebrew Digest V95 #342
Sender: ham-homebrew-relay@UCSD.EDU
To: Ham-Homebrew@UCSD.EDU
Errors-to: ham-homebrew-relay@UCSD.EDU
Errors-to: Ham-Homebrew-Errors@UCSD.EDU
Reply-to: Ham-Homebrew@UCSD.EDU
Message-id: <199510240539.WAA16789@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 342

Today's Topics:
Returned mail: Local configuration error

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 05:35:59 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--AAA08421.814512959/ooz.backbone.uoknor.edu

The original message was received at Tue, 24 Oct 1995 00:35:58 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--AAA08421.814512959/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id AAA08419 for
<arees@ELECT1.CHEM.uoknor.edu>; Tue, 24 Oct 1995 00:35:58 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id AAA00522 for
<arees@elect4.uoknor.edu>; Tue, 24 Oct 1995 00:35:09 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSEJS7SW003PET@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:33 -0500 (CDT)
Date: Tue, 24 Oct 1995 00:39:32 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #341
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSSEJUCYQ003PET@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSSE9PQ1C0049CZ@aardvark.ucs.uoknor.edu>; Tue,
24 Oct 1995 00:39:18 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA10882 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:55:54 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA10839 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:55:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:55:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #341
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240455.VAA10839@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 341

Today's Topics:
Returned mail: Local configuration error
Want to filter out stupid radio station

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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policies or positions of any party. Your mileage may vary. So there.

Date: 24 Oct 95 04:51:35 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA08149.814510295/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:51:34 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA08149.814510295/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA08147 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:51:34 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00481 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:50:46 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQUF1QG0004EUI@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:55:03 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:55:02 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #340
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSQUF458Y004EUI@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSQU6KB2O004S2X@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:54:52 -0500 (CDT)
Received: by mail.ucsd.edu; id VAA04516 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:36 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id VAA04489 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 21:08:33 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 21:08:32 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #340
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240408.VAA04489@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 340

Today's Topics:
4CX1000 Prices?
Need Postscript to HP-GL Translator .. Suggestions ?
Returned mail: Local configuration error

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herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 22 Oct 1995 03:11:28 GMT
From: ab419@freenet.toronto.on.ca (Randie Kochals)
Subject: 4CX1000 Prices?

I am looking around for an Eimac 4CX1000a tube and was wondering
what the going price should be for new and used. If any of you
have seen for sale, or have recently bought one of these, let me
know what I should be prepared to pay.

Thanks

Date: 23 Oct 1995 21:59:07 GMT
From: daveb@buffnet.net (dave)
Subject: Need Postscript to HP-GL Translator .. Suggestions ?

Greetings,

In need of a translator that will convert poscript files to HP - GL (Laserjet 4L).
I'm hoping that someone knows of a freeware/shareware version that will do
the job.

Thanks

daveb@buffnet.net

Date: 24 Oct 95 04:04:57 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)
Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--XAA07945.814507497/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 23:04:56 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--XAA07945.814507497/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id XAA07942 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 23:04:56 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id XAA00447 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 23:04:07 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7QBIGW003R6O@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:30 -0500 (CDT)
Date: Mon, 23 Oct 1995 23:08:29 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #339
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSP7QD4CI003R6O@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSP7IHXI8004S4E@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 23:08:20 -0500 (CDT)
Received: by mail.ucsd.edu; id UAA22711 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:13 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id UAA22686 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 20:13:09 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 20:13:07 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #339
Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510240313.UAA22686@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List

Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 339

Today's Topics:
'95 Handbook problem, need email or phone reference
50MHz transmitter frequencies for UK
an HT from Hong Kong? (2 msgs)
Best motherboard for minimum rfi
Circuit diagram for a 100+ ft transmitter and receiver
Making labels from transparencies
Radio Control kits/plans
Returned mail: Local configuration error
Unwanted Fm station (1)
Want to jam stupid radio station

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Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
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policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 23 Oct 1995 21:06:12 GMT
From: psoper@encore.com (Pete Soper)
Subject: '95 Handbook problem, need email or phone reference

Hi folks,
I've plugged a lot of numbers into the R1 resistor equation of
the low-pass active filter design description in figure 16.54 on page
16.30 of the '95 "ARRL Handbook". I'm convinced that either the
equation is in error or I've lost my mind. In case it's the former problem
(or to get quickly to the latter), could somebody recommend how I can pursue
this with the ARRL? Is there a department to ask for on the phone (#?)
or an email address for this kind of query?
Please send me email direct if you can help, as postings to this
group are averaging 7-12 days to ooze through our news feed.
My problem is that the "[a^2 + 4b(K-1)]C2^2" subexpression results
in an attempt to take the square root of a negative value because this comes
out smaller than the "4bC1C2" subexpression subtracted from it. If I guess
that parentheses are missing and it should be written "([a^2 + 4b(K-1)]C2)^2"
I get the wrong result for the example values given. I can't come up with
a second guess :-)

Thanks,
Pete

Pete Soper (psoper@encore.com) KS4XG 1+ 919 481 3730, 481 3868/FAX
Encore Computer Corp 901 Kildaire Farm Rd Cary, NC 27511 USA grid FM05oq

---

Date: Mon, 23 Oct 1995 20:49:37 GMT
From: giles@wormwood.demon.co.uk (giles)
Subject: 50MHz transmitter frequencies for UK

I have recently passed my RAE and instead of lashing out on expensive equipment ,I am going to do some homebrew QRP projects together with appropriate instrumentation -- see Practical Transmitters for Novices. What I should like to know:

1) What are best channel frequencies for FM 50MHz? i.e. what rocks to choose?

2) In order to hear the 6M band I have built a converter to connect to my Kenwood R5000. I have tried to make a dipole but have no usable signals yet --- i think a higher antenna is called for. Has anyone any experience with the 50MHz to 28MHz converter a la Cirkit?

Giles G7VOF

Date: 21 Oct 1995 17:09:22 -0700
From: ad7k@bighorn.accessnv.com (Squeak Porray)
Subject: an HT from Hong Kong?

If you want my name just ask. (timhynde@ix.netcom.com) wrote:

: >to Hong Kong soon and am interested in shopping for an HT. What can
: you
: >advise me about:

: I'd save myselft the trouble and buy from a stateside distributor,

Comments from a "Stateside distributor", who has had experience both ways ...

If you buy a radio from someone you never saw before, and never expect to see again, all he is going to be interested in is getting your money out of your wallet and you on your way.

If you buy from a local (or regional) dealer, you are buying from someone who wants to see YOU happy, since he hopes that you will come back again and again, for all those accessories, mobile radios, antennas and the like that we hams always need to add to our collection.

If you bring in an oversees "Yaekenicostanco" radio, you will have NO US warranty - the American distributors warrant only those radios that they import, and quite possibly might not service them - they are completely within their rights to do so. There very well may be (as has been in the past) board or component differences between various versions of the

radio destined for different countries, thus compounding the situation. (Some manufacturers have had up to five different versions of the same radio - with each version destined for a different market area, with different regulations.)

If you buy the radio from a local (or regional) dealer, you have someone you can go to with questions and problems ... but long-distance calls to Hong Kong to get answers to a question get expensive - to say nothing of "how do you ask someone how to program odd splits for repeaters into your new handy - when he is only really fluent, technically, in Chinese?"

I doubt that you will find any significant price differentials in buying in Hong Kong ... that was true years ago (I was there during the VietNam era), but not now, with the global economy/distribution situation now in existance. However, you can find real bargains in Hong Kong on things that are local-labor-intensive (like tailored suits for example).

Enjoy your trip ... take the tram to the top of Victoria Peak and let me know if the view is still as grand as it was on Christmas Day of 1972 ... and good luck to you!

Very 73,

"Squeak" Porray, AD7K
Manager, Amateur Electronic Supply/Las Vegas

ps: I hope you don't think I am touting just our company ... in the above, I speak for the Amateur Radio community in general, and I think that it speaks for all domestic Amateur Radio Dealers as well.

Date: Mon, 23 Oct 1995 18:50:11 GMT
From: rafaels@zimmer.CSUFresno.EDU (Rafael Solis)
Subject: an HT from Hong Kong?

In article <46b7s9$lmj@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (If you want my name just ask.) writes:
>
>>to Hong Kong soon and am interested in shopping for an HT. What can
>you
>>advise me about:
>
>
>I'd save myselft the trouble and buy from a stateside distributor, I've
>heard of guys buying overseas HF gear with features or bands not avail.
>in U.S but I've never heard of any great bargains. What you save by
>shopping Hong Kong may cost you quickly if you have a problem or need
>an accessory for the radio.
>
>I have a Kenwood Dual band HT and like it alot.
>
>73, Tim ka8ddz

I agree with Tim. I've been to HK several times on business trips and
it is not worth the hassling of dealing with the salesmen over there
(prices are not fixed and you have to deal, yes as in bargaining!).
Also there is the problem of the warranty. I don't think any of the
major brands (K,I,Y) honor warranties of any equipment bought
overseas. What I have bought though are accessories. Bring your AES
catalog to check the price differences. Some things are cheaper there
but others are around the same or even higher depending on the store.
Another suggestion is to get away from the Nathan Rd. stores, those
are usually overpriced.

Have fun in HK.

Rafael (KE6JSR)

Date: Mon, 23 Oct 1995 16:42:13 -0700
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Subject: Best motherboard for minimum rfi

Good point Paul. I have exactly the same thoughts but have experienced
just about the same level of noise with the modern boards as the old!

On 21 Oct 1995, Paul Erickson wrote:

> Has anyone done any comparisons to see which motherboards are best
> from an rfi point of view?? I am planning on replacing the board in
> my old AT, but my current experiences with my NEC multispeed
> (very noisy on 14mhz) are making me cautious about computer generated
> rfi. Any comments will be appreciated.
>
> cheers, Paul
> ve7cqk
> email: paul1@wizard.ucs.sfu.ca
>
>
>

Date: 23 Oct 1995 20:35:33 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Circuit diagram for a 100+ ft transmitter and receiver

Does anyone know where I could find a circuit diagram for a transmitter and
receiver that could go 100+ feet. One or two channel.

I would like to build one from scratch.

Thanks in advance

scottc@pegasus.cc.ucf.edu

Date: 23 Oct 1995 20:40:43 GMT
From: dean@slinkyworld.UCSD.EDU (dean)
Subject: Making labels from transparencies

>>Has anyone had experience making panel labels for projects using laser-
>>printed transparencies? With Word for Windows, I can align and print
>>very nice labels. The only problem is gluing them to a panel. Nothing I
>>have tried (rubber cememt, contact cement, crazy glue, airplane cement)
>>seems to stick. I assume the plastic is mylar.
>>

I would use clear contact paper over the laser quality print. Contact paper
is great for a lot of things and I've used it before

Date: Mon, 23 Oct 1995 21:12:20 GMT
From: bs872@FreeNet.Carleton.CA (Henry Ian Ross)
Subject: Radio Control kits/plans

If you want my name just ask. (timhynde@ix.netcom.com) writes:
> I would like to build a radio control transmitter and reciever for 6m.
> I have used several commercially available units for 72 MHz but it's
> time to really do it right.
>
> Anyone have plans or knowledge of RC for 6m. I am a builder but have
> never seen anything along those lines.
>
> Regards,
>
> Tim Hynde
> ka8ddz, Rochester MI

Tim,
Many years ago, I built a six-channel radio on 6M using a design
published as a series of articles by Radio Control Modeller (RCM)
magazine. If you can find some older issues circa 1970 or contact
RCM, they may be able to send you the information.

The radio is still running in a Soling 1M yacht that I race occasionally
at our yacht club.

Good luck.
Ian

--
Scouter Ian Ross (VE3ARE)
First Collins Bay Sea Venturers
Kingston, Ontario
ROSS@KRDC.INT.ALCAN.CA

Date: 24 Oct 95 03:08:56 GMT
From: MAILER-DAEMON@uoknor.EDU (Mail Delivery Subsystem)

Subject: Returned mail: Local configuration error

This is a MIME-encapsulated message

--WAA07620.814504136/ooz.backbone.uoknor.edu

The original message was received at Mon, 23 Oct 1995 22:08:54 -0500
from root@elect4.chem.uoknor.edu [129.15.12.64]

----- The following addresses had delivery problems -----
<arees@ELECT1.CHEM.uoknor.edu> (unrecoverable error)

----- Transcript of session follows -----
554 MX list for elect1.chem.uoknor.edu. points back to ooz.backbone.uoknor.edu
554 <arees@ELECT1.CHEM.uoknor.edu>... Local configuration error

----- Original message follows -----

--WAA07620.814504136/ooz.backbone.uoknor.edu
Content-Type: message/rfc822

Return-Path: Ham-Homebrew@ucsd.edu
Received: from elect4.chem.uoknor.edu (root@elect4.chem.uoknor.edu [129.15.12.64]) by
ooz.backbone.uoknor.edu (8.6.12/8.6.12) with SMTP id WAA07618 for
<arees@ELECT1.CHEM.uoknor.edu>; Mon, 23 Oct 1995 22:08:54 -0500
From: Ham-Homebrew@ucsd.edu
Received: from aardvark.ucs.uoknor.edu (aardvark.ucs.uoknor.edu [129.15.10.11]) by
elect4.chem.uoknor.edu (8.6.12/8.6.9) with ESMTP id WAA00391 for
<arees@elect4.uoknor.edu>; Mon, 23 Oct 1995 22:08:06 -0500
Received: from aardvark.ucs.uoknor.edu by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN9AF6N40042TV@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:29 -0500 (CDT)
Date: Mon, 23 Oct 1995 22:12:28 -0500 (CDT)
Subject: Ham-Homebrew Digest V95 #338
To: arees@ELECT4.CHEM.uoknor.edu
Message-id: <01HWSN9AHLGI0042TV@aardvark.ucs.uoknor.edu>
X-Envelope-to: arees@elect4.uoknor.edu
X-VMS-To: IN%"Ham-Homebrew@ucsd.edu"
MIME-version: 1.0
Content-type: TEXT/PLAIN; CHARSET=US-ASCII
Content-transfer-encoding: 7BIT

Return-path: <owner-ham-homebrew@ucsd.edu>
Received: from mail.ucsd.edu (ucsd.edu) by aardvark.ucs.uoknor.edu
(PMDF V4.3-13 #7521) id <01HWSN911VIO0041N6@aardvark.ucs.uoknor.edu>; Mon,
23 Oct 1995 22:12:17 -0500 (CDT)
Received: by mail.ucsd.edu; id TAA11405 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 19:22:18 -0700 for ham-homebrew-list
Received: by mail.ucsd.edu; id OAA22698 sendmail 8.6.12/UCSD-2.2-sun Mon,
23 Oct 1995 14:13:49 -0700 for ham-homebrew-ddist
Date: Mon, 23 Oct 1995 14:13:44 -0700 (PDT)
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Subject: Ham-Homebrew Digest V95 #338

Sender: ham-homebrew-relay@ucsd.edu
To: Ham-Homebrew@ucsd.edu
Errors-to: ham-homebrew-relay@ucsd.edu
Errors-to: Ham-Homebrew-Errors@ucsd.edu
Reply-to: Ham-Homebrew@ucsd.edu
Message-id: <199510232113.OAA22698@mail.ucsd.edu>
X-Envelope-to: arees
Content-transfer-encoding: 7BIT
Precedence: List
Precedence: List

Ham-Homebrew Digest Mon, 23 Oct 95 Volume 95 : Issue 338

Today's Topics:
40m vertical - How to make?
AMSOFT SPAM
Anybody used Ramsey FX-440 for 9600?.Humm...
Changing Uniden mic wiring?
Help: Mod 440Mhz to Australian CB Possible?
Ladder Line .. how to make?
LED question (2 msgs)
LED question , correction!
PLL/VCO homebrew designs
Radio Shack Pro-51 Mod needed, Please!!!
Source of oil-filled paper electrolytics for Collins PS
Unwanted Fm station (1)
Unwanted Fm station (2)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 21 Oct 1995 14:01:44 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: 40m vertical - How to make?

In article <467mcf$e6m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>You need no
>>ground whatsoever with a halfwave vertical antenna.
>Don,
>
>Sorry to say so, bot you are wrong here. it is true, that the radiation
>resistance of a halfwave is higher, and hence losses induced by a poor

>ground in the vincinity of the antenna (no or little radials)
>is less than for a shorter antenna.
>
>But if you look into the problem of the radiation pattern, you will find,
>that it is also degraded above poor gound.

Sure, lossy *Earth* near an antenna is always a problem, so keep
your antennas well away from Earth, but that doesn't address his
comment. A halfwave antenna *does not require ground* to function.
It doesn't need it to act as a current mirror the way a quarterwave
does. A halfwave vertical is perfectly content to function properly
in *free space*. A quarterwave needs some sort of counterpoise.
That counterpoise *can* be Earth, but it doesn't have to be. Radials,
or a counterpoise wire, will work just as well, probably better
since they won't be as lossy as Earth.

Gary
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 14:47:40 GMT
From: Jim Strohm <jstrohm@blazer.ucsd.edu>
Subject: AMSOFT SPAM

Bob:

I stand by my previous comment: SPAM-soft.

The gentlemen (NOT) at AMSOFT wisely chose to send their message to at least
ten newsgroups on this round of their shameless advertising. Regardless
of the value of the information they provide, their relentless SPAMMing
of the amateur radio radio newsgroups is unjustifiable and inexcusable.

There was a major SPAM attack from Amsoft the last time they had a new
CD release. And the time before that. AND the time before THAT! They
have an unfortunate history for alienating a lot of us and for wasting a lot
of bandwidth.

That you would support their activity says something about you -- not sure
what, exactly. But it's not in keeping with newsgroup's non-commercial charter.

If you are reading this, it's because I'm wasting bandwidth only on the
rec.radio.* newsgroup I read. And if you reply to my flaming diatribe,
you will do so only to this newsgroup, unless you choose to add groups.
Of course you understand how to add and remove groups from your To:
field in your newsreader. You DO understand how that works, don't you?

Jim N6OTQ
Standard disclaimer

Date: 21 Oct 1995 11:17:40 GMT
From: "J. Silva" <jsilva@zeus.ci.ua.pt>
Subject: Anybody used Ramsey FX-440 for 9600?.Humm...

>>Does the Ramsey FX-440 transceiver kit actually work for 9600 baud packet?
>>I have friend-of-a-friend word that Ramsey claims it works on 9600 baud
>>packet, but nobody has actually been able to get it going quite right.

Some time ago I bought their kit. I found that the receiver suffered
from
many spurious responses which, given right (wrong?) packet frequency
would
make it pretty useless. I did get it to receive 9600 but had a pretty
strong signal to work with and didn't make any performance measurements
so
I can't really comment on the receive performance. The transmitter was
a
disaster! Because they have no shielding anywhere in the radio the
transmitter output got back into the PLL and the resultant signal
resembled
broadband noise. I wasted a lot of time trying to clean that up and
never
was successful. I believe that taking the time to build a good shield
around the PLL would have solved the problem but there are problems with
the board layout that make it a difficult thing to do. I did find a
few
minor design errors which resulted a very long (for 9600 packet) TR
turnaround time. They directly modulate the VCO, like most radios, so
the
transmitter will distort the signal. I never got far enough to worry
about
that.

A friend of mine bought one and had similar problems. Both of us wasted
a
good bit of money. Since then we have discovered the joys of converting
commercial (e.g., Motorola and GE) radios...they work!

My recommendation is to avoid the unit unless they have made major
design
changes since the original radio (the 2-m version failed the transmitter
spurious output test -- see the QST review from about a year ago).

Interessante ??? CT1DSJ

Date: Mon, 23 Oct 1995 13:37:08 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Changing Uniden mic wiring?

In article <Pine.CVX.3.91.951022183204.6724E-100000@gibbs.oit.unc.edu> Dale Castle
<dbcastle@gibbs.oit.unc.edu> writes:
>
> I have a Standard C508A and I just got a Uniden clip-on mic w/
>ear phone jack. When I plug it in, it keys the radio. The PTT button
>doesn't stop it. The mic sounds great. Can I change the wiring to make it
>work? (bought it used.) Thanks in advance for the help.

Dale, the C508A uses the same "leaky PTT" circuit as Icom/Yaesu/Radio Shack.
Mikes wired for those brands will work. I'm not familiar with the Uniden
mike, but here's roughly what the I/Y/RS circuit looks like:

```
-------------------------x----------------> TIP
| |
| / 2.2k Radio
(M) \
| / __
|-------------------------x----o o--------> RING
PTT
```

The mike (M) is actually a FET buffered electret powered from voltage
supplied by the radio. When you close PTT, the mike becomes powered
and the TIP voltage is pulled down by the resistor. The voltage
drop is sensed in the radio and causes it to go into transmit.
The resistor may vary between 2.2k (Yaesu standard) to 10k (Icom
standard). The Yaesu mikes work on either rig, though the audio
level will be a bit low on an Icom, but the Icom mikes won't always
key a Yaesu because they don't sink enough current. My C508A, and
most HTX-202s, don't care, they'll work with either.

It sounds like your Uniden mike uses a different scheme, but since
the audio sounds good, try just rewiring it so the PTT switch is
in series with the ground lead.

Gary
--
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Lawrenceville, GA 30244 | |

Date: 23 Oct 1995 07:25:48 GMT
From: Chris Arai <arai@rahul.net>
Subject: Help: Mod 440Mhz to Australian CB Possible?

I would like to know if it is possible to modify a 440Mhz hand held to
work well on the Australian CB band. I believe it is about 470 Mhz, but
I'm not sure. If anyone knows the answer to that question as well I
would appreciate it.

Thanks

Chris

arai@rahul.net

--
Chris Arai <arai@rahul.net>

Date: 21 Oct 1995 04:14:57 GMT
From: ted <ted@ihnp4.ucsd.edu>
Subject: Ladder Line .. how to make?

Ron and Drew...

.. I remember seeing ladder line where the spacers were made from old
BIC byros (body), if you are going for 2" spacing then a each byro will provide
2 spacers (or a byro per 4' of line - roughly).

Just might save you a bit of sawing... rest of the method the same.

73 Ted VK1BL.

ejg@acslink.net.au

Date: Sat, 21 Oct 1995 14:25:20 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <469kcl$3es@bcfreenet.seflin.lib.fl.us> d010421c@dcfreenet.seflin.lib.fl.us
(Ken Becker) writes:
>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source. There is no ac ripple, at
>least not measureable, the orignal resistor was open, causing the LED to
>not light, simple so far, right? The LED checks ok, compared to a new
>one, and when the resistor was replaced with the same value, the LED lit,
>for a few minutes and the NEW resistor burned up. I did some checking and
>found that with a 50 volt source in order to have the proper drop, a 2500
>ohm resistor was required, I used a 10 watt resistor, which supplies the
>LED with 1.6 volts DC, it lights at the proper brilliance, but the
>resistor runs hot enough, that I would probably need to use a 25 watt
>resistor to dothe job. I know this is rediculous, as the maunufacturer
>used a 1/2 watt. According to a an article on LEDs, I was supposed to use
>20 milliamps to calculate the resistance and wanted to drop from 50 to 2.
>I am obviously doing something wrong. PLEASE HELP!

Ok, lets do some calculations. The original circuit had a 240 ohm
resistor. For 20 ma of diode current, the voltage feeding the
resistor needs to be

E=0.02*240+1.6 = 6.4 volts

and the resistor power dissipation is

P=.02*4.8 = 0.096 watts

So a half-watt resistor offers a comfortable safety margin.
But if the voltage is 50 volts, then we have a power dissipation
in the resistor of

P=48.4^2/240 = 9.76 watts

A half-watt resistor is going to go *poof*, as it indeed did.
So either the value of the original resistor was *not* 240 ohms,
or the design voltage is *not* 50 volts.

Now you replaced the resistor with a 2500 ohm resistor, so the
power dissipation of that resistor would be

P=48.4^2/2500 = 0.937 watt

A 5 watt resistor would be about right to provide an adequate
safety margin. (You never want to run a resistor at its power
dissipation limit, it'll run about 100 C at that power level.)

But the original resistor was a half-watt unit, indicating a
design dissipation of 1/10th watt or less. Clearly something
is wrong here. I'd suspect it's the 50 volts. Are you *sure*
it's *supposed* to be 50 volts?

Gary
--
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534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:12:54 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question

In article <46f3u3$7m0@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>With 50V as a supply, you are essentially looking for a current
>limiter. The original 240 Ohms was the correct value but it would be
>dissipating about 20 mA x 50V = 1,000 mW or 1W. No wonder it burned
>out. The current to the LED is not so critical but what you could use
>a 220 or 270 Ohm 2W resistor.

Better run that calc again. You slipped a decimal. That's *50* volts,
not *5.0* volts he's saying. A 220 to 270 ohm resistor would be
correct for *5.0* volts. You got the power right though, a *2400*
ohm resistor would dissipate about 1 watt (actually 0.976 watt).
And that's too much for a half watt part. Either the voltage is
supposed to be much lower, or there's supposed to be something
else in the circuit acting as a current limiter besides the
240 ohm half watt resistor in there originally.

Gary
--
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Lawrenceville, GA 30244 | |

Date: Mon, 23 Oct 1995 13:19:03 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: LED question , correction!

In article <46f4g5$6u2@news.iadfw.net> clifpenn@airmail.net (CLIF PENN) writes:
>
>Sorry, I screwed up. I should not answer questions when I am half
>asleep. You are looking for a current limiter but 50V/20mA makes about
>a 2.5K resistor and the dissipation is about 1W. When the 1/2 W
>resistor "smokes" the red turns brown on the color code, so it
>probably was not 240 Ohms. Use a 2W 2.2K or 2.7K. My apologies if my
>prior posting 5 minutes ago caused any problems.

And my apologies for posting a correction before reading your correction.
We're all singing out of the same hymn book now though. I'm beginning to
suspect a fault in another part of the circuit. Obviously, even if the
original resistor were 2400 ohms and a color band turned when it smoked,
that still doesn't address the fact that it was a *half watt resistor*.
There's got to be something else in the circuit that's supposed to limit
current. *That's* the part that probably failed and took the resistor
with it, and is still causing new resistors to smoke.

Gary
--
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534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

Date: Thu, 19 Oct 95 20:15:04 EST
From: hduff@humnet.humberc.on.ca
Subject: PLL/VCO homebrew designs

>
> In article <801523937403@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
>
> >Hmm... Jumping to conclusions ? Did I say anywhere that the frequencies
> >that I would synthesize would be at the crystal fundamentals ?
>
> I assumed you wanted to keep as much of the radio intact as possible,
> especially since the '157 won't work above 15 MHz.
>

The radio remains intact...I just inject the VCO signal further up the
line.
Hmmm... the '157 I have here is running at 26 Mhz !!

>
> >"This is one of those projects where anyone who knows enough about the
> >technology to know what is involved" ...would know that bypassing the
> >multiplication stages in the radio and just generating the highest
> >and closest to the operating frequency with the PLL/VCO would be best
> >approach (which IS indeed the way it is going to be done).
>
> Yes, I do know that. I designed a marine radio that worked that way
> 20 years ago. However, you don't want to operate the VCO on the transmit
> frequency because of feedback problems.

Not being done here.

>
> >I'm operating the PLL/VCO at half the required frequency and running it
> >through 1 doubler stage within the radio. The doubled frequency runs
> >through a bandpass filter, spurs are not an big issue.
>
> That's a good architecture, but it exceeds the frequency range of the '157.

Hmmm...mine's working at 26 MHz !!
Maybe this is pushing it to its limit.

In the search for more of these parts we have discovered that it *MAY*
be a discontinued item. We are considering trying out
the MC145190 (if we can get 'em from the supplier). Good to 1.1 GHz
with onboard dual modulus prescalars...surface mount only though :(

>
> >You might want to brush up on your personability skills...
> >"...simple minded synthesizer..." and your approach in general ceratinly
> >don't contribute positively to the spirit of homebrewing !
> >
> >Hugh Duff VA3TO Toronto

>
> Well, sorry, but what you are talking about *is* a simple minded synthesizer.

What is simple minded about a PLL/Loop Filter/VCO when properly
designed ? I didn't intend on building up some half-assed "well, it
kinda works" board. That was the intent of the original post...tell me
what I need to know and/or HELP me design a solid performer !
If you don't want to get involved in a positive way, say nothing !
Perhaps I'm being a bit anal retentive but the net seems to be full
of the "I can tell you you're wrong but I can't tell you how to
do it right" types.

I suggest that your delivery is somewhat abrasive...try having some
compassion for those of us who are attempting to learn. Nothing is more
of a turnoff than having someone who comes off like a "know-it-all"

burst your ballon. Albeit, you may know your stuff *BUT* your delivery
needs some honing.

> If you want to see a sophisticated one, read my 1995 Frequency Control
> Symposium paper. I am trying to contribute to homebrewing by saving
> people from endless frustration. (BTW, another poster suggested a DDS;
> great idea! Far more homebrewable.)
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

The only frustration so far has been the negativity expressed by
yourself. Why you didn't instead say...

Hey man..."I've been there... done that..."
"Why don't you look at this other PLL chip...your '157 is
only rated for XX MHz and may cause you problems with XXX. Your best
approach would be to use the MC145XXX (or whatever). The loop filter is
a key element in the design...it dictates many of the characteristics
of the VCO operation...I can help to get you on your way...what are your
requirements ie.. lock-up time, step size, phase noise ect...?
Hey, I have a great VCO design that works well in the range you
require...let me send you a copy of it !...I think if you follow these
guidelines you'l be headed in the right direction..."
(I'm not quite asking for some expert to hold my hand through the design...
I DO have a bit of a clue what I'm doing but the above paragraph
exhibits somewhat of a kinder approach...more of what I was expecting.)

...is beyond me. Maybe you have a fat head. (It sounds like it...
"If you want to see a sophisticated one, read my...")
Ya, you're cool !

Keep in mind that this newsgroup is the Ham Radio Homebrewing
conference...hobbiests, many of whom are interested to learn,
myself included. If you wanna make love to yourself, do so in private !

Hugh Duff VA3TO Toronto

~ NFX v1.3 [000]

--

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Date: 23 Oct 1995 02:01:09 -0400
From: aviator270@aol.com (Aviator270)
Subject: Radio Shack Pro-51 Mod needed, Please!!!

Does anyone know how to open the freqs on the RS pro-51?
If its not possible please let me know.

Thanks in advance!!

Date: Mon, 23 Oct 1995 13:36:25 GMT
From: glheller@ix.netcom.com
Subject: Source of oil-filled paper electrolytics for Collins PS

Am in need of these caps for both my Collins S-Line and my KWM-2 power supplies. The ones in the power supplies are dried out and need to be replaced.

Would like to know the name of any electronic suppliers that handle this type of capacitor. Prefer a direct replacement.

Thanks in advance.

Gil Heller

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (1)

to: all
A question was asked by kennedy@aol.com

>>I live in the country. Too bad, right? My favorite FM stereo
>>station is 100 miles away on 102.1 FM. The problem is an
>>FM station 5 miles from my house transmitting 50KW on 101.9 MHz.

One of the other replies suggested a bigger antenna pointed at the distant station. That would certainly help make sure you have enough signal. If the difference in directions to the two stations is near 90 degrees you will pick up some additional reduction in signal strength of the offending station due to reduced pickup off the side of the beam. If you ever looked at pictures of antenna patterns in the ARRL Handbook, you'll see that large antennas have maximum pickup in the desired (forward) direction and lots of sharp little points of pickup in the undesired (side and back) directions. Finding a null can give a 20 dB (1/10th) reduction (or more) in signal strength.

Ideally what you want to do is put one of the side lobe NULLS right on the offending station even if you have to point slightly away from the desired station. You might be able to see this happen if you disconnect the antenna from the receiver and just place the coax cable near the terminals as you turn the antenna. Can't guarantee anything but it might work. The better way is to use a high value attenuator between the coax and the radio. Adjust the attenuator for a weak but readable signal on the receiver meter. Then turn the antenna until the signal strength meter on the radio shows as low as possible on the offending

station. This gets you the LEAST offending signal possible.

Assuming just changing one antenna isn't enough to fix your problem, I don't think you'll have any luck at all trying to find any standard filter to reduce a signal only 800 KHz away. The next option is to use a second antenna pointed at the offending station and mount the antenna so the signal it brings into the receiver is 180 degrees out of phase with the first antenna. The closer you can get to exactly opposite phase, the more signal will be reduced. Have you ever heard the flutter of multipath on a station? That is what we are trying to do here.

The second antenna can be much smaller than the main antenna because the station is so close. This will not be easy because you have to match not only the signal phase to cancel but also the signal strength. Start by using the attenuator with the receiver and first antenna to try getting a known signal level on the offending station. Next connect the second antenna in place of the first and use another attenuator or extra length of coax (100's of feet) or maybe just a resistor short at the antenna until you have reduced the signal strength to match the first antenna.

Once the signal strengths are egual, connect BOTH antennas to the receiver at the same time using a 2 way splitter/combiner. Now you begin moving the second antenna around until the offending signal is at minimum. That is the position for maximum cancelation. How far do you have to move it? Well, figure the wavelength of the signal. A half wave is about 495/frequency so a full wave length would be 2*495/106 = 9.3 feet. So somewhere along a line from the first antenna toward the offending station, within a ten foot distance, you should find a null. This doesn't mean you have to be within 10 feet of the first antenna, just a 10 foot movement somewhere in the direction of the offending station. You probably should keep the second antenna ten feet away from the first antenna just to reduce antenna pattern changes since you just got done carefully pointing the first antenna.

Another method of cancelling the signal is by changing the length of the coax from the second antenna to the receiver, because changing the length is just like moving the antenna. Now, the wavelength in coax is shorter than the wavelength in air. This is called the velocity factor of the coax cable. Most foam coax has a velocity factor of around 80%. This means that 10 feet in air is only 8 feet in the coax. So, somewhere in 8 feet of cable is the exact length you need to cancel the offending station. If you choose this method, all you can do is cut off the cable a little bit at a time until you have minimum signal from the offending station. I've never tried this myself so I don't know how small of cuts you should make so you don't go past the null. I'd just figure you'll start with an extra 20 feet of cable and start cutting maybe 6 inches at a time. I assume you'll be able to hear multipath distortion of the signal as you get closer to the right length and can start making smaller cuts.

It is my understanding that this basic technique is frequently used in commercial broadcast radio where they may have similar problems. I understand they use more of a tuneable (low pass?) filter of some sort to adjust the phase shift instead of cutting the coax. This phase cancellation technique is the only one I've ever heard of that might do you any good. The only other options involve replacing the receiver with something much more expensive, designed for extremely high signal overload and superb IF bandwidth filtering. I've never heard of such a receiver but I'm sure they exist if you have a LOT of money.

I really don't have much hope that anything is going to let you receive your desired station. With 50 KW only 5 miles away, everything in your
--==<<< Continued next message >>>==--

Date: Sat, 21 Oct 1995 13:20:20 -0100
From: n0nas@hamlink.mn.org (Doug Reed)
Subject: Unwanted Fm station (2)

--==<<< Continued from previous message >>>==--
area is going to bouce some of the signal into the first antenna. The more random signals you have bouncing around, the less likely you'll be able to null out the offending station. Good luck.

73's.

Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

* SLMR 2.1a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

---

End of Ham-Homebrew Digest V95 #338
****

--WAA07620.814504136/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 1995 13:29:37 GMT
From: wrt@eskimo.com (Bill Turner)
Subject: Unwanted Fm station (1)

>the undesired (side and back) directions. Finding a null can give a
>20 dB (1/10th) reduction (or more) in signal strength.

Nitpick mode ON:

20 dB is a 100:1 power reduction. 10 dB is 10:1.

Date: 23 Oct 1995 18:41:28 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: Want to jam stupid radio station

In article <46b6ur$59u@ixnews2.ix.netcom.com>,
>writes:
>>
>>Is this possible? I'd only want to jam one particular signal in a
>>small area. I don't know if this'll help me pick up the station I
>>like,>which happens to be right next to it, but I'd like to jam it
>>just out of spite. And yes, I'm sure the FCC isn't going to approve.
>> Stan Kwong
>

When I was in college, I had a vacuum tube operated FM clock radio.
I discovered that the LO radiation on it was so bad that it would
wipe out radios in my dorm room or next door if it was tuned 10.7
MHz. lower in frequency. I had lots of fun silencing my roommates'
(and neighbor's) radios when they listened to music I didn't like.
They never figured out what hit them!

Rick Karlquist
rkarlqu@scd.hp.com

End of Ham-Homebrew Digest V95 #339
****

--XAA07945.814507497/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #340
****

--XAA08149.814510295/ooz.backbone.uoknor.edu--

Date: 23 Oct 1995 18:41:30 GMT
From: ez041502@dale.ucdavis.edu (Psyber)
Subject: Want to filter out stupid radio station

I posted before about jamming a radio station. I wasn't that
serious. I just wanted to express my intense dislike of "young"
country. (I won't call it music, that'd be giving it too much credit.)
I have since gotten advice to ask about how to filter out the hated
station or to get a "more selective receiver". Now does anyone have any
more information on these perfectly legal solutions?
Stan Kwong

End of Ham-Homebrew Digest V95 #341
****

--AAA08421.814512959/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #342
****

--BAA08677.814515626/ooz.backbone.uoknor.edu--

Date: Mon, 23 Oct 95 15:07:45 PDT
From: Jay Wicklund <jwicklun@mail1.halcyon.com>
Subject: Want: COIL winding machine

In article <1995Oct23.100446.1@netnews.wku.edu>,
<scottcr@wkuvx1.wku.edu> writes:
>
> I am looking for a coil-winding machine. Large or small, motor
driven
> or manual,
>
> What do you have?
>
> Thanx, Chris
>
> WB9NEQ Bowling Green, KY
>
> --
> Chris.Scott@WKU.EDU Chief Engineer, Public Radio- Western KY U
> Telco: (502) 745-3834 Hm & Fax: (502)
781-1232
> ....just another insignificant VAX user. \\\//
> (o o)
>
----------ooO-(_)-Ooo----------

>
You know, I'd like to find one of those too. When I was first
starting out in electronics (we won't go into how many decades ago
that was), I had a simple little cam driven coil winder that was a
lot of fun. Don't know what happened to it, but would love to find
something similar at a hamfest or something.....

73 de KI7RH (Jay)
jwicklun@halcyon.com

End of Ham-Homebrew Digest V95 #343
****

--BAA08828.814517021/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #344
****

--CAA08959.814519038/ooz.backbone.uoknor.edu--

End of Ham-Homebrew Digest V95 #345
****

--CAA09112.814520673/ooz.backbone.uoknor.edu--

4888. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <46i5eq$nj6@newsbf02.news.aol.com>
Source record: 110049

Hi Mortz,
In article <46ggnc$1j8u@info4.rus.uni-stuttgart.de>,
moritz@ipers1.e-technik.uni-stuttgart.de () writes:

>Read a text book, and you find that the 1/4 wave and the 1/2
>wave antennas behave similar over lossy ground, only that the losses are
>less for the latter due to its higher radiation resistance (not to be
>confused with the feed point resistance). There is no fundamental
>difference, as you are trying to make out.
>

I agree with your basic statement. The ground actually serves the antenna in two very different ways.

One way is to provide something to "push" the antenna against. The ground is the other terminal of the antenna, and the current forced into the base of the antenna causes direct I^2R losses in the ground connection. Raising the *base* or feedpoint impedance helps this problem, but we have to be careful not to fool ourselves by ignoring all the current flowing in the ground connection.

Raising the radiation resistance is not important to these losses, but lowering the total current flow into the ground is. Referring to radiation resistance is confusing, since the actual current loop radiation resistance of a 1/4 wl monopole is only a slight amount lower than the current loop radiation resistance of a half wave monopole, yet the base loop resistance and net current flow into the ground is vastly different between the two.
A resonant end-fed 1/4 wave has a feedpoint resistance of less than 30 ohms, while the end-fed 1/2 wave typically has a feedpoint resistance of several hundred ohms or more. So the end-fed half wave vertical still requires a ground to "push against", although the net current flow from feedpoint is perhaps nearly a hundred times lower than the current from a 1/4 wave element.

I think the confusion comes from "free" or "loose" use of the general term radiation resistance, when they actually are referring to the *base* or *feedpoint* resistance.

The other way the ground interacts is because of field effects causing current flow (and losses) in the earth below the antenna. The half wave has a more concentrated electric field near the earth. The base fed 1/4 wave has a dominate magnetic field near the antenna base. Both 1/4 and 1/2 wave antennas (and all feed systems) certainly require some ground below the antenna if losses are to be minimized. Elevating the entire system a large amount is the only way to effectively "eliminate" this second type

of earth loss.

73 Tom

4889. Re: Anybody used Ramsey FX-440 for 9600?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: jra1854@tntech.edu
Message-ID: <jra1854.1164945151A@news.tntech.edu>
Source record: 110050
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

>>My recommendation is to avoid the unit unless they have made major design
>>changes since the original radio (the 2-m version failed the transmitter
>>spurious output test -- see the QST review from about a year ago).
>>
>>Jeff, k9ja

>Do you know which copy of qst this was in??? I'm about 95% of the way
>through builing my ramsey kit and this does not make me happy to read!
>
>mark
>n2uem

See QST, October 1993, pages 73, 74 and 80. To be fair, after the ARRL
called Ramsey about the problem they were provided with a fix; but, to
quote the review, "The close-in spurs, even after the modification, are
fairly significant."

Jeff, k9ja

Jeffrey Austen | Tennessee Technological University
jra1854@tntech.edu | Box 5004
+1 615 372 3485 | Cookeville Tennessee 38505 U.S.A.

4890. ISD Voice Chip Web Page

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: joejarre@netcom.com
Message-ID: <joejarreDGyszH.AK1@netcom.com>
Source record: 110051

I've seen quite a few posts on here from time to time from people using the the ISD voice chips availble from Radio Shack and other places. Excuse the advertising here but there is quite a bit of applications information now available on these parts via the World Wide Web.

Information Storage Devices, also know as ISD now has a Web page including quite a bit of applications information. Eventually (I hope in the next few weeks) we will have all our data sheets and the entire Design Manual on line. Currently, however, there are a number of application Briefs that show how to use several of the different parts we make.

Look for the application briefs under http://www.isd.com/apps.html. They are listed on the page . . . just click on what you want to see. The App Briefs include schematics where appropriate. Of course, our home page is http://www.isd.com.

--


```
*************************************************************************
* Joe Jarrett, K5FOG | A liberal is a conservative who got *
* joejarre@netcom.com | arrested. A conservative is a *
* Information Storage Devices FAE | liberal who got mugged. These are *
* Austin, Texas | complete definitions. *
*"""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""*
* These are my ideas alone. Don't blame anyone else! *
*************************************************************************
```

4891. Monolithic Amplifiers,help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <46jgd0$ila@newsbf02.news.aol.com>
Source record: 110052

I need to find some sources for monolithic amplifiers, similar to the MAR and MAV series offered by Mini-cicuits. Can anyone help me?
73 Tom W8JI

4892. Re: Need Postscript to HP-GL Translator .. Suggestions ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: mbonanno@netcom.com
Message-ID: <mbonannoDGyzAw.8yM@netcom.com>
Source record: 110053

Try ghostscript.

dave (daveb@buffnet.net) wrote:
:>Greetings,

:>In need of a translator that will convert poscript files to HP - GL (Laserjet 4L).
:>I'm hoping that someone knows of a freeware/shareware version that will do
:>the job.

:>Thanks

:>daveb@buffnet.net
--
==========
Mark Bonanno | Two things are infinite: the universe and human
mbonanno@netcom.com | stupidity; and I'm not sure about the the universe.
| -- Albert Einstein
==========

4893. Re: -=-=-Blackout's Box-=-=-

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: Blackout <blackout@igc.net>
Message-ID: <Pine.LNX.3.91.951024170505.14591A-100000-100000@discovery.igc.net>
Source record: 110054

>
> Why are you posting this crap to rec.radio.amateur.homebrew? Do you have any
> clue what you are doing? Stop wasting our time...get a REAL life.
>
> Ed
>
> No, I don't speak for my company, I speak for myself.
>
>

Shuttup nerd.

Go and brew something.
See if you can't go build some radio contraption that can't shut you
up. Because people like you, who could just ignore the message and go on
with something else, have to be annoying and aggressive.
I think people like you should be taped up, and shuttup.

Did I say shuttup by the way?

Oh.. and don't reply to this. I know you are going to want to. But don't,
because I won't be able to see it because I have put your
handle in my kill file.

Jerk.

Blackout

4894. PC software and the X^2 problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <46jlhi$hi4@flood.weeg.uiowa.edu>
Source record: 110055

Responding to Jack WB3U's question:
I have had some trouble with Visual Basic programs of mine not wanting to perform properly on older PCs. It was a pain in the neck until I became aware of the problem. I had to add software patches to get around the problem so the programs would run on all PC types.

4895. Re: Pete Soper's ARRL HB calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <814558410.13741@pinetree.microserve.com>
Source record: 110056

sabinw@crpl.cedar-rapids.lib.ia.us wrote:
>I have had the same problem that certain PC's had difficulty with
>such things as X^2 and needed X*X to get the job done.

I this something inherent to the computer's firmware? Will a
spreadsheet running under Windows yield the same faulty result,
depending on the computer?

73,

Jack WB3U

4896. Re: LED question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: kevinf@aquilagroup.com
Message-ID: <46jrs5$k86@mack.rt66.com>
Source record: 110057

d010421c@dcfreenet.seflin.lib.fl.us (Ken Becker) wrote:

>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source.

50V in an EQ???

Line level audio is only 1V or so...Why the 50 V rail??

If this is right, then R coulda been 24K. (orange can also burn brown)
2 mA is still visible in modern HE LEDs. in this case dissipation is
only 1/10 W

73, KO0B

4897. Re: Kenwood TM-742a w/UT28s

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: josh@pirate.org
Message-ID: <josh-2410952344280001@manitou.pirate.org>
Source record: 110058
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,uk.radio.amateur

In article <46k0si$n80$1@mhafn.production.compuserve.com>, Robert H&#65533;yvald
<72242.477@CompuServe.COM> wrote:

> To ALL:
> I have a TM_742a with the UT-28s module installed. I also have
> done the expanded TX/RX on the unit. The unit works fine except on
> the 10M side. It seems that the unit can TX up to 45mhz, but it
> will not RX over 30mhz. I sent the unit to Kenwood Service Center
> East and they said it is up to specs. The problem is that I need
> to receive freqs. at 33.94 and lower. I can tranmit there but I
> don't need that I just need to receive. These are fire bands and
> going to the fire calls without having a scanner in the car would
> be a great help.
>
> Is there anyway to fix this problem???
> ANY HELP IS GREATLY NEEDED!!!
>
> THanks Robert H&#65533;yvald, KB2UWJ

I too have the tm-742a with the 28mhz unit and I am having no problem
Reciving over 30mhz. The only problem I am having is that when I tx on
high power in the 28mhz range It locks up the radio. A friend of mine has
the same radio and the recive is fine but he too has the TX problem. I
would check the mod again and make sure you are following the ARTSCI book
and they will work fine.

```
L8
Josh hoffman KD6WJX

--
**************************************************
Http://www.pirate.org/home/jhoffman
To talk If I am on josh@manitou.pirate.org
**************************************************
```

4898. Re: Want to filter out stupid radio station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: Stanley Kwong <ez041502@peseta.ucdavis.edu>
Message-ID: <Pine.SOL.3.91.951024110042.1938C-100000@dale.ucdavis.edu>
Source record: 110059

On Tue, 24 Oct 1995, Tom Bruhns wrote:

> In article <46gnkq$k6l@mark.ucdavis.edu> you wrote:
> How about posting some more details? What's the frequency of the offending
Unfortunatly, it's an FM station. It comes in at 105.1 from
about 50 miles away. The station I want, 105.3, is broadcast from
the southeast about 100 miles away BTW, I can't set up any big
directional antennas, I'm a college student and I don't think the owner
of the house I'm renting would like me setting anything up on his roof.
Besides I don't have that much money.
Thanks,
Stan Kwong

4899. Re: Recommendation for a good "Grid Dipper"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-24 00:00:00 UTC
From: rbiddle@madvax.mo.ti.com
Message-ID: <46it1f$alu@superb.csc.ti.com>
Source record: 110060

If you are still looking for a grid dip meter, MFJ's 1996 catalog showed up yesterday with a 1.5 to 250 MHz dip meter for $120. Its solid state with a built in sine wave modulator.

MFJ: 1-800-647-1800

I haven't tried one myself, I'm still looking for an old classic at the swaps, but if I don't have any luck there I may check this one out.

73
Richard, KB5WLH

4900. Re: Kenwood on Internet?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: David Williams <david.williams@trw.com>
Message-ID: <46m9p2$nag@tnn-wan.trw.com>
Source record: 109873

rlogghe@unicall.be (Rudi Logghe) wrote:
>
> cybercop@com18.com wrote:
>
> >I need to know if I can reach Kenwood via Internet?
> >I think my TM-742 has a big problem... :(HELP!!!
>
> >cybercop@com18.com
>
> Kenwood can be reached at :
> "http://www.accessnv.com/kenwood/amateur.html"
>
> Rudi Logghe, ON1JL
>
Or, www.kenwood.net

4901. Kenwood Commands

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: David Williams <david.williams@trw.com>
Message-ID: <46m9ss$nag@tnn-wan.trw.com>
Source record: 109874

Is there a file of Kenwood TS440 commands and responses? I built an interface and want to program a rig control app. Thanks -KF6IB

david.williams@trw.com

4902. Re: Pete Soper's ARRL HB calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: Dave Curtis <david_b_curtis@ccm.sc.intel.com>
Message-ID: <46k4ta$ke0@bard.sc.intel.com>
Source record: 109875

jackl@pinetree.microserve.com (WB3U) wrote:
> sabinw@crpl.cedar-rapids.lib.ia.us wrote:
>>I have had the same problem that certain PC's had difficulty with
>>such things as X^2 and needed X*X to get the job done.
>
>I this something inherent to the computer's firmware? Will a
>spreadsheet running under Windows yield the same faulty result,
>depending on the computer?
>
>73,
>
>Jack WB3U

This is something inherent in the nature of floating point arithmetic.
By definition, precision is limited by the number of bits in the
chosen representation format. Subtracting two numbers that are
"with the noise of" each other is likely to lead to a very small
number one side or the other ("within the noise") of zero. Expecting
to get exactly zero is a bad idea. Expecting the number to stay
strictly positive is a bad idea. Dealing with loss of precision
and accumulation of error is fundamental to writing stable floating
point algorithms, just like a clean LO is fundamental to receiver
performance. It is also just about as arcane, and about as
misunderstood *sigh*.

Here are a few rules to live by:
1) don't test for floating point zero -- do test for a small range
near zero.
2) don't add/subtract a small number with a much larger number.
the small number will be swamped. do re-order your expression
to avoid the situation.
3) remember that subtracting numbers very close to each other creates
very small numbers that lead to instabilities if you later:
a) expect them to stay positive
b) divide by them (the result may go to infinity)
Do guard uses of potentially small numbers with tests for
unsafe conditions.
4) beware transcendental function end-cases (inputs that lead to results
close to infinity or zero). This is another source of instabilities.
Do brush up on your trigonometry

Hope that helps.

73, Dave NG0X CM87xi

Intel Microcomputer Software Laboratory
david_b_curtis@ccm.sc.intel.com

4903. Kenwood TM-742a w/UT28s

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: Robert H&#65533;yvald <72242.477@CompuServe.COM>
Message-ID: <46k0si$n80$1@mhafn.production.compuserve.com>
Source record: 110061
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,uk.radio.amateur

To ALL:
I have a TM_742a with the UT-28s module installed. I also have
done the expanded TX/RX on the unit. The unit works fine except on
the 10M side. It seems that the unit can TX up to 45mhz, but it
will not RX over 30mhz. I sent the unit to Kenwood Service Center
East and they said it is up to specs. The problem is that I need
to receive freqs. at 33.94 and lower. I can tranmit there but I
don't need that I just need to receive. These are fire bands and
going to the fire calls without having a scanner in the car would
be a great help.

Is there anyway to fix this problem???
ANY HELP IS GREATLY NEEDED!!!

THanks Robert H&#65533;yvald, KB2UWJ

4904. Re: -=-=-Blackout's Box-=-=-

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: Blackout <blackout@igc.net>
Message-ID: <Pine.LNX.3.91.951025022320.9279A-100000@discovery.igc.net>
Source record: 110062

Well...

I have a bad day when other people get annoying. And you can see
that that guy annoyed me. Maybe I did overreact just a little bit.

Just a tad.

But I'm an actor. That's what I do.

Blackout

4905. Re: Need Smith Chart Program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <46lelg$bok@news.azstarnet.com>
Source record: 110063

butch@maestro.maestro.com (' ALLAN W. BART) wrote:
>Hello,
>
>I am interested in finding freeware that will allow me to do analytical
>functions that have traditionally been performed by the charts. I can be
>reached directly via email.
>
>allan

Hi Allen:

I'm not sure this is what you are after, but Motorola has an impedance matching program that is free. I got a copy directly from them, however unless I'm mistaken (often this is true) the ARRL BBS and mirrors have it. Look for a file named "MINP" (zip, I think). It's a little quirky; be sure to always have a component entered, even if it's a 0 nH inductor, before you do anything else.

Also there was a program called something like "MATCH5" or "RFMATCH5" I believe. Since I have ARRL Radio Designer, MicroSmith and some others, I deleted this one from my drive so I'm working by memory here.

HTH, 73, Wes -- N7WS

4906. Re: LED question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: ed@fore.com
Message-ID: <46lske$3p8@baleen.fore.com>
Source record: 110064

>I have a problem that is baffling me: In a stereo equalizer, there is a
>simple pilot lamp circuit, an LED, and originally a 240 ohm, 1/2 watt
>resisitor connecter to a 50 volt dc source.

KO0B said:>50V in an EQ??? R coulda been 24K.

I agree. way too low of a R and too hi of a voltage for an eq.

Could you have misread the voltage? Decimal point in wrong place?

5vdc and 240 ohms sounds closer!

50v
------- = .208 amps or 208ma pretty high current for an LED.
240 ohms

.208ma * 50v = 10.4 watts High dissipation for a 1/2w resistor.

Perhaps your voltage reg went splat?

73 Ed N3SDO

4907. Re: Monolithic Amplifiers,help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <46m0ar$qi@nnrp1.news.primenet.com>
Source record: 110065

W8JI Tom (w8jitom@aol.com) wrote:
: I need to find some sources for monolithic amplifiers, similar to the MAR
: and MAV series offered by Mini-cicuits. Can anyone help me?
: 73 Tom W8JI

Tom,
Find yourself a copy of Hewlett Packard's "Communications Compo-
nents" catalogue. They have a significantly larger selection of these
little goodies, and the prices are comparable with the Mini-Circuits
offerings.

Regards,

Chris Trask

--

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------oo0~(_)~0oo----------

4908. Re: Want to filter out stupid radio station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <46m0qd$qi@nnrp1.news.primenet.com>
Source record: 110066

Stanley Kwong (ez041502@peseta.ucdavis.edu) wrote:

: Unfortunatly, it's an FM station. It comes in at 105.1 from
: about 50 miles away. The station I want, 105.3, is broadcast from
: the southeast about 100 miles away BTW, I can't set up any big
: directional antennas, I'm a college student and I don't think the owner
: of the house I'm renting would like me setting anything up on his roof.
: Besides I don't have that much money.
: Thanks,
: Stan Kwong

Stan,
Well, the only solution that I can think of that would be cost
effective and help solve your problem here is to upgrade your FM receiver
on you own. Find the 10.7 MHz bandpass filter (usually ceramic these
days) and replace it with a 150 KHz BW TOKO model SK107M4-A0-10 (Digi-Key
TK2308-ND). You will notice a loss in fidelity of the desired station,
but a definite reduction in the level of the interfering one. With the
constrictions given (money, landlord), there's few options available.

--

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------oo0~(_)~0oo----------

4909. Re: MARS Recommendation Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: dennisg@microware.com
Message-ID: <46lccb$dm0@mcrware.microware.com>
Source record: 110067

In <46brdo$nij@mksrv1.dseg.ti.com> bill.sorsby@dlep1.itg.ti.com (Bill Sorsby) writes:

>I've finally decided to try to join MARS. Can someone provide a
>recommendation for which branch, Army, Air Force or Navy-Marines would
>be best, both in terms of HF net operation and surplus equipment
>availability?

Whoo boy, are you opening up a can of worms here ;-) I am involved in Navy
MARS so I cannot claim an unbiased opinion. I would try to contact a
representative of each service in your are and ask questions. Then go with
whichever one suits what you think you would like. Navy-Marine Corps MARS
is quite active here in Iowa, and we are getting folks from the other services.
We handle a fair amount of traffic too and have an extensive PACTOR traffic
switch network in place.

--
Dennis Gabler --o--------------------------=o=--------------------------o--
|
dennisg@microware.com KB5HVN/NNN0BQG__________| KB5HVN@WB0UGO.IA.USA.NA

4910. Re: Monolithic Amplifiers,help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Oct25.125807.399@nad.com>
Source record: 110068

In article <46jgd0$ila@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) writes:
> I need to find some sources for monolithic amplifiers, similar to the MAR
> and MAV series offered by Mini-cicuits. Can anyone help me?
> 73 Tom W8JI

Steve, at Down East Microwave will sell these in small qtys.
908-996-3584

Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

4911. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: newsadm@anchor.cis.att.com
Message-ID: <46mbqk$951@anchor.cis.att.com>
Source record: 110069

I'll briefly give you my experiences with an elevated feed 40 m ant.
Last year about this time (when people stopped using the yard).
I put up one.
I have a tower with an 80 m. dipole strung over to a tree. I dropped a
1/4 wave 40 m. wire element down from the end of the dipole, put an insulator
on it, attached 4 radials and ran them over to supports about 6 ft.
off the ground. The feed point was about 15 ft high.

Then I compared this wire "ground plane" all winter long with the dipole
right above it (which I feed with bal. line to a tuner).

In 90 % of the cases I couldn't tell a difference.
DX to Europe was just as strong with the dipole (Disappointment).
Domestic signals were the same strength. Sometimes during the day I could
hear more man made noise on the vertical as expected, but not too much.

All in all, I expected more out of it, especially on DX. I am thinking
of building a bobtail array for this winter pointed towards Europe.

Rick KT2Q

4912. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: newsadm@anchor.cis.att.com
Message-ID: <46mc2g$951@anchor.cis.att.com>
Source record: 110070

Oops, yes. A previous poster was right. If there are other followups
to this good thread lets do them in the rec.radio.antenna group.
We will probably get more interest there, anyway.

Sorry for my previous post.

KT2Q QSYing......

4913. International ham statistics--historical

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: jimslavin@aol.com
Message-ID: <46mk4e$ai7@newsbf02.news.aol.com>
Source record: 110071

I am looking for the number of ham radio operators worldwide broken out by year since the beginning of this century. I have been able to find similar information for U.S. hams, but have hit a dead end with international numbers. Can anyone point me in the right direction?

Please respond directly by email to "JimSlavin@aol.com"

4914. Need digital filter design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-25 00:00:00 UTC
From: rn@cs.brown.edu
Message-ID: <46l7k0$29g@cocoa.brown.edu>
Source record: 110072
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

I am looking for advice on building a digital filter. I have a
real-time 16-bit audio stream, generated by sampling at 16kHz,
that I need to have high-pass filtered to eliminate PL tones.
The filtering is part of a custom repeater controller I'm running
on a Sun Sparcstation 10, so I have plenty of CPU available to run
the filter code. Years ago someone showed me a "recursive" digital
filter which was extremely simple, replacing each audio sample by
a weighting of the previous two samples (the weights determined the
filter cutoff). Unfortunately I don't remember the details. Can
anyone provide help, or at least some references to books or papers?

Rob Netzer, KD1TS
rn@cs.brown.edu

4915. Re: DDS Article in 73

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: Dave Fifield <fifield@lan.nsc.com>
Message-ID: <DH18t9.D7u@nsc.nsc.com>
Source record: 109876

I bought a 50MHz AD7008 from Newark for $53...they have them in stock.

I went to Analog Device's office in Campbell to fetch a datasheet.
Whilst there, I let them know that they need to add a quadrature output
and make it just a little bit faster (60MHz). They said they have been
bombarded with data requests since the 73 artice!

I will be using one (with filtering) in a QRP rig for HF, driven by a
PIC micro. I use 50 pulse/rev. ALPS shaft encoders for my tuning device,
I don't like keypads. I get these from CIRKIT in England. Email me if
you want details.

Whilst we wait for quadrature outputs, does anyone have a good design
for a digitally bandswitched quadrature generator (one phase splitter
for each of the HF bands)?

4916. TS-50 TX MOD , NOT SHURE ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: NAME: 100623.303@CompuServe.COM;
Message-ID: <46mjot$2ri$1@mhadg.production.compuserve.com>
Source record: 109877
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

i was told that the extended transmit modification is asfollows:-

1. remove bottom cover.

2. locate pll board.

3. find only non-surface mount diode on pll board.

4. cut out diode , replace cover , switch radio on.

job done.

i have not yet tried this could someone plse tell me if this is
correct...
i am also interested in other mods , undocumented features ,etc..

THANX!

ROB

4917. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: Judhi Prasetyo <prasetyo@iii.net>
Message-ID: <46nrv3$ldl@bulbul.idola.net.id>
Source record: 109878

test only, sorry

4918. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <46nspr$3dms@info4.rus.uni-stuttgart.de>
Source record: 109879

>Raising the radiation resistance is not important to these losses, but
>lowering the total current flow into the ground is. Referring to radiation
>resistance is confusing, since the actual current loop radiation
>resistance of a 1/4 wl monopole is only a slight amount lower than the
>current loop radiation resistance of a half wave monopole, yet the base
>loop resistance and net current flow into the ground is vastly different
>between the two.

Tom,

The definition I had in mind is:
radiation resistance = total radiated power/(antenna current)^2

Acoording to a text book this is roughly:
7 Ohms for a 1/8 wl vertical over ground
30 Ohms " 1/4 " " " "
110 Ohms " 1/2 " " " "

Ground losses are supposed to be essentially inverse to these numbers,
so this is bad news for all the short multiband verticals
without ground plane.

73, Moritz DL5UH

4919. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <46oai6$67d@newsbf02.news.aol.com>
Source record: 109880

In article <46nspr$3dms@info4.rus.uni-stuttgart.de>,
moritz@ipers1.e-technik.uni-stuttgart.de () writes:

>Tom,
>
>The definition I had in mind is:
>radiation resistance = total radiated power/(antenna current)^2
>
>Acoording to a text book this is roughly:
> 7 Ohms for a 1/8 wl vertical over ground
> 30 Ohms " 1/4 " " "
>110 Ohms " 1/2 " " "
>
>Ground losses are supposed to be essentially inverse to these numbers,
>so this is bad news for all the short multiband verticals
>without ground plane.
>
>73, Moritz DL5UH

That's the same definition I had in mind Moritz. I was trying to point
out the current is taken at the current maxima, not necessarily at the
feedpoint. The net feedpoint current (all the currents, not just the ones
from the transmission line) controls the I^2*R ground losses, not the
radiation resistance. Unless the feedpoint happens to have the current
maxima at the eart connection.

Any way, wrong newsgroup...so better off to the .antenna

73 Tom

4920. Re: Monolithic Amplifiers,help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <46oaan$644@newsbf02.news.aol.com>
Source record: 109881

Hi,

Thanks for the replys. I am using a MAV-11 in my project 1.5 to 500 MHz BB amp, but have just a few dB too little output. I really need ~+22 dBm at 1 dB comp in a 12 volt 50 ohm system. I'll start making calls.

73 Tom

4921. Re: Manual for Eico 324 Signal Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <46oe3p$c2o@hg.oro.net>
Source record: 109882

kkoelman@ix.netcom.com (Koert Koelman) wrote:

>Hi:

>Do any of you have a manual for an Eico 324 signal generator? I picked
>one up at a flea market without a manual.

>Of course, I will gladly reimburse you for copying costs and postage.
>Let me know if you could send me a copy. Thanks.

> 73/KC6WCI@N0ARY.#NOCAL.CA.USA.NOAM

Found the original manual for the 324 in the DUSTY section of the
archives. If you ever get up to Grass Valley, I'll be glad to meet
you somewhere and get a copy made.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

4922. Re: DDS Article in 73

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <46on7n$q6d@news.vcd.hp.com>
Source record: 109883

Hi Dave,
Please send me more info on your rotary encoder for the DDS chip. I have two AD7008 chips,and I too want to enter the data from a KNOB. How are you interfacing the encoder to the PIC? I too am thinking of using a PIC processor. I have an operational 40W rig now, including homebrew RX, for 40 meter CW and FSK (Amtor/Pactor). The DDS would make a heckuva nice VFO and LO for it. One DDS source does both.
73, and GL
Don, W6JL

4923. Re: Need digital filter design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DH2Lsx.Gpn@hpcvsnz.cv.hp.com>
Source record: 109884
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Robert H.B. Netzer (rn@cs.brown.edu) wrote:
: I am looking for advice on building a digital filter. I have a
: real-time 16-bit audio stream, generated by sampling at 16kHz,
: that I need to have high-pass filtered to eliminate PL tones.
: The filtering is part of a custom repeater controller I'm running
: on a Sun Sparcstation 10, so I have plenty of CPU available to run
: the filter code. Years ago someone showed me a "recursive" digital
: filter which was extremely simple, replacing each audio sample by
: a weighting of the previous two samples (the weights determined the
: filter cutoff). Unfortunately I don't remember the details. Can
: anyone provide help, or at least some references to books or papers?

My recommendation for digital filters which operate at a cutoff frequency which is a farily small fraction of the sample frequency is to build them as an analog of the continuous-time state variable filter. It's basically a cascade of two integrators, with feedback from each to a summing junction at the input. A simple sampled-time integrator is accomplished just by adding a constant, k, times the input to the current value. For a simple two-pole filter, appropriate weightings for the feedback terms would be -1.41 for the first integrator output and -1 for the second integrator output. Add those to the input sample. The high pass filtered output is the input plus the feedback, and that's also what's fed to the first integrator. The constant, k, is chosen to get the right cutoff frequency, and is something like 2*pi*fc/fs... Did I remember that right?

The reason for this configuration instead of the canonical sampled-time biquad is that when the cutoff frequency is a small fraction of the sampling frequency, you have a LOT of trouble with roundoff. Certain coefficients scale as basically the square of fc/fs. But in that state variable simulation, the coefficients scale linearly with fc/fs.
--
Cheers,
Tom
tomb@lsid.hp.com

4924. Re: Monolithic Amplifiers,help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Oct26.132745.405@nad.com>
Source record: 109885

In article <46mqgn$nbq@acme.sb.west.net>, reson@west.net (Mark) writes:
> w8jitom@aol.com (W8JI Tom) wrote:
>
>>I need to find some sources for monolithic amplifiers, similar to the MAR
>>and MAV series offered by Mini-cicuits. Can anyone help me?
>>73 Tom W8JI
>
> You can order them straight from Mini Circuits, even in small
> quantities. The NY facility phone number is: (800) 654-7949.
> Mark Chun | mark@reson.com | Santa Barbara, CA

I was under the impression they had a $50 minimum order.
Hope I'm wrong!

Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

4925. DSI 3500 Freq Counter schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: mrutkaus@globalcom.net
Message-ID: <46p0bt$c4j@head.globalcom.net>
Source record: 109886

I have a circa 1987 or so "DSI 3500" Freq Counter which doesn't count;
anyone know if the company is still in busines and where I could get
come info on it???

Thanks,

Mike
K4QET

4926. Re: Anybody used Ramsey FX-440 for 9600?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: lkraft@aa6lk.rose.hp.com
Message-ID: <DH2C70.KJA@icon.rose.hp.com>
Source record: 109887
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In article <466gsc$dr2@abyss.West.Sun.COM> you wrote:

<stuff deleted>

: > >
: > > I found exactly the same problem. The VCO radiation is so strong
: > > that it affected the operation of the PLL. It created reference spurs
: > > on either side of the VCO out past 200kHz. I was able to fabricate
: > > a shield over the VCO, including the PC inductor, that reduced the
: > > spurs to an acceptable level.
: >
: > I'm curious how the VCO radiation is affecting the operation of the
: > PLL. Certainly the reference spurs are expected as a result of leakthrough
: > in the loop filter; are the spurs much higher than you expect? Did you
: > check the loop filter to make sure it was working correctly?
: >

Well, I would say that reference spurs of -6dBc are higher than
expected. If the loop filter was at fault, then shielding the
VCO would have no affect. As further evidence of VCO radiation,
when I had the top cover of the unit off and had a receiver tuned
to the VCO frequency, I could rattle metal tools together off the
bench up to two feet away and the VCO would produce microphonic
responses. And a spectrum analyzer with a "sniffer" probe would
pick up a strong signal in the general area.

I suspect that there's so much of this radiation being coupled into
the PLL circuitry that it's either modulating the divided VCO signal
going back to the PLL chip or somehow modulating the charge pump
output, perhaps driving the filter into nonlinearity. Whatever the
mechanism, it doesn't seem to be related to a bogus filter, and
I did fiddle around with that.

I'd be interested in hearing other possible explanations though.

Regards,
L

==========
Lyle Kraft AA6LK
########################## Hewlett-Packard
/_ _ ###### System Interconnect Lab -
/ / /_/ ##### Information Networks Division
/ ###### Roseville, CA 95747-5601
########################## 916-785-5798 FAX 916-785-2875

lkraft@core.rose.hp.com
==========

4927. 5-5.5 MHz DDS/PLL synthesizer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDH2o78.3xs@netcom.com>
Source record: 109888

I'd like to build a 5.0-5.5 MHz DDS or PLL synthesizer that I can use
as an external VFO for a conventional transceiver. I recall seeing an
article in QST or somewhere in the last couple of years on such a project.
Could someone tell me where to look, and if you'be built such a thing,
how well it works?

Thanks,

73 Dave WB0GAZ dgf@netcom.com

4928. Re: HF AMP SCHEMATICS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: lordwisp@aol.com
Message-ID: <46phre$qlh@newsbf02.news.aol.com>
Source record: 109889

OK in the 1994 ARRL handbook the designs for the 1500W amp power supply show the need for a 234V AC line... What if I dont have a 234V plug in my house????

4929. ATV North Country Radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-26 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <46o5s4$emm@ixnews3.ix.netcom.com>
Source record: 109890

I read a construction article last year for a 5 watt ATV tranciever
available as a kit from North Country Radio out of NY. The kit looked
very attractive and I thought the price of $179 for a 5 watt tranciever
was pretty fair. The article showed complete schem's & all but I would
be happier to get all the parts & PC board in 1 bag...

What concerns me is I have not seen them advertise in 73 or QST has
anyone built one of these or have any experience with this company?
Or any other suggestions for building ATV gear?

73,

Tim Hynde

4930. Re: !!! Over 400 WWW Ham Sites !!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-27 00:00:00 UTC
From: liz@intex.net
Message-ID: <46r0kj$23g_001@Intex.intex.net>
Source record: 109891
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <NEWTNews.814767294.12034.amsoft@486dx4_120>,
amsoft@epix.net wrote:
>
>Try the URL http://hamster.business.uwo.ca/~amsoft And link to over

Thanks for the link! :)

LIz N.

~~~~~~
Intex.net The Business Community's Internet Provider (214) 669-0999
Elizabeth & John Norsworthy visiting you from Dallas, Tx. via Intex.net
Visit us at: http://www.intex.net/hour_house/hour_house.html
Hour House (Midnight Angel) BBS (214) 243-0378
J&E Computer Services (214) 314-8772
Internet: liz@intex.net
America OnLine: NorsworthE
CompuServe: 102116,3314
FidoNet: 1:124/9023
MSNetwork: Midnight_Angel@msn.com
~~~~~~

4931. September *and* October QEX will be late.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-27 00:00:00 UTC
From: jbaltz@labdien.cc.columbia.edu
Message-ID: <46rf4h$5bo@apakabar.cc.columbia.edu>
Source record: 109892
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

Word from the League:

The September QEX "just went to the printers"; they're not sure when it will be shipped exactly. The October issue will also be late. "It's possible that you will get both in the month of November."

I asked if they were going to be caught up by November, or if they should just renumber the issues--whatever issue comes out by December is the December issue. I was told that by November "we hope to be caught up".

FYI

//jbaltz
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

4932. Re: HF AMP SCHEMATICS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-27 00:00:00 UTC
From: James Garland <garland@ohstpy.mps.ohio-state.edu>
Message-ID: <46qncc$apm@pacific.mps.ohio-state.edu>
Source record: 109893

If you're asking this kind of question, then I suspect that building a high power linear amplifier may be a bit beyond your experience.

4933. 1750 Meter Band Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-27 00:00:00 UTC
From: Joel Govostes <jwg6@cornell.edu>
Message-ID: <46r0ea$6l3@newsstand.cit.cornell.edu>
Source record: 109894

Are there any hams on the newsgroup who are active on 1750 meters? I'd like some basic info. on equipment and station design and also a list of beacons I might hear here in central NY. Thanks N1AEP

4934. Re: HF AMP SCHEMATICS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-27 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct27.122052.26351@ke4zv.atl.ga.us>
Source record: 109895

In article <46phre$qlh@newsbf02.news.aol.com> lordwisp@aol.com (Lord Wisp) writes:
>OK in the 1994 ARRL handbook the designs for the 1500W amp power supply
>show the need for a 234V AC line... What if I dont have a 234V plug in my
>house????

That's Ok, you can use a 220 VAC plug instead.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4935. Re: DDS Article in 73

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-27 00:00:00 UTC
From: mdf@vigard.mef.org
Message-ID: <DH3DCJ.IoK@vigard.mef.org>
Source record: 109896

Jay Wicklund <jwicklun@mail.halcyon.com> writes:

>While it would be expensive, and I haven't looked at the AD7008;
>could you use two of them to get quadrature outputs??

maybe. but its far more sensible to use a part that generates the two
outputs from a single phase register.

4936. Radar Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-27 00:00:00 UTC
From: phils <phils@tiac.net>
Message-ID: <46rpbu$bis@sundog.tiac.net>
Source record: 109897

Can anyone direct me to a Part 15 legal low-power radar transmitter? I'm looking for something similar to the unit I've seen advertised for setting off radar detectors, which is exactly why I'm looking to build one.

Thanks....

4937. Re: KVG Filters; Where?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-27 00:00:00 UTC
From: ted <ted>
Message-ID: <46rlvj$pb7@dingo.cc.uq.oz.au>
Source record: 109898

Bob Mueller <IFF161@DJUKFA11.BITNET> wrote:
>Path: djukfa11!news.kfa-juelich.de!news.dfn.de!scsing.switch.ch!
> swidir.switch.ch!in2p3.fr!oleane!simtel!harbinger.cc.monash.edu.au!bunyip.cc.uq
>.oz.au!news
>
>I've been told that KVG has dropped the business for these filters. One
>can get special order filters, in massive (for homebrewers) quantities.
>Hope for something on the used market, but these are now scarce
>because they are irreplaceable treasures. I could find none of the model
>you seek at one of the best amateur fleamarkets in Germany.
> Bob
>

.. Thankyou for the interest Bob, yes I finally rang a distributer in
Massachessets (USA) and was told that the KVG filters had just had a price
rise. In fact, they are now no longer held in stock there, although they will
order them for you, and the price for the XF-9B was of the order US$210!!!

By the time I shipped one with sideband crystals here to Australia, I'd be
better off buying an old 2nd hand HF transceiver.....

So back to the bench, and some very good articles on ladder crystal filter
design by W7ZOI...

73 Ted VK1BL

ejg@acslink.net.au

4938. Radio Amateur's Handbook ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-28 00:00:00 UTC
From: ba221@FreeNet.Carleton.CA
Message-ID: <DH570t.982@freenet.carleton.ca>
Source record: 109899
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I can't find in any public library the Radio Amateur's Handbook ,
Where can I borrow it, I just need the chapters about old transformers
rewinding ???

Can you , please, answer by email.

Thank you

Gaetan Mailloux, Hull, Quebec, Canada

4939. New Email List Devoted To Homebrewing With Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-28 00:00:00 UTC
From: jherman@hawaii.edu
Message-ID: <DH4wEt.49w@news.hawaii.edu>
Source record: 109900
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,

From: jherman@hawaii.edu (Jeffrey Herman)
Subject: New Email List Devoted To Homebrewing With Tubes
Message-Id: <DH4wEt.49w@news.hawaii.edu>
Organization: University of Hawaii
Date: Sat, 28 Oct 1995 01:06:29 GMT

We've created a new email list devoted to homebrewing tube transmitters
and receivers (and associated equipment): Glowbugs. This list is a sort
of subset of the intersection of the Boatanchors and QRP lists.

To subscribe send an email to: listproc@theporch.com and only write:
subscribe glowbugs <your name>
and to unsub only write:
unsubscribe glowbugs

To send a message to the entire group use the address glowbugs@theporch.com

Topics include building with tubes, tube theory, xmtrs, rcvrs, power
supplies, antennas/leadins/tuners, skeds between members, homemade
components, parts suppliers, radio history, and anything else related
to the magic of Firebottles. Even for-sale/wanted-to-buy ads related
to tube gear are welcome.

For those of you into the "Heavy Metal" Boatanchor tube gear, then
don't forget the wonderful boatanchors@theporch.com mail list; to sub
send an email to listproc@theporch.com and only write:
subscribe boatanchors <your name>
and to unsub write:
unsubscribe boatanchors

73 from Hawaii,
Jeff NH6IL (ex WA6QIJ)

4940. WTB: Old mechanical calculators

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-28 00:00:00 UTC
From: phil@SANDH.COM
Message-ID: <000026500000060E@SANDH.COM>
Source record: 109901

I am interested in purchasing old mechanical calculators and slide rules.

I collect the old electro-mechanical "rotary" calculators that were made by Friden, Marchant, Monroe, and other manufacturers from the period of the 1900's through the late 1960's. I also collect non-electrical mechanical calculators. I am not interested in adding machines that print on tape or electronic calculators.

If you have an old mechanical calculator or slide rule collecting dust in a closet, please send me an e-mail message.

Phil Sherrod (phil@sandh.com)

-- 14: usenet.rec.radio.amateur.homebrew --

4941. New Email List Devoted To Homebrewing With Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-28 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <DH4wAo.445@news.hawaii.edu>
Source record: 109902

We've created a new email list devoted to homebrewing tube transmitters and receivers (and associated equipment): Glowbugs. This list is a sort of subset of the intersection of the Boatanchors and QRP lists.

To subscribe send an email to: listproc@theporch.com and only write:
subscribe glowbugs <your name>
and to unsub only write:
unsubscribe glowbugs

To send a message to the entire group use the address glowbugs@theporch.com

Topics include building with tubes, tube theory, xmtrs, rcvrs, power supplies, antennas/leadins/tuners, skeds between members, homemade components, parts suppliers, radio history, and anything else related to the magic of Firebottles. Even for-sale/wanted-to-buy ads related to tube gear are welcome.

For those of you into the "Heavy Metal" Boatanchor tube gear, then don't forget the wonderful boatanchors@theporch.com mail list; to sub send an email to listproc@theporch.com and only write:
subscribe boatanchors <your name>
and to unsub write:
unsubscribe boatanchors

73 from Hawaii,
Jeff NH6IL (ex WA6QIJ)

4942. Best place to pull cos from FT33

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-28 00:00:00 UTC
From: pgerba@crl.com
Message-ID: <46uppk$mum@crl5.crl.com>
Source record: 109903

Hi;

A friend asked that I ask around about accessing COS from a FT33. It can be found on a board full of surface mount stuff. Were looking for a better place to do some hard-wiring.

Thanks, pete
pgerba@crl.com

4943. Re: Best motherboard for minimum rfi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-28 00:00:00 UTC
From: imchief@ix.netcom.com
Message-ID: <46u2qi$9g2@ixnews2.ix.netcom.com>
Source record: 109904

paul1@wizard.ucs.sfu.CA (Paul Erickson) wrote:

>Has anyone done any comparisons to see which motherboards are best
>from an rfi point of view?? I am planning on replacing the board in
>my old AT, but my current experiences with my NEC multispeed
>(very noisy on 14mhz) are making me cautious about computer generated
>rfi. Any comments will be appreciated.

Get yourself a good rf tight case(can be expensive) or make the case
you have rf leak proof(that what I did). Don't forget about a metal
case for the monitor and to use shielded serial and printer cables...

>cheers, Paul
>ve7cqk
>email: paul1@wizard.ucs.sfu.ca

4944. Re: September *and* October QEX will be late.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-28 00:00:00 UTC
From: rick@cs.sunysb.edu
Message-ID: <46u7ai$ska@abel.cc.sunysb.edu>
Source record: 109905
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

Jerry B Altzman (jbaltz@labdien.cc.columbia.edu) wrote:
: Word from the League:
: The September QEX "just went to the printers"; they're not sure when it will
: be shipped exactly. The October issue will also be late. "It's possible that
: you will get both in the month of November."
: I asked if they were going to be caught up by November, or if they should
: just renumber the issues--whatever issue comes out by December is the
: December issue. I was told that by November "we hope to be caught up".
: FYI
: //jbaltz
: jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
: jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

It would be really neat if the ARRL jumped out ahead of the
pack on this and offered QEX in pdf format on their FTP
server. Speaking as a paid subscriber, I would really like
to get QEX in pdf format so that I can just keep it on
CDROM/tape, etc rather than having all that paper piling
up on me. Of course, offering QEX electronically would
help meet deadlines too :-) Rick Spanbauer, WB2CFV

4945. Re: an HT from Hong Kong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-29 00:00:00 UTC
From: mfogarty@netcom.com
Message-ID: <mfogartyDH6oM7.2yo@netcom.com>
Source record: 109906
Cross-posted to: rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.amateur.homebrew

Michael Fogarty (mfogarty@netcom.com) wrote:
: I'm new on the amateur radio scene and need some advice. I'll be going
: to Hong Kong soon and am interested in shopping for an HT. What can you
: advise me about:

Folks,

Thanks much for your input. I leave for Hong Kong soon and don't expect great deals. I've secured an Amateur Electronic Supply catalog and will shop cautiously. I didn't even consider the warranty issue and I'm much obliged to have had it brought to my attention.

I am surprised that nobody really seemed to mention the possibilities and benefits of expanded frequencies. Perhaps you're all old timers who've gotten the modifiable radios (like my friends), or you don't really care to listen in on the verboten bands. Regardless, I'll have an HT on returning from HK or I'll get one here soon thereafter (likely the latter).

I might have mentioned that I have been to HK once before, so I know generally what to expect. I'll have a few more sharp suits and memories of the stunning views.

Thanks,
Mike
programmer, SRL

4946. Re: Want to filter out stupid radio station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-29 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <46uvsq$4j3@nnrp3.news.primenet.com>
Source record: 109907

Psyber (ez041502@dale.ucdavis.edu) wrote:
: I posted before about jamming a radio station. I wasn't that
: serious. I just wanted to express my intense dislike of "young"
: country. (I won't call it music, that'd be giving it too much credit.)
: I have since gotten advice to ask about how to filter out the hated
: station or to get a "more selective receiver". Now does anyone have any
: more information on these perfectly legal solutions?
: Stan Kwong

Stan,
Here's a less technical solution: Move closer to the desired
station. HAH!

--

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------oo0~(_)~Ooo----------

4947. Yeasu G-5400B Computer Interface Specs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-29 00:00:00 UTC
From: Kory Hamzeh <kory@avatar.com>
Message-ID: <Pine.BSD/.3.91.951029142418.29786A-100000@avatar.avatar.com>
Source record: 109908
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Hi Everyone,

I'm building a device like the Kansas City Tracker & Tuner and I am trying to figure out the computer interface for the Yeasu G-4500B AZ/EL Rotor. I've called Yeasu, but they don't have any written specs. I tech support person was nice enough to fax me the schematic of their GS232 box, which provides a RS-232 interface to the rotor.

What I need to know is the voltage range of the el & az positions indicators and how much current I need to drive the step up/down & left/right controls.

It should be a neat project. I'm using the Parallax Basic Stamp2 chip with two National Semiconductor ADC0831 A/D chips and a Maxim 233 TTL to RS-232 converter. This little device will receive the azimuth and elavation and doppler shift via an RS-232 port on my PC, and then it will position the antanna and tune the radio. I'm writing a little windows program which gets all this information from WinOrb using a DDE interface. If anyone is interested, let me know.

Thanks,
Kory
KE6VWO

4948. Re: Want to filter out stupid radio station

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-29 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-291095004216@160.205.101.24>
Source record: 109909

Gary's right - it's possible to build a pretty decent antenna for relatively few dollars. However, given the 200 kHz spacing between the desired and offending stations, Mr. Kwong may not be able to entirely eliminate the sideband of the offending station from spilling into his receiver passband. During my days in college, I had a similar reception situation to Mr. Kwong's. I never could get enough rejection from the rooftop antenna I rigged up during one semester to keep the distant FM signal free from the 'swish' of the adjacent station's sideband (local terrain was a factor), but it was good enough for background music to study by.

TGB

\\ The opinions expressed herein are my own. //

4949. help w/ headphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-29 00:00:00 UTC
From: cem1116@silver.sdsmt.edu
Message-ID: <cem1116.7.3093277C@silver.sdsmt.edu>
Source record: 109910

Hello out there. I built a small crystal radio, and I need some 2000 Ohm headphones for it. If anyone has a set lying around, or if you know where I could buy some, please let me know. Thanks in advance.

Christopher Misterek

South Dakota School of Mines and Technology

cem1116@silver.sdsmt.edu

4950. TM-742A defect, HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-29 00:00:00 UTC
From: daniel.lacasse@com18.com
Message-ID: <RERAAMHO.89B4@com18.com>
Source record: 109911

Hi all,

I own a TM-742A and have a problem with it now...

While I was searching which keys to press while powering onto change
the ON/OFF time, I tried (F + LOW) and POWER ON. The unit did not like it!

Now, my radio is like always ON. So I had to disconnet it from the
car battery.

If I reconnect it, it immediatly show me "- On -" then after two seconds
the brightness goes higher (pass from brightness level 6 (default) to
level 1 (my choice while it was working well). And then, after 2 more
seconds, all the display goes black. But the radio seems always to
be on because I can hear really low noise (like an open squelch)
from the external speaker.

I look up in the book if the key pressed were corresponding to a function
and it says 28 MHz selection of band (wide or narrow).

I tried to press MR key while reconnect to the battery for a reset but
if failed... :(

Is there something to do!?!

Daniel.Lacasse@com18.com

___ Blue Wave/QWK v2.20 [NR]

4951. Re: help w/ headphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-29 00:00:00 UTC
From: "Thomas D. Cox" <tomcox@indy.net>
Message-ID: <4713uj$s67@news.indy.net>
Source record: 109912

Christopher,

If no headsets turn up, you might try a crystal earphone. They're pretty high-impedance, and very efficient.

Tom, KA5NEE/9
tomcox@indy.net

4952. How to determine dBm when driving diode mixers with square waves

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDH8x67.FC1@netcom.com>
Source record: 109913

It is said frequently that driving double balanced diode mixers with square waves is a good thing. Question is: how do you reckon the appropriate drive level in dBm with square waves? If a mixer is rated at, say, +7 dBm LO drive, does this mean +7 dBm as measured on a sine wave? If you drive it with a square wave, do you use about the same peak voltage as you would use with a +7 dBm square wave? Or do you calculate the average power of the square wave? Or what? :-)

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <

4953. *** design of 10mtr to 6 mtr transverter ***

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: erwin.cremers@ingram.nl
Message-ID: <DH9I0L.8JK@inter.NL.net>
Source record: 109914

Hello,

I'm looking for the schematic of a transverter from 10 Mtr to 6 Mtr, does any one have experience with a transverter that he/she has build and does any body know were i can find info on this subject or the kompleet schematics (i prefer the last option).

Thanks,

4954. Re: Easy PL-259 in Nov. QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Oct30.215226.15407@ke4zv.atl.ga.us>
Source record: 109915

In article <4718d0$1ie@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (Tim Hynde ka8ddz/qrp Rochester, MI) writes:
>Hints & Kinks, November QST page 83
>
>Easy PL-259 connections?
>
>There is a description of how to solder a PL-259
>connector to coaxial cable. This suggestion was put
>forth by ARRL Technical advisor out of Texas, I'm not
>an engineer but this appears to me to be a poor design.
>
>
>a) it leaves the cable succeptable to water.
> (yes I know you wrap it, but wouldn't it be
> better to have the sheath inside the connector?
> I mean thats what the sheath is for isn't it?)

Doesn't much matter, it leaks anyway. You have to wrap it.
But at least he provides a solder bond all the way around
the back of the connector shell. This is better than just
depending on the slip fit of the plastic jacket.

>b) it appears to use the braid to support the cable
> (leaves the sheath with not much to do)

The braid is the strongest part of the cable. It should be
bearing the load. This is one good bit about this method.
But it's not that good a bit because a solder joint is a
poor substitute for a good mechanical connection.

>c) the author suggests to plug the holes with dabs of
> solder, weren't these designed for ground
> connections? Does not appear the braid comes up
> that far in this pictorial.

This has always been a weak point with PL connectors. Soldering
to the braid through the little holes doesn't make a very good
connection. That's one reason to consider the author's method.
By soldering all the way around the braid at the rear of the
connector, he forms a better electrical connection than just
trying to solder through the holes. OTOH he stands a much
better chance of melting the inner insulation because of the
amount of heat needed to make the joint a good one.

>d) the author suggests wrapping #14 wire around the braid
> which is still exposed. What does this accomplish?

This is just filler material so that the solder doesn't
have to bridge such a wide gap between the coax braid and
the shell of the connector. It's a good practice any time
you don't have a good mechanical fit to use filler material
before soldering. It's stronger than just letting the solder
bridge the gap. Uses less solder too.

>The intent is not to ridicule someone elses suggestion.
>Im just wondering why QST would publish this since it's
>in conflict with their own Handbook.

The method in the Handbook, though recomended by Amphenol,
isn't all that good either. If you must use a PL style
connector, and I try to avoid them when possible, then
you should use a Kings crimp connector. They offer a
mechanically strong and gas tight connection when applied
with the proper tooling (which costs over $200 BTW).
NASA approves them, and TV stations live by them, in
BNC and N too. (The tooling is bloody expensive, but
it'll last a lifetime in amateur use. The connectors
themselves are pretty inexpensive, no more than solder
on connectors.)

Soldered connections just aren't as reliable as a gas tight
crimp connection *properly applied*. Don't be put off of
crimp connectors by cheap RS junk connectors crimped with
a cheap pair of pliers. A proper crimp connector, designed
for the cable you're using it on, and installed with the
proper tooling for the cable and connector you are using,
is the best connection you can hope to make. And there's
zero chance of melting the inner insulation and ruining
the connection.

I've convinced several doubters by swinging from a piece
of RG-8 screwed to a support panel by one of these connectors.
The connector never fails, but the RG-8 gets noticably thinner,
I'm a big guy.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4955. Ramsey FX-146 Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: "Timothy E. Brown" <tbrown@coastalnet.com>
Message-ID: <471n4g$5hj@treasure.coastalnet.com>
Source record: 109916

Looking for modifications for my Ramsey FX-146 2M transceiver. Like to have direct frequency input and tone encode. Also any other goodies for it. Help!
de KB4RXZ

4956. diode mixer drive level

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <472iah$pl0@flood.weeg.uiowa.edu>
Source record: 109917

John Seboldt asks about square wave diode mixer drive as compared to sine wave. My custom has been to use a square wave of *current* with the same peak amplitude as the peak amplitude of a sine wave. The drive power will be 2 or 3 dB greater, but in practice mixers are quite tolerant of a little additional power. When the square wave of *current* can actually be achieved (at very high frequencies it is very difficult) the mixer intermodulation performance can be significantly improved, if all other conditions such as resistive IF load can be met. The diodes tend to "square off" the voltage waveform, so it is the current waveform that is most important. The best driver circuit is a current source rather than a voltage source. Bill Sabin W0IYH.

4957. Help with Loop Antenna Articles

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <472oek$liu@nnrp1.news.primenet.com>
Source record: 109918

Joseph Carr, "Small Loop Antennas for MW, AM BCB, LF and VLF Reception"
Elektor Electronics, June 1994 and July 1994

J. Barendrecht, "Wideband Active Loop Antenna"
Elecktor Electronics, March '95

Oh yes, the address is:

Chris Trask
P.O. Box 25240
Tempe, Arizona 85285-5240

Thanks in advance for your assistance.

Regards,

Chris Trask

From nnrp1.news.primenet.com!nntpdist.primenet.com!ctrask Mon Oct 30 07:42:49 1995
Path: nnrp1.news.primenet.com!nntpdist.primenet.com!ctrask
From: ctrask@primenet.com (Christopher Trask)
Newsgroups: rec.radio.amateur.antenna
Subject: Help with Loop Antenna Articles
Date: 30 Oct 1995 01:56:53 GMT
Organization: Primenet (602)395-1010
Lines: 30
Message-ID: <471bd6$t4o@nnrp3.news.primenet.com>
NNTP-Posting-Host: usr5.primenet.com
NNTP-Posting-User: ctrask
X-Newsreader: TIN [version 1.2 PL2]
Xref: nntpdist.primenet.com rec.radio.amateur.antenna:16728
Xref: nnrp1.news.primenet.com rec.radio.amateur.antenna:16728

I have had no luck at all in locating the following articles that
were cited by a fellow from Australia about a month ago:

Joseph Carr, "Small Loop Antennas for MW, AM BCB, LF and VLF Reception"
Elektor Electronics, June 1994 and July 1994

J. Barendrecht, "Wideband Active Loop Antenna"
Elecktor Electronics, March '95

Elecktor Electronics is a Dutch magazine that is available in English. There
is an address in New Hampshire, but I haven't been able to get a response
yet. If anyone out there has access to these two articles, I would be very
happy :) to have copies.

Thanks in advance for your assistance.

Regards,

Chris Trask

--

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------------------------------------------------------------------------------
Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo-----------------------------------------
```

4958. Re: *** design of 10mtr to 6 mtr transverter ***

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <472vg8$43a8@lamar.ColoState.EDU>
Source record: 109919

erwin cremers (erwin.cremers@ingram.nl) wrote:
: I'm looking ... schematic of a transverter from 10 Mtr to 6 Mtr, does any
: one have exp with a transverter that he/she has build and does any body
: know were i can find info on this subject or the kompleet schematics (i
: prefer the last option).

: Thanks,

ARRL handbooks. There's a 6m transmit converter in my '87 edition.
Galen, KF0YJ

4959. Re: homebrew six meter transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: wdubrof@eng.clemson.edu
Message-ID: <472s4u$ol7@hubcap.clemson.edu>
Source record: 109920

In article <46rfqg$pqc@ixnews3.ix.netcom.com>, mdman@ix.netcom.com says...

Does any one know of any kits to build low power six meter CW transmitters? I am specifically looking to build a beacon.

Believe Ten-Tec sells this type of kit.

wd
KF4ECX

4960. Re: 2000 Ohms headphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951030094837.10226A-100000@biggulp.callamer.com>
Source record: 109921

Yes, we have tried matching transformers as well. First they have about three db insertion loss. Secondly, the higher impedance has so much more audio recovery that they are worth the additional expense. Most stereo phones are 40 ohm impedance and even those units are not as sensitive as the crystal "ear plug" units.

On 30 Oct 1995 sabinw@crpl.cedar-rapids.lib.ia.us wrote:

> Radio Shack sell a transformer, 1000 Ohms to 8 Ohms for 2 dollars.
>
>
>

4961. Radio Control

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: shields@nps.navy.mil
Message-ID: <shields.71.47C576A5@nps.navy.mil>
Source record: 109922

I am looking for information to build a receiver for a Radio Control
Aircraft. I am currently using a 5 channel Futaba FM PWM (72MHz) system
and I thought it would be a fun project to build a little receiver.
I have never used the 6m band for RC control and am wondering if any-one
could give me information about modifying my Futaba radio, building new
radios, etc.
One of the problems that motivated me to look into a homebrew solution is
that I have an interest in flying wings and they require servo mixers. I
think I understand the theory to build one but I am not positive. If anyone
knows of a design for servo mixers I would be greatful for any hints.

Mike Shields

4962. Pop. Elect. 800Mhz receiving ant for tx on 2m?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: wired@genes.pl.my
Message-ID: <815068302.21087snx@genes.pl.my>
Source record: 109923

Can I adapt the 800MHz scanner antenna featured in Pop. Electronics (Nov '95)
for use as a transmitting antenna on 158MHz? (1.48 foot radials)

IS there any gain?

Is there a better (but simple) antenna for txing on 158MHz?

Will the loss be significant if I used 25 feet of RG-58 cable?

thanks!

4963. Re: How to determine dBm when driving diode mixers with square waves

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <3095A7BF.1A0D@netaxs.com>
Source record: 109924

The local oscillator port of a double balanced mixer sees the equivalent of 2 diodes in series. Once the diodes turn on, the LO voltage is clamped at the diodes' forward voltage. Assuming that the diodes clamp to about .7 volts each, and there are 2 series diodes in the LO voltage path, you get an LO voltage requirement of about 1.5 Vpp, or 0.5 Vrms for a sine wave. Using the familiar rule P=(E^2)/R, this equates to 5 milliwatts (7 dBm)for in a 50 ohm system. If you use a square wave, just be sure that you drive the same 1.5 Vpp signal into the DBM LO port and you'll be fine.

Joe
WA3CMQ

4964. Re: Q: Using polarized caps back to back

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951030171623.24027B-100000@biggulp.callamer.com>
Source record: 109925

Larry, what you are really talking about is the old fashioned AC
capacitor used in motor starting. First I would suggestion you simply
ask for a motor starting capacitor used in antenna rotors. They are just
about the right value you need.
If you would like to make your own, place diodes in series with any
polaraized capacitor in the right direction to prevent reverse polarity
and do a similar thing with another capacitor/diode in the reverse
direction. Wire them in parallel. This is a very suitable replacement often
better than the original and far cheaper but larger in volume. 73 Cliff W6HDO

On Mon, 30 Oct 1995, Larry Cochrane wrote:

> Hi,
>
> I need a very long time constant and need a non-polarized cap
> around 100uf. I have some questions about using polarized caps
> back to back:
>
> 1. Is there any long term problems doing this.
>
> 2. What type of cap should be used, aluminum electrolytic or can
> I use tantalums.
>
> Thanks,
> Larry Cochrane
> cochrane@webtronics.com
> ---
> Public Seismic Network
> Check out http://psn.quake.net for information on who to build
> your own seismograph station.
>
>

4965. Q: Using polarized caps back to back

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: Larry Cochrane <cochrane@webtronics.com>
Message-ID: <3095354A.482E@webtronics.com>
Source record: 109926

Hi,

I need a very long time constant and need a non-polarized cap
around 100uf. I have some questions about using polarized caps
back to back:

1. Is there any long term problems doing this.

2. What type of cap should be used, aluminum electrolytic or can
I use tantalums.

Thanks,
Larry Cochrane
cochrane@webtronics.com

Public Seismic Network
Check out http://psn.quake.net for information on who to build
your own seismograph station.

4966. Re: DDS Article in 73

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-30 00:00:00 UTC
From: gerhard@netmbx.netmbx.de
Message-ID: <473cmi$cmc@newsun.netmbx.de>
Source record: 109927

In article <DH18t9.D7u@nsc.nsc.com>, Dave Fifield <fifield@lan.nsc.com> wrote:
>I bought a 50MHz AD7008 from Newark for $53...they have them in stock.
>
>Whilst we wait for quadrature outputs, does anyone have a good design
>for a digitally bandswitched quadrature generator (one phase splitter
>for each of the HF bands)?
>

Harris's HSP45106 has fixed quadrature outputs and Qualcom's
Q2334 Dual DDS Chip can be run in a quadrature mode.
You can even have 90.01 degrees of phase delay to make up
for your mismatched analog filters.

Gerhard

--
Gerhard Hoffmann # phone: +49 30 782 02 33
Gleditschstr. 79 # fax: +49 30 782 02 63
D10823 Berlin # on the air: dk4xp
Germany # in the air: d-1441, d-kick

4967. Land Mobile Radio FAQ needs your input!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <4760ev$ibj@mrnews.mro.dec.com>
Source record: 109928
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

[I'm including part of the Motorola listings from the FAQ at the bottom, so you all can get a look at how it's presented, and what info I need. I need to do a lot of cleaning up and organizing of this somewhat scattered listing format!]

The Land Mobile Radio FAQ is now under way... I need your support!

What is it?

A listing of those surplus police and taxicab radios from the various manufacturers, how to identify them, what band they're on, how easy it is to tweak them into the ham bands, average price used, etc., all in one file for your flea market shopping convenience!

What it's not is a mod manual. You won't find out HOW to do the mods in the FAQ. That's up to you. You will find out where to get the manufacturer's manuals, most of which have detailed tuning procedures. Some of the radios can only be programmed by the manufacturer, and/or by using the manufacturer's proprietary software. Such details will be in the FAQ.

I'd like to include any and all mobile or handheld radios aimed at the commercial or public service market. Many of these out-perform the imported synthesized units by a long shot, are cheaper, and make great ham rigs! Let's put these great radios back to work and on the air!

I NEED YOUR INPUT TO MAKE THIS A REALITY!

You don't need to mail me manuals or anything like that, unless you WANT to. All I ask is a few bits of data for any of these radios you or your friends may have worked on in the past. If you've put one on the air, you've had to answer these questions, so fill 'em out and send 'em in!

Model? Manufacturer, model name (like Mastr II, Syntor, Delta, etc.), model number

Band? These radios are usually made for use in a specific band of frequencies, like 30-50 MHz, 150-170 MHz, 450-470 MHz, etc.

Freq control? Crystal, synthesized/ROM programmed, synthesized/microprocessor programmed

Average price? What did you pay? What prices did you see when shopping? New or used?

Manual price? How much did the manual cost?

Mod difficulty? How hard was it to get it tuned to ham band?
Easy: re-crystal, tweak a few tuning screws
Difficult: program a new ROM, swap a few parts
Extremely difficult: Major modification and re-design
of some circuits, you must pay
authorized technician to use
manufacturer's software

How to indentify? What details do you need to know to tell these radios
apart? Does the serial number tell you anything? Does
the Model number? Are there physical differences?
This is the stuff you need to know when sorting
through the radios at the flea markets. This
information is usually in the manufacturer's manuals
in great detail.

I will re-post this notice about every other week for a while, until the FAQ
is somewhat filled out.

My net address is: randolph@est.enet.dec.com
All information, network pointers, periodical references, anything, is
appreciated, and thanks in advance!

-Tom R. N1OOQ randolph@est.enet.dec.com

[Here's the partial Moto listing]
Motorola
========

Motorola product ID 1-708-538-0021 Call this number first and ask for
the maintenance manual part number.
You will need the model/combination
number on the radio.
Motorola manuals 1-800-422-4210 Call this number next and ask them to
send you the maintenance manual. You
will need the manual number you got
above.
Model numbers L 5 3 T S B 1100AM
! ! ! ! ! ! !!!!
! ! ! ! ! ! ++++--- squelch (carrier, PL, DPL)
! ! ! ! ! +------- power supply (B,C,J,K,N=12V)
! ! ! ! +-------- transmitter
! ! ! +--------- receiver
! ! +---------- band (1=42-50,3=148-174,4=450-512,5=800)
! +----------- power (3=25W,4,5=55W,6=75W,7=110W)
+------------ C,H,L,M,T,U

avg how
band freq used manual mod to
mobile models MHz contrl price price diffic id
==
Maratrac UHF syn $800 diff 100W, 99 chan, DTMF
mic

Maxar 30-50 xtal easy 45W
150-174 xtal easy 55W
450-470 xtal $50 easy 15W/25W, 2 chan, PL
Maxtrac VHF $250 25W/45W, 16 chan,
PL/DPL
900 diff
Micor 42-50 xtal $30 easy 110W, 4 chan,
T71RTN3400A
150-162 xtal $50 $20 easy 12 chan, remote head,
110W, C63RTB3105A,
C73RCB1116D, manual
68-810008E40
450-470 45W, 75W
470-512 $30 75W
800 $30
Mitrek VHF $100 easy 50W, 4 chan,
T53JJA3400BK
UHF easy 75W, T64JJA3000AK
Mocom 42-50 xtal $30 easy 55W, 4 chan,
U51BBN3100A
Mostar 150 syn
UHF syn $250 xdiff DTMF mic, PL
Motrac similar to Mocom; tube finals 43MH, 73MH

4968. DXtreme Amateur Radio Station Log System, Version 2.0

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: dxtreme@ix.netcom.com
Message-ID: <47423t$283@ixnews6.ix.netcom.com>
Source record: 109929

DXtreme Amateur Radio Station Log System(TM)

Designed for HF DXers, this affordable logging program lets you maintain
a database of your contacts and track the DXCC performance of your station.
DXtreme(TM) features attractive, easy-to-use screens, and a full range of
inquiries and reports.

PC/AT-compatibles, MS-DOS 5.0+. Only $29.95 plus $3.00 shipping in NA.
Write for data sheet. DXtreme Software, 26 Langholm Drive, Nashua, NH 03062
(dxtreme@ix.netcom.com).

Thanks and 73,

Bob

4969. Re: Coherent CW, what is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: kevinf@aquilagroup.com
Message-ID: <475iqt$lfa@mack.rt66.com>
Source record: 109930

amencke@panix.com (Andres Mencke) wrote:

>Is there a technique called "Coherent CW" for
>low power, DX communications?

Yes, BUT both stations must be so equiped, or at least must be using keyboards.

The technique is to sychronize sending with master reference (WWV fer example).The reciever then samples each "time slot" (time slot would be "dit" length, or 1/2 1/3)and makes a yes/no decision about if the signal was present. If yes, then it fills the whole time slot with a tone. If no, it fills the slot with silence.

It is also possible to lock the reference clock to the incoming signal, by looking for transitions. This is required to some degree even if syncing to WWV, due to variable prop delays..

The keyers used would not "start" untill the beginning of the next time slot, so took a little getting used to. Also the reciever contributes one time slot of delay.

>Where can I find more information about it?

ARRL handbook had section on it for at least a couple of years..maybe 84 to '86...

You can probably do nearly as well using DSP techniques, CCW is in fact a DSP technique. CCW filters use knowlege of where the edges SHOULD be in order to reduce noise.

I don't see why most of the handbook block diagram couldn't be implimented in a DSP.

Happy building.
-73-
de KO0B

4970. Re: Need Smith Chart Program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: Ken Linney <Ken@cassar.demon.co.uk>
Message-ID: <590511864wnr@cassar.demon.co.uk>
Source record: 109931

Hello Allen
The following Smith Chart program references might be of
use. I believe they are Shareware initially:

SCAT : Smith Charting "S" Parameters particularly HF Amplifiers

by Aciran Software (In Scotland I believe)

SMITTY - Transmission line calcs. by K1TD

The RFC Program .... A very nice Smith Chart program

by Giorgio Fontana (I downloaded mine some time ago from the
One Stop LLBBS in the states)

PUFF - Electrical CAD by California Institute of Technology

Techplot Test Drive by Polysoft
Smith / Gaussian / complex etc

One of the "Heavyweights" is MathCad so long as you have the
Electronic Book part to the program. That has some nice Smith
Charting possibilities.

73 Ken

From : Ken Linney BSc.
Available at Internet : ken@cassar.demon.co.uk
Ham Radio Packet AX25 Network : G3UDA@GB7PMB.#28.GBR.EU
" Being a Quantum mechanic - I could pop up anywhere "

4971. Re: Junkbox? I Need MRF422 txstrs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <475nom$419k@lamar.ColoState.EDU>
Source record: 109932

Mike McLendon (mclendon@ix.netcom.com) wrote:
: I am hoping that someone has some MRF422 HF power transistors they

: These transistors are 28 volt 150 watt devices with flat leads and
: secured to the heat sink with 2 machine screws each (sorry I forgot the
: case style number).

Case style 211-11

: Thanks for reading/checking this... 73s

: Mike
: KE4END

4972. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: Steve Lorek <slorek@tcp.co.uk>
Message-ID: <309674F0.29F1@tcp.co.uk>
Source record: 109933

Just to update our thousands of visitors in the past few days. The Ham Radio Today On-Line pages are all ready for the grand opening on November 3rd. We've got loads of features (reviews, ex-PMR conversions, beginners guides, news etc.) ready for the day, so be prepared. So you'd better all stay up until midnight on the night, because that's when it'll be released! That's 00:00 hours on November 3rd! The URL is:

http://www.tcp.co.uk/~slorek/

No other site can touch Ham Radio Today On-Line - you won't believe your eyes when you see it!

```
-------------------------------------------------
| Steve Lorek | slorek@tcp.co.uk |
-------------------------------------------------
| Editor, Ham Radio Today On-Line, the best |
| Amateur Radio Web site in the world!!! Visit |
| it at http://www.tcp.co.uk/~slorek |
-------------------------------------------------
```

4973. Re: How to determine dBm when driving diode mixers with square waves

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: Carl Gregory <cgregory@uiuc.edu>
Message-ID: <4769lr$nir@vixen.cso.uiuc.edu>
Source record: 109934

tomb@lsid.hp.com (Tom Bruhns) wrote:
>Rocci (rocci@netaxs.com) wrote:
>: The local oscillator port of a double balanced mixer sees the equivalent of 2
>: diodes in series. Once the diodes turn on, the LO voltage is clamped at the
>: diodes' forward voltage. Assuming that the diodes clamp to about .7 volts each,
>: and there are 2 series diodes in the LO voltage path, you get an LO voltage
>: requirement of about 1.5 Vpp, or 0.5 Vrms for a sine wave. Using the familiar
>: rule P=(E^2)/R, this equates to 5 milliwatts (7 dBm)for in a 50 ohm system.
>: If you use a square wave, just be sure that you drive the same 1.5 Vpp signal
>: into the DBM LO port and you'll be fine.
>
>Which immediately begs the question, "What of mixers rated for +17dBm or even
>+27dBm LO input?" After all, +27dBm is 1/2 watt, and at 50 ohms, this is 5

These guys have extra diodes in each leg, so the voltage requirement is higher.
Some also have an RC network in each leg. See the Merrimac RF and Microwave
Processing catalog (I have a 1992 edition) Table I, p. 1.3..

BTW, I think that if you use a square-wave, the peak drive voltage can be lower
for equal efficiency. A sinewave drive should be high-enough level so that it
is significantly clipped by the mixer (thus becoming a square wave). Think of it
as a valve which turns on when the drive exceeds the threshold. If the valve
only turns on for a small fraction of a cycle, you won't get much water (signal)
through it).

73 de K8CG

4974. Uniden satellite reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: scava@tribeca.ios.com
Message-ID: <4765ln$33c@news.ios.com>
Source record: 109935

I have a uniden UST-6000 stereo satellite reciever. Unfortunatly I do not have the dish lnb or any of that. I was wandering what if anything else I can do with this unit or if it is worth getting the rest of the stuff to make it recieve again. Are there any audio services or other things I would be able to get. Thanks in advance for all the help.

4975. Re: Tachometer circuit designs? Help.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <476faa$kqv@newsbf02.news.aol.com>
Source record: 109936

In article <1995Oct15.120544.1@icbr.ifas.ufl.edu>,
laipis@icbr.ifas.ufl.edu writes:

> I want to build a tachometer (Hall effect
>or optical) for use with two outboard motors. Digital preferred, but
analog
>OK. Speed range 500 -> 6000 rpm

Most auto parts houses sell analog tachs.
Buy two. Seems like you just need relative revs.

Even if you don't have 4 cyl engines you will still get output to the
tachs
from the ignition systems.

Carl

4976. Re: Help w/ Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <476fk8$ktr@newsbf02.news.aol.com>
Source record: 109937

In article <Pine.BSD/.3.91.951015114548.2505B-100000@matrix.eden.com>,
"Edwin J. Bailen" <n5kzw@eden.com> writes:

>I have never found a better discussion of
>the workings of the LM723. I keep my copy under lock and key. ;=)
>
>73 -- Ed Bailen N5KZW

I'd like to have a copy. :-)

Carl N9EFJ

4977. TS-50 INTERFACE- IF10D

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: tom.alldread@minfox.com
Message-ID: <9510311820387626@minfox.com>
Source record: 109938

N> So if any one out there knows what the IF10D is made up of , i
>would be greatful if you could give me a few pointers.

Greetings ROB:

You got my curiosity up as I own a TS-50S which I use as a
mobile and did not realize that it had a computer interface jack. As
I only use mine mobile I have not had the occasion to look into
interfacing it (until now).

I have written a transceiver control program for my TS-850S
which displays the IF spectrum in colour graphics and allows one to
point at a signal with the mouse and leap tune the transceiver to it
with the click of a mouse button.

I to was not willing to pay the price for an RS-232C to TTL
level converter box either and I ended up building one with a quad op
amp and a 5 volt zener diode with limiting resistor. I power it from the
computer port and use a 7660 power inverter to generate the negative
polarity voltage needed for the RS-232C interface. At the time I was not
aware of the Maxim Semiconductor MAX232.

The MAX232 is a chip designed to do TTL-RS232C level conversion
with one chip. It has a built in negative voltage charge pump. All you
need is this chip and an external charge pump capacitor to complete the
level conversions. It costs about $3.00 in single unit quantities and
should be commonly available. There is a version of the chip with the
capacitor built in that cost a little more. Check out Maxim's
application information for connection details.

I took a look at my TS-50S schematic and noticed that 5 volt
power is available on the CN6 DIN connector which I believe could be
used to power the MAX232. The TXD, RXD, CTS and RTS serial com port
signals are passed through individual RF low pass filters (series 470
Ohm resistor with shunt 0.01uF capacitor) directly to the micro
controller port pins. PLEASE NOTE that the application of excessive or
wrong polarity voltage on one of these pins could possibly destroy the
microprocessor!!! This appears to be a typical 0 Volts logical low and 5
Volts logical high CMOS interface but you may wish to play it safe
by limiting the logical highs to +4V as the micro controller is powered
one diode junction voltage drop below 5V (to provide for battery backup
switching).

I hope this information is of some help. Hopefully someone will
respond with the exact details of the Kenwood IF-10 schematic which you
could probably duplicate at a low cost.

If you get any other information on the TS-50S I would
appreciate it if you would pass it on to me.

Good luck with your project.

73 de VE7TMA

---
* QMPro 1.53 * Very Best Regards, tom.alldread@minfox.com

4978. Re: tube info required EEV 8987

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: SCHOEN@REZE-1.RZ.RWTH-AACHEN.DE
Message-ID: <473te9$nj1@news.rwth-aachen.de>
Source record: 109939

ve6nap@oanet.com schrieb:

> Have recently obtained an intresting tube
> Marked 8987
> stamped Made in England
> It also has a printed EE monogram (almost worn off)

GEC (EEV)
Waterhouse Lane
CHELMSFORD
Essex
CM1 2QU
Tel: 01245 493493
Fax: 01245 492492

Elektronik Gruppe Aachen e.V.
Klaus Sch&#65533;nhoff Tel: 0241-23390
SCHOEN@REZE-1.RZ.RWTH-AACHEN.DE

4979. Re: DDS Article in 73

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-10-31 00:00:00 UTC
From: datwyler@aros.net
Message-ID: <4747o5$f4p@news.aros.net>
Source record: 109940

In article <473cmi$cmc@newsun.netmbx.de>, gerhard@netmbx.netmbx.de says...
>
>In article <DH18t9.D7u@nsc.nsc.com>, Dave Fifield <fifield@lan.nsc.com>
wrote:
>>I bought a 50MHz AD7008 from Newark for $53...they have them in stock.
>>
>>Whilst we wait for quadrature outputs, does anyone have a good design
>>for a digitally bandswitched quadrature generator (one phase splitter
>>for each of the HF bands)?
>>
>
>Harris's HSP45106 has fixed quadrature outputs and Qualcom's
>Q2334 Dual DDS Chip can be run in a quadrature mode.
>You can even have 90.01 degrees of phase delay to make up
>for your mismatched analog filters.
>
>Gerhard
>
>
>--
># Gerhard Hoffmann # phone: +49 30 782 02 33 #
># Gleditschstr. 79 # fax: +49 30 782 02 63 #
># D10823 Berlin # on the air: dk4xp #
># Germany # in the air: d-1441, d-kick #

I just found this thread. I am curious to know which 73 article this refers to
and hope that someone may be able to e-mail me that jist of the ideas
expressed before it started.

Just in case, e-mail is datwyler@aros.net.

TNX

Douglas L. Datwyler
WR7O

4980. Re: Experience with HAMEG spectrum analysers ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: Colin Edwards <cedwards@pavilion.co.uk>
Message-ID: <eq4LeBAAJ6lwEwQJ@pavilion.co.uk>
Source record: 109941
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment,sci.electronics

>
>I would like to know if anyone here is familiar with the HAMEG 5006 series
>spectrum analysers.

Yes, I have one. It did cost nearly much as a second hand HP141 setup,
but at least you can lift it.
Basically - It works very well, but the lack of any sort of output means
that you can't record readings.

Even in the UK it took months to get one delivered.
--
Colin Edwards

4981. Re: Easy PL-259 in Nov. QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: burke_br@adcae1.comm.mot.com
Message-ID: <477rcs$g02@brokaw.comm.mot.com>
Source record: 109942

In article 15407@ke4zv.atl.ga.us, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
}In article <4718d0$1ie@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (Tim Hynde
ka8ddz/qrp Rochester, MI) writes:
}>Hints & Kinks, November QST page 83
}>
}>Easy PL-259 connections?
}>
}>There is a description of how to solder a PL-259
}>connector to coaxial cable. This suggestion was put
}>forth by ARRL Technical advisor out of Texas, I'm not
}>an engineer but this appears to me to be a poor design.
}>
}>
}>a) it leaves the cable succeptable to water.
}> (yes I know you wrap it, but wouldn't it be
}> better to have the sheath inside the connector?
}> I mean thats what the sheath is for isn't it?)
}
}Doesn't much matter, it leaks anyway. You have to wrap it.
}But at least he provides a solder bond all the way around
}the back of the connector shell. This is better than just
}depending on the slip fit of the plastic jacket.
}
}>b) it appears to use the braid to support the cable
}> (leaves the sheath with not much to do)
}
}The braid is the strongest part of the cable. It should be
}bearing the load. This is one good bit about this method.
}But it's not that good a bit because a solder joint is a
}poor substitute for a good mechanical connection.
}
}>c) the author suggests to plug the holes with dabs of
}> solder, weren't these designed for ground
}> connections? Does not appear the braid comes up
}> that far in this pictorial.
}
}This has always been a weak point with PL connectors. Soldering
}to the braid through the little holes doesn't make a very good
}connection. That's one reason to consider the author's method.
}By soldering all the way around the braid at the rear of the
}connector, he forms a better electrical connection than just
}trying to solder through the holes. OTOH he stands a much
}better chance of melting the inner insulation because of the
}amount of heat needed to make the joint a good one.

}
}>d) the author suggests wrapping #14 wire around the braid
}> which is still exposed. What does this accomplish?
}
}This is just filler material so that the solder doesn't
}have to bridge such a wide gap between the coax braid and
}the shell of the connector. It's a good practice any time
}you don't have a good mechanical fit to use filler material
}before soldering. It's stronger than just letting the solder
}bridge the gap. Uses less solder too.
}
}>The intent is not to ridicule someone elses suggestion.
}>Im just wondering why QST would publish this since it's
}>in conflict with their own Handbook.

Crimping deleted
}
}Gary
}--
I have to agree with the original post. The method described by the author
of the article is poor overall. A properly done PL259 does make good
contact and will work much better than the method described in that article.

One of the "secrets" to making a good braid connection is to pre-tin the
PL259 shell. It will still be warm when assembled which will aid the follow up
soldering. It is also necessary to run your soldering iron all the way around the shell
to heat up the different areas of the braid/shell interface causing the solder to wick
inside.

The other thing to do is use QUALITY COAX! Poor coax won't have enough braid to make
a good solder connection to in the first place! The hardest of the coaxes to solder is the
foam
stuff, even though it has better loss characteristics than standard rg8 or rg213.
The air when heated in the foam wants to expand and push the foam out the holes.
I'll admit to always having problems there. The only foam coax I have been sucessiful
at is Belden 9914, which has foil around it!

The poor ol' PL259 is a bad enough rf connector to begin with. Improper
assembly doesn't help and the method described in that article is just that!

73,

Bruce, WB4YUC

4982. Re: Easy PL-259 - CRIMPED!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: burke_br@adcae1.comm.mot.com
Message-ID: <477sfg$g02@brokaw.comm.mot.com>
Source record: 109943

In article 15407@ke4zv.atl.ga.us, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
}In article <4718d0$1ie@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (Tim Hynde
ka8ddz/qrp Rochester, MI) writes:
}>Hints & Kinks, November QST page 83
}>
* PL259 stuff removed *
}
}The method in the Handbook, though recomended by Amphenol,
}isn't all that good either. If you must use a PL style
}connector, and I try to avoid them when possible, then
}you should use a Kings crimp connector. They offer a
}mechanically strong and gas tight connection when applied
}with the proper tooling (which costs over $200 BTW).
}NASA approves them, and TV stations live by them, in
}BNC and N too. (The tooling is bloody expensive, but
}it'll last a lifetime in amateur use. The connectors
}themselves are pretty inexpensive, no more than solder
}on connectors.)
Gary,
There's no such thing as a gas tight crimp on braid. There will always be
air, or gas in between the individual wires. A secondary sealing method
must be used in order to get this effect.

You're right about assembly, it must
be done properly. More often than not, when purchasing commercially
manufactured cables, they are improperly done. The properly manufactured cables
are quite expensive by comparision and the average ham probably won't want
to spend the difference, especially if he can't immediately tell the difference
between the two.

73,
Bruce, WB4YUC
}
}
}Gary
}--

4983. Re: Recommendation for a good "Grid Dipper"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: jim breeyear <jbreeyea@moose.uvm.edu>
Message-ID: <477rpn$3up@swen.emba.uvm.edu>
Source record: 109944

Hi. I also have a Millen dipper and it is the best one i ever had. I also had a Measurements dipper that went up to 7or 8 hundred megs.

4984. Re: Easy PL-259 in Nov. QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4783jk$34k@newsbf02.news.aol.com>
Source record: 109945

In article <4718d0$1ie@ixnews5.ix.netcom.com> timhynde@ix.netcom.com (Tim
>Hynde ka8ddz/qrp Rochester, MI) writes:
>Hints & Kinks, November QST page 83
>
>Easy PL-259 connections?
>
>There is a description of how to solder a PL-259
>connector to coaxial cable. This suggestion was put
>forth by ARRL Technical advisor out of Texas, I'm not
>an engineer but this appears to me to be a poor design.
Snip>
>a) it leaves the cable succeptable to water.
> (yes I know you wrap it, but wouldn't it be
> better to have the sheath inside the connector?
> I mean thats what the sheath is for isn't it?)
>b) it appears to use the braid to support the cable
> (leaves the sheath with not much to do)
>c) the author suggests to plug the holes with dabs of
> solder, weren't these designed for ground
> connections? Does not appear the braid comes up
> that far in this pictorial.
>d) the author suggests wrapping #14 wire around the braid
> which is still exposed. What does this accomplish?
>The intent is not to ridicule someone elses suggestion.
>Im just wondering why QST would publish this since it's
>in conflict with their own Handbook.

This sounds like the method developed for using off size Radio Shack coax
for CB by a new age technical guru named Bill Shoop. Bill Stripped the
jacket, Heated the shield, Invoked the connection, and Taped it up.

This connection method has become the standard at CB shops across the
nation. CB shops often refer to this method by an abbreviated name, it's a
"BS-CB-S-H-I-T" type connection. I'm happy to see it's finally appeared in
an Amateur publication, although I expected 73 would be the first to
publish it.

Personally, I've always found the methods shown in old handbooks work
quite well.

73 Tom

4985. Re: How to determine dBm when driving diode mixers with square waves

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <4784lc$2ls@mgate.arrl.org>
Source record: 109946

rohrwerk@netcom.com (K0JD John Seboldt) wrote:
>It is said frequently that driving double balanced diode mixers with
>square waves is a good thing. Question is: how do you reckon the
>appropriate drive level in dBm with square waves? If a mixer is rated
>at, say, +7 dBm LO drive, does this mean +7 dBm as measured on a sine
>wave? If you drive it with a square wave, do you use about the same peak
>voltage as you would use with a +7 dBm square wave? Or do you calculate
>the average power of the square wave? Or what? :-)

With almost all parts, you are worried about either
exceeding a voltage or power limit. With mixers like
the SBL-1, you are worried about the power limit.

Thus, I'd calculate the power absorbed by the mixer
when figuring out the maximum driving level. This normally
results in the best IMD performance, at least before the
diodes are destroyed.

OTTH, for the mixer to work you do in fact have to turn
on the diodes by exceeding the "threshold voltage." Thus,
you want to figure out the voltage if you are investigating
this extreme.

+ 7 dBm is usually a nice happy medium between the two
extremes, so most people don't bother with a detailed
analysis.

Zack KH6CP/1 zlau@arrl.org

4986. Re: How to determine dBm when driving diode mixers with square waves

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DHDnw1.A5F@hpcvsnz.cv.hp.com>
Source record: 109947

Carl Gregory (cgregory@uiuc.edu) wrote:
: tomb@lsid.hp.com (Tom Bruhns) wrote:
: >Which immediately begs the question, "What of mixers rated for +17dBm or even
: >+27dBm LO input?" After all, +27dBm is 1/2 watt, and at 50 ohms, this is
: >5 Vrms.

: These guys have extra diodes in each leg, so the voltage requirement is higher.
: Some also have an RC network in each leg. See the Merrimac RF and Microwave

Aha. Thanks for this info, Carl. You don't get this impression from the
MiniCircuits catalog, which shows schematically single diodes. But you can
infer it from the SWR curves, which maintain a reasonably low SWR for rated
LO input power over the range of mixers from +7dBm to +27dBm. So the
higher-level mixers use additional diodes to handle higher voltage _and_
higher current. These allow a higher RF input compression point.

--
Cheers,
Tom
tomb@lsid.hp.com

4987. diode mixer drive levels

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <478j4h$ekk@flood.weeg.uiowa.edu>
Source record: 109948

Recent inputs regarding mixer LO drive are:
>: tomb@lsid.hp.com (Tom Bruhns) wrote:
>: >Which immediately begs the questers rated for +17dBm or even
>: >+27dBm LO input?" After all, +27dBm is 1/2 was is
>: >5 Vrms.
>
>: These guys have extra diodes in each leg, so the voltage requirement is
>higher You don't get this impression from the MiniCircuits catalog,
>which shows schematically single diodes. But you can infer it from
>the SWR curves, which maintains LO input power over the range of
>mixers from +7dBm to +27dBm. So the higher-level mixers use
>additional diodes to handle high higher voltage _and_ higher current.
>These allow a higher RF input compression point.

The original question that was raised was whether a square wave drive
would improve the IMD of a DBM. The response was that if a square wave
of current were used rather than a square wave of voltage the diodes
would behave more like an ideal switch, the idea being that the
on-resistance would be low over the entire half cycle and less
time-varying. My work with mixers has verified this many times.
But at very high frequencies this square wave of current is tough
to get. Bill Sabin W0IYH

4988. Re: *** design of 10mtr to 6 mtr transverter ***

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: Bill Bennett <bb@tisc.com>
Message-ID: <4788g1$6jv@taxis.corp.titan.com>
Source record: 109949

what i think would be nice is a 2meter to 6 meter transverter that way you could use your 2 meter ht to access 6 meter repeaters, the ht has offsets and ctcss that would also be required for 6 meters

4989. Re: ATV North Country Radio (WARNING)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: scottcr@wkuvx1.wku.edu
Message-ID: <1995Nov1.105421.1@wkuvx2.wku.edu>
Source record: 109950

In article <46o5s4$emm@ixnews3.ix.netcom.com>, timhynde@ix.netcom.com (Tim Hynde
ka8ddz/qrp Rochester, MI) writes:
>
> I read a construction article last year for a 5 watt ATV tranciever
> available as a kit from North Country Radio out of NY. The kit looked
>
> What concerns me is I have not seen them advertise in 73 or QST has
> anyone built one of these or have any experience with this company?

I hate to dredge up dirt from the past, but NORTH COUNTRY RADIO
is the outfit that accepted my check and 2 meter radio for repair
(as the authorized service center),

AND NEVER RETURNED EITHER. The familiar story of "it shipped last week,
didn't you get it?" or "Oh yeah, we had to order parts."

This is technically mail fraud, but the
lawyer told me the dollar amount wasn't worth pursuing.

Remember me North Country Radio? WB9NEQ, my EBC 2M radio?

I have not forgotten.

--
Chris.Scott@WKU.EDU Chief Engineer, Public Radio- Western KY U
Telco: (502) 745-3834 Hm & Fax: (502) 781-1232
...just another insignificant VAX user. \\\//
(o o)
--ooO-(_)-Ooo----------------------

4990. Re: LIGHTINING * HELP *

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov1.165705.24605@ke4zv.atl.ga.us>
Source record: 109951

In article <Pine.SUN.3.91.951024094219.11640B-100000@access.mbnet.mb.ca> mike <slmusr03@MBnet.MB.CA> writes:
>
>On Sun, 22 Oct 1995, Gary Coffman wrote:
>
>> You're right to be alarmed. Lightning can be a great hazard if station
>> layout isn't done properly to guard against it. But if the proper steps
>> are taken you can even continue to operate during direct strikes. Those
>> steps may be extreme in some cases, but it can be, and is, routinely
>> done in the broadcast field.
>>
>
>In the Amateur Radio field, chances are very very high that operating
>during a direct strike will more or less kill you, along with all your
>equipment, regardless of the protection you have invested in. Even if
>you have 4 or so 8' copper rods pounded into the ground, lightning
>arrestors or gaps that are connected to the rods through HYDRO wire,
>etc.

An inadequate Earth terminal can cause some problems, but poor station layout is a much more severe problem. It's possible, and often done, to "float" the station independent of Earth, and still provide adequate strike surge protection. This is routinely done for broadcast facilities located on top of tall buildings for example. In principle (and in practice) you don't care what the absolute potential is of your system reference. It can float to any arbitrary value during a surge or strike, *as long as everything in the station follows that reference potential*. This is the key facilities layout issue. *There must only be one system reference point*, and *everything* has to tie or clamp to it by a low impedance path.

>Don't operate your station during a severe lightning storm. Disconnect
>all your radio equipment including other equipment in the vicinity of
>your radio equipment. By disconnect, I mean UNPLUG power cables from
>the mains, and UNPLUG antenna cables. You can go further and ground
>the termination of the antenna cable.

Note, a lightning bolt, which has travelled miles through open air, will not be deterred by a few inches of air between your equipment and the antenna cable, *unless you offer it a lower impedance path to take*. In facilities layout, establishing low impedance paths from the strike conductors to Earth can offer that low impedance path. But that's sometimes difficult to do, so the alternative is to let all the equipment *float with the surge*. That requires maintaining a controlled copper connection between all the equipment and the

surge conductor. Small air gaps (and small in this context is anything
less than the distance to a good Earth terminal) can increase hazards.

Alternatively, you can try, as you suggest, to *totally* isolate
the equipment from *any* path the surge may wish to travel. That
requires disconnecting, and separating well away from the equipment,
all conductors. Still, aircraft in flight, as well isolated from
other conductors as you can get, do sometimes take damaging strikes
from uncontrolled currents using the conductive aircraft as a bridging
conductor in the air path. It is much preferred to offer the surge
a *controlled* path over which to travel rather than to let it determine
which path it wishes to take in a (seemingly) random manner.

>Even a good ground system will not protect you from a direct strike,
>cause all you need is a little trickle past the system to do the
>damage.

A good Earth connection can aid in directing surge. It will not
prevent surge, and if facilities layout is done incorrectly, it
can allow surge to do *more* damage.

>I'm not kidding...

Neither am I. Protecting from surge is simple in principle, but the
details of the implementation *count for nearly everything*. Simple
(minded) approaches can *make the problem worse*. And poor execution
of even good approaches can be catastrophic. This is one area where
a little knowledge can be a dangerous thing. Every amateur should
understand this topic *in complete detail* so that they can take
protective steps which won't inadvertently *make the risks greater*.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4991. Re: Coherent CW, what is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: Neal Campbell <Neal.Campbell@ping.be>
Message-ID: <478j8d$lgs@ping1.ping.be>
Source record: 109952

There is usually a column about Coherent CW in the Digital Journal, which is published by the IDRA. I believe you can get a free sample copy.

They have a WWW homepage that you can find more information. If you can't find the location, send me a note and I will dig it up for you!

73,
Neal

4992. Re: Making labels from transparencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <478o6l$207@newsbf02.news.aol.com>
Source record: 109953

In article <473ejf$bo4@hpscit.sc.hp.com>, paulz@sc.hp.com (Paul Zander)
writes:

>
>: I would use clear contact paper over the laser quality print. Contact
paper
>: is great for a lot of things and I've used it before
>
>One other thing, put the lettering on the bottom side of the plastic to
>protect it from wear. If your software won't print a mirror image,
>print it on plastic. Put that upside down on a photocopy machine, and
>make a copy onto a second transparency.
>
>

I tried the contact paper. It ends up clouded.

I reverse mine too. I need other protection to hopefully prevent the
HP500c ink
from smearing with age. Did you have that problem and correct it?
A photocopy might also smear.

I've had the best results so far with a fine spray of SPRAY MOUNT glue but
still
get a slight smear in time. I am also going to try lamination.

Carl
The2x4

4993. Re: basic help needed wiring a phone plug

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: Fred <peerenbf@dmapub.dma.org>
Message-ID: <Pine.SV4.3.91.951101062344.7494A-100000@dmapub.dma.org>
Source record: 109954

On Tue, 31 Oct 1995, Mike Miller wrote:

> I'm wiring a 2.5 and 3.5 mm radio shack phone plug (274-289, 274-284)
> and I'm not sure which terminal is which. The 3.5 mm has three terminals:
> a 3/4 inch outer, and two smaller terminals. They match up to the sleeve,
> ring, and tip, I'm just not sure which.
>
> Your assistance is greatly appreciated.
>
> Mike
> KB0JGS
> MMiller@netins.net
>
>

Just grab your trusty ohm meter and check them. That way no mistakes.
73 de ke8tq Fred

4994. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov1.161945.24374@ke4zv.atl.ga.us>
Source record: 109955

In article <46ggnc$1j8u@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>>>You need no
>>>>ground whatsoever with a halfwave vertical antenna.
>
>>A halfwave antenna *does not require ground* to function.
>
>Hi Gary,
>
>So you both are not right.
>
>>A halfwave vertical is perfectly content to function properly
>>in *free space*.
>
>Any length of antenna radiates and is happy to work in free space. The
>lack of resonance only meens that you will have to do something to get
>a real feed point impedance. And the existence of a 5/8 antenna
>shows that sometimes it is better to have a non-resonant antenna
>rather than an endfed dipole, which needs a high-ratio transformer,
>wich in turn is a source of problems.
>
>>That counterpoise *can* be Earth, but it doesn't have to be.
>
>Read a text book, and you find that the 1/4 wave and the 1/2
>wave antennas behave similar over lossy ground, only that the losses are
>less for the latter due to its higher radiation resistance (not to be
>confused with the feed point resistance). There is no fundamental
>difference, as you are trying to make out.

Indeed I have read textbooks. There are at least three separate issues here which you are co-mingling. Lets establish some givens first.

For the types of antennas we are discussing, it is primarily the current, and the current distribution, in the element which determines its radiation resistance.

For a finite driving voltage, a resonant antenna will have more current distributed along its length than a non-resonant antenna.

This can be simply seen from Ohm's Law for impedances. Every antenna has a resistance, R, of some finite value, and some reactance, X, which can be a finite value or zero. The antenna current, I, for a constant driving voltage, E, is

I = E / sqrt(R^2 + X^2)

For any E and R, I tends to maximum when X tends to zero. So there is a difference whether the antenna is resonant or not.

Now for resonance, we need a certain electrical length, and that length needs to be a half-wave, or some multiple thereof, to give us the proper *current standing wave* for maximum radiation, IE for an ideal current distribution on the linear antenna circuit, we need a current standing wave.

We can get that electrical length several ways. One way, generally the most efficient way, is for the antenna's physical length to be the same as its electrical length. We call such elements "naturally" resonant.

A half-wave element is naturally resonant.

Another way is to use a lumped network to "tune out" the reactance and make the antenna's electrical length a resonant one. The problem with this approach is that the lumped network does not contribute to the antenna's radiation, but it does contribute to the antenna *system* losses. So lumped reactance "loaded" antennas are typically less efficient radiators than "naturally" resonant antennas.

Yet another way of making an antenna naturally resonant and to support the standing wave is to use a *counterpoise*. This is what we do with a quarter-wave element. We give it another quarter-wave below the feedpoint so that its total length is a naturally resonant half-wave. That quarter-wave can be an actual element, or it can be a conductive sheet acting as a *current mirror*. The conductance of that sheet *directly* affects antenna radiation efficiency because it is *part of the antenna*.

Thus for antennas over "ground", "ground" is not part of a half-wave antenna, but "ground" makes up *half* of a quarterwave antenna. This is a *fundamental* difference between the two antenna types.

The location of the feedpoint is irrelevant to the radiation efficiency of an antenna. (Though the location of the feedpoint can affect the efficiency of the antenna *feed system* in several practical ways.) In principle, the feedpoint can be located anywhere along the length of any antenna. Typically, we prefer to locate the feedpoint in the center of the effective electrical half-wave because that offers us best practical *feed system* efficiency (a separate thing from *antenna* radiation efficiency) due to electrical *balance*. However, for practical mechnaical reasons, we may locate the feedpoint elsewhere. This often complicates the feed system electrically, and may in many cases be less efficient.

All right, so it should be clear that there is a fundamental difference between "ground" independent antennas and antennas that use "ground" as a counterpoise or "current mirror". The latter need "ground" to work, the former do not.

None of this has yet addressed *parasitic* near field losses. That's
a separate issue. Any antenna near a lossy conductor (such as Earth)
will induce a field in that conductor. The loss resistance of that
lossy parasitic conductor will then convert some of the field energy
to heat. This *directly* reduces the antenna *system* efficiency.
It doesn't directly reduce *antenna* efficiency, however, unless that
lossy conductor is *part of the antenna* as with a quarter-wave using
Earth as its current mirror. So, if the antenna is ground independent,
the antenna *system* efficiency will be greater if the antenna is located
in *free space*, far from lossy parasitic conductors.

>Think of a walkie talkie: no half wave, no quarter wave or counterweight,
>but it works.

HT antennas are either electrical quarter-waves, fed with the HT body,
and the human body holding it, acting as the current mirror counterpoise,
IE acting as "ground", or they are electrical half-wave antennas fed with
a matching transformer and operating with *ground independence*. The latter
are obviously more efficient radiators since they don't require the lossy
human body to be *part of the antenna*.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

4995. Re: basic help needed wiring a phone plug

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <47b9bb$f15@news.vcd.hp.com>
Source record: 109823

Hi Mike,
Simply use a continuity tester (light bulb and battery will do it; an ohmmeter is fine but overkil), to verify the physical connections. This is how one does these things, in general.

73, GL,
Don, W6JL

4996. Re: AM-1565/URC Power Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <47bfk6$jrm@unisql.unisql.com>
Source record: 109824

Those -1565s are nice, even as a source of parts. That's where mine went. The power supply is beefier than the supply in certain commercial "kilowatt" amps. Collins....

Did you get the case? A regular boat-anchor. I know where there's a -1565 case and faceplate in a local lake, at about 50 feet.

There's a manual tuning method on these that should have you on the top of 220 instantly...if not, padding the cavity is relatively easy. You'll have to do a little more surgery to get it to 432.

I haven't ever seen any info on a conversion of one of these amps, probably because they're relatively scarce and because they weigh 250+ lbs. with the case and front cover. My SK elmer WD5GJA used to describe these as having a built-in hernia.

Jim N6OTQ

4997. Re: Coherent CW, what is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951102172245.28435D-100000@biggulp.callamer.com>
Source record: 109825

There is a large group of experimenters in CCW and BPSK. They reside primarily in the USA. Jim Mortenson is the editor of the Digital Journal and every other month there is a column written by Peter Lumb G3IRM. Do join us if you are a serious experimenter as we are interested in contributing. We have all the program collectors we need! Cliff W6HDO

On 1 Nov 1995, Neal Campbell wrote:

> There is usually a column about Coherent CW in the Digital Journal,
> which is published by the IDRA. I believe you can get a free sample
> copy.
>
> They have a WWW homepage that you can find more information. If you
> can't find the location, send me a note and I will dig it up for you!
>
> 73,
> Neal
>
>
>
>

4998. Re: Coherent CW, what is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <47abs8$uom@info4.rus.uni-stuttgart.de>
Source record: 109826

>Is there a technique called "Coherent CW" for
>low power, DX communications?
>
>Where can I find more information about it?

Well, there was a lot written about it in the early eighties.
However, it fell by the wayside, partly because special
equipment was needed (every oscillator in your TX / RX should be
very accurate). However, today with DSP adn DDS it might another
matter.

I have read however about another problem with CCW: The performance
was reported to fall considerably short of the high theoretical ex-
pectations. Anyone knows more?

73, Moritz DL5UH

4999. Re: Coherent CW, what is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: mzenier@eskimo.com
Message-ID: <DHH58C.28B@eskimo.com>
Source record: 109827

in <4749kg$12t@panix.com>, Andres Mencke wrote:
: Is there a technique called "Coherent CW" for
: low power, DX communications?
: Where can I find more information about it?

There's a section in the older ARRL handbooks. It's a method of using very narrow filters. If you look at their system, it's really one channel of a Fourier Transform operating at 1 kHz, with a one tenth second sample interval using analog hardware instead of a computer. (Actually, since it's using real valued analog representations for the data, it's more like a Hartley Transform). The Coherent part comes from synchronizing the sample interval with the transmission's bit timing. And the frequency locking comes from the stability requirement from using the 20some Hz wide channel of the filter.

An add on audio DSP unit or FFT computer program that ran a spectral analysis with the same sample period would give similar results, especially if it ran overlapped samples or was able to synch. the sample period to the bit timing. You'd still need a very stable receiver and transmitter.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

5000. Re: ATV North Country Radio (WARNING)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: mzenier@eskimo.com
Message-ID: <DHH58o.29G@eskimo.com>
Source record: 109828

in <1995Nov1.105421.1@wkuvx2.wku.edu>, Chris Scott wrote:
: I hate to dredge up dirt from the past, but NORTH COUNTRY RADIO
: is the outfit that accepted my check and 2 meter radio for repair
: (as the authorized service center),

You sure of your company? North Country Radio is the mail order kit company that sells projects that were written by Graf and Sheets and mostly published in Radio-Electronics/Electronics Now magazine and is located somewhere in upstate New York.

If you slam somebody, check to see if it's not a case of mistaken identity.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

5001. Re: Passive Mixer IP3 Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: chronos@eskimo.com
Message-ID: <DHE90w.ACE@eskimo.com>
Source record: 109829

Thanks everyone, the response has been overwhelming!

Alan
KA7DAT

>Please Help!

>I have a passive mixer (diode ring DBM) and have measured the
>conversion loss to be 9.3 dB at the frequencies I am interested in
>with the drive level I have.

>The manufacturer (RF Prime) gives me an Input Intercept Point of
>+8dBm.

>Since the Input IP3 and Output IP3 differ by the gain, do I use a
>negative gain here?

>In other words, is the Output Intercept -1.3dBm or +17.3dBm?

>I realize that the manufacturers figure is only good for a
>non-reactive 50ohm load, and I will have to measure its performance
>into my IF filter, but any light that could be shed on the subject
>would be most appreciated. Thanks.

> chronos@eskimo.com
> Alan F. Jovanovich
> KA7DAT

5002. Re: Experience with HAMEG spectrum analysers ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: jan.anker@ping.be
Message-ID: <jan.anker.103.00010E2D@ping.be>
Source record: 109956
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment,sci.electronics

In article <DHBBLM.JpJ@rivm.nl> charlos@rivm.nl (Charlos Potma) writes:
>From: charlos@rivm.nl (Charlos Potma)
>Subject: Experience with HAMEG spectrum analysers ?
>Date: Tue, 31 Oct 1995 12:20:10 GMT

>hello all,

>some time ago in rec.radio.amateur.equipment a thread around HAMEG
>oscilloscopes developed. Most people seemed to favor these instruments.
>I would like to know if anyone here is familiar with the HAMEG 5006 series
>spectrum analysers. These analysers are (relatively) low-cost and seem
>to be quite adequate for use in homebrewing RF circuits. As an option
>the 5006 can be equipped with a tracking generator to be used in
>filter measurements.

>Any experience with these analysers ?

>thank you,

>charlos potma
>PA3CKR
>charlos@rivm.nl

I have the spectrum anal/track gen 8028/8038
Dont expect performance of a good HP analyser, but I think the
unit price/performance is good.
I only worry about service/spare parts.
I have a deffective cable which connects unit to the scope.
A funny BNC lookalike connector on this cable is deffective and it seems
to be impossible through the Dutch distributer to obtain a new cable or
connector. (airparts in alphen a/d rijn)
jan

5003. Re: Yeasu G-5400B Computer Interface Specs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: cj@algonet.se
Message-ID: <47b576$9bs@prometheus.algonet.se>
Source record: 109957
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Hi Kory,

Kory Hamzeh <kory@avatar.com> wrote:

>I'm building a device like the Kansas City Tracker & Tuner and I am
>trying to figure out the computer interface for the Yeasu G-4500B AZ/EL
>Rotor. I've called Yeasu, but they don't have any written specs. I tech
>support person was nice enough to fax me the schematic of their GS232
>box, which provides a RS-232 interface to the rotor.

>What I need to know is the voltage range of the el & az positions
>indicators and how much current I need to drive the step up/down &
>left/right controls.

>It should be a neat project. I'm using the Parallax Basic Stamp2 chip
>with two National Semiconductor ADC0831 A/D chips and a Maxim 233 TTL to
>RS-232 converter. This little device will receive the azimuth and
>elavation and doppler shift via an RS-232 port on my PC, and then it will
>position the antanna and tune the radio. I'm writing a little windows
>program which gets all this information from WinOrb using a DDE
>interface. If anyone is interested, let me know.

Seems like a neat application. Would be great if you could submitt a
short description to the L.O.S.A when finished.

List Of Stamp Applications (L.O.S.A for short)
==

If you have done something with the BASIC Stamp (big or small)
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@algonet.se

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.algonet.se/~cj/losa.html

When there are a bunch of contributions I'm going to post the L.O.S.A
to this list, upload it to Parallax, Inc. FTP-site and send it to the
following Usenet groups. I will update it approx. once a month.

sci.electronics
comp.robotics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

[--- cut ---]

```
========================================================================
- L.O.S.A Contribution Form -
========================================================================
New Contribution [ ] Update [ ]
------------------------------------------------------------------------

Title :
Author: Date:

E-mail: (optional)
------------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
------------------------------------------------------------------------
Description : (5-50 rows describing your application)

========================================================================
```

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer


```
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* High Tech Horizon - Christer Johansson - * email: cj@algonet.se *
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web - http://www.algonet.se/~cj/catalog.html <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

5004. Re: Easy PL-259 in Nov. QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: dougrand@i-2000.com
Message-ID: <47964a$gcl@i-2000.com>
Source record: 109958

w8jitom@aol.com (W8JI Tom) wrote:

>>In article <4718d0$1ie@ixnews5.ix.netcom.com>
timhynde@ix.netcom.com (Tim
>>>Hynde ka8ddz/qrp Rochester, MI) writes:
>>>Hints & Kinks, November QST page 83
>>>
>>>Easy PL-259 connections?
>>>
>>>There is a description of how to solder a PL-259
>>>connector to coaxial cable. This suggestion was put
>>>forth by ARRL Technical advisor out of Texas, I'm not
>>>an engineer but this appears to me to be a poor design.
>>Snip>
>>>a) it leaves the cable succeptable to water.
>>> (yes I know you wrap it, but wouldn't it be
>>> better to have the sheath inside the connector?
>>> I mean thats what the sheath is for isn't it?)
>>>b) it appears to use the braid to support the cable
>>> (leaves the sheath with not much to do)
>>>c) the author suggests to plug the holes with dabs of
>>> solder, weren't these designed for ground
>>> connections? Does not appear the braid comes up
>>> that far in this pictorial.
>>>d) the author suggests wrapping #14 wire around the braid
>>> which is still exposed. What does this accomplish?
>>>The intent is not to ridicule someone elses suggestion.
>>>Im just wondering why QST would publish this since it's
>>>in conflict with their own Handbook.

>>This sounds like the method developed for using off size Radio
Shack coax
>>for CB by a new age technical guru named Bill Shoop. Bill Stripped
the
>>jacket, Heated the shield, Invoked the connection, and Taped it
up.

>>This connection method has become the standard at CB shops across
the
>>nation. CB shops often refer to this method by an abbreviated
name, it's a
>>"BS-CB-S-H-I-T" type connection. I'm happy to see it's finally
appeared in
>>an Amateur publication, although I expected 73 would be the first
to

>>publish it.

>>Personally, I've always found the methods shown in old handbooks work
>>quite well.

>>73 Tom

When I read that article in QST, I laughed and laughed my a__ off! I knew that someday the articles would degress to this point....
73's Doug

5005. AM-1565/URC Power Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: hbrown@ew0203.resd
Message-ID: <47av8a$jq6@morgan.vf.mmc.com>
Source record: 109959

I found an AM-1565/URC Power Amp at a local hamfest. Does anyone have any info on it such as a schematic, wiring info, etc.?

The person selling it had a copy of an add from Fair Radio saying that is part of SRC-20 225 to 399.5 MHz, 100 watt radio set. It has 2 each 4CX250K's in a cavity and a couple or relays that look like they are used for bypassing the amplifier.

There is a lot of gearing involved that tunes the output and I assume the input cavity. There is a rough frequency dial in 10 MHz increments that if it is close, looks like 222 and 432 could be reached. It is extremely well made and I would like to put it on one of the bands.

Help or suggestions on where I can find help would be appreciated.

73, Harry, W3IIT

5006. Re:How to determine dBm when driving diode mixers ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9510028153.AA815338817@mails.imed.com>
Source record: 109960

From: tomb@lsid.hp.com (Tom Bruhns):
>Which immediately begs the question, "What of mixers rated for +17dBm or even
>+27dBm LO input?"

I don't have any of my Mini-Circuits books here at work to be 100% sure, but I believe that the +17dbm mixers use two diodes in series in each leg vs one in each leg for the +7dbm mixers. Asimilar situation exists for the +27dbm mixers.

Ray Mack
WD5IFS
mack@mails.imed.com

5007. Re: LIGHTINING * HELP *

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: mcinnis@austin.ibm.com
Message-ID: <47b2gm$dus@ausnews.austin.ibm.com>
Source record: 109961

In article <1995Nov1.165705.24605@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
> ...It's possible, and often done,
> to "float" the station independent of Earth, and still provide adequate
> strike surge protection....

Yes, you can, but you can easily make a mistake and kill yourself or destroy all your equipment if you don't design and implement everything perfectly and operate in a thunderstorm. You can also protect your ham equipment from lightning and conduct the lightning from the ham shack back into every other electrical device in the house through the power lines. It's also easy for a "rogue ground" to sneak in and screw up the whole setup. (e.g. phone lines, computer cables, cleaning ladies with vacuum cleaners plugged in outside your "safe zone", etc.)

I'm not saying "floating" systems are bad, just that they aren't always easy, obvious, or practical to implement. You can also still get damage with a floating system, because of residual resistances and AC affects. They can be good, but they aren't perfect. I would still stay away during lightning storms if I could.

--
Mickey McInnis - mcinnis@austin.ibm.com
--

5008. How does a "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: Douglas Braun <douglasbraun@hol.gr>
Message-ID: <47a3ee$mah@newsflash.hol.gr>
Source record: 109962
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

There is a nifty RF device called a "circulator". It has three terminals.
RF energy fed into terminal A comes out terminal B, energy fed into terminal
B comes out terminal C, and energy fed into terminal C comes out terminal A.

I have seen descriptions of these for microwaves, where they are built from
waveguide and ferrite. But I would like to make one for 28 MHz out of discrete
components. Has anyone ever seen a description of how these really work,
or a circuit for one? Is it even possible to make one from discrete
components (coils, transformers, etc.), or does the operation depend on
some magical property of ferrite?

I am trying to connect a transverter to a HF radio (TS-50) without a
seperate transverter connection, and one of these could elegantly solve
the T/R switching problem...

Thanks,

Doug Braun (SV/N1OWU)

5009. Re: How to determine dBm when driving diode mixers with square waves

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <479hmr$au1@news.azstarnet.com>
Source record: 109963

rohrwerk@netcom.com (John Seboldt) wrote:
>It is said frequently that driving double balanced diode mixers with
>square waves is a good thing. Question is: how do you reckon the
>appropriate drive level in dBm with square waves? If a mixer is rated
>at, say, +7 dBm LO drive, does this mean +7 dBm as measured on a sine
>wave? If you drive it with a square wave, do you use about the same peak
>voltage as you would use with a +7 dBm square wave? Or do you calculate
>the average power of the square wave? Or what? :-)
>
>: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
>: K0JD... Minneapolis, MN / if it ain't got that swing!
>: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
>> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <
>

This is more in response to the other responses to this thread.
It is attached here for continuity.

The mixing process can be performed by devices that are either nonlinear
or devices that are time-variant. Many people assume that because diodes
are used, it is their nonlinear behavior that is the desired parameter.

In fact, the ideal situation is for the diodes to be acting as time-
variant, ideal switches. The best way to assure this behavior is to
get the diodes turned on or turned off as rapidly as possible. What better
way than to use an ideal square wave? Within limits, increasing the lo
amplitude has a similar effect, ie the rate-of-change around zero crossing
is increased.

Because the rf signal is effectively in series with the lo drive if it
becomes large enough, it can decrease the diode current during part of the
rf cycle. This can drop the operating point back into the undesired "nonlinear"
part of the curve. The way this is partially overcome is to add additional
diodes and/or RC networks to the mixer and increase the lo power level. The
higher rf signals are dispersed across more diodes and when the RC networks
are used, they help keep the rf signal from dominating during lo zero crossings.

For further info on this subject, one of the better referances I have seen
is Watkins-Johnson "Tech-notes" Vol 8. No 2 - March/April 1981 and No 3 -
May/June 1981. This info is also reproduced in any W-J catalog.
BTW the catalog is a wealth of tech info on this as well as other topics
such as power dividers, broad-band amps, etc.

I do not work for W-J, I work for Mrs. Stewart :-)

73, Wes -- N7WS

5010. Re: How to determine dBm when driving diode mixers with square waves

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov2.175027.81@ke4zv.atl.ga.us>
Source record: 109964

In article <479hmr$au1@news.azstarnet.com> Wes Stewart <N7WS@azstarnet.com> writes:
>
>The mixing process can be performed by devices that are either nonlinear
>or devices that are time-variant. Many people assume that because diodes
>are used, it is their nonlinear behavior that is the desired parameter.
>In fact, the ideal situation is for the diodes to be acting as time-
>variant, ideal switches. The best way to assure this behavior is to
>get the diodes turned on or turned off as rapidly as possible. What better
>way than to use an ideal square wave? Within limits, increasing the lo
>amplitude has a similar effect, ie the rate-of-change around zero crossing
>is increased.

The best way to think of the hard switched diode is just as a device
working in a *very* non-linear region of its response curve. You can't
get much more non-linear than a snap transition from on to off.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5011. Re: Coherent CW, what is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov2.181338.233@ke4zv.atl.ga.us>
Source record: 109965

In article <47abs8$uom@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>Is there a technique called "Coherent CW" for
>>low power, DX communications?
>>
>>Where can I find more information about it?
>
>Well, there was a lot written about it in the early eighties.
>However, it fell by the wayside, partly because special
>equipment was needed (every oscillator in your TX / RX should be
>very accurate). However, today with DSP adn DDS it might another
>matter.
>
>I have read however about another problem with CCW: The performance
>was reported to fall considerably short of the high theoretical ex-
>pectations. Anyone knows more?

I think it was more a matter of, if you're going to go to the
trouble to use a coherent signal, you might as well use a better
encoding as well. At the time that coherent operation became
practical for amateurs to implement, better coders and decoders
also became available. It turned out that the benefit of going
to a better encoding was more cost effective than the benefit
of using coherent signals, so the latter method isn't widely
used. The two used together, however, provide impressive results
under the right conditions. The problem is, we rarely work with
signals that weak, so there's little need to go the last mile.

Petit touted coherent CW for the QRPp operator, but they generally
prefer very simple equipment. And he touted it for EME, but
Rayleigh scattering broadens the signal return, IE Doppler shifts
it, negating some of the advanatage of the very narrow effective
bandwidth of coherent CW transmission systems.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5012. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov2.183052.362@ke4zv.atl.ga.us>
Source record: 109966

In article <47albt$gkl@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
[I've snipped most of this because I agree with Tom, after all he's
agreeing with me.]

>:Yet another way of making an antenna naturally resonant and to support
>:the standing wave is to use a *counterpoise*. This is what we do with
>:a quarter-wave element. We give it another quarter-wave below the
>:feedpoint so that its total length is a naturally resonant half-wave.
>:That quarter-wave can be an actual element, or it can be a conductive
>:sheet acting as a *current mirror*. The conductance of that sheet
>:*directly* affects antenna radiation efficiency because it is *part
>:of the antenna*.
>
>Actually an end-fed electrical 1/4 wave is resonant. It has a low
>self-impedance all by itself. The problem is the other terminal of the
>feedline has nothing to "push against". The other terminal needs a low
>impedance electrical mass to sink and source current from. This is true
>even with the end fed half-wave, but the mass required is much smaller
>because the current is much less.
>
>In my opinion, the picture formed by the descripitive term "current
>mirror" is very misleading. But the rest of the description is right on
>target. Especially the field losses.

I have a problem with this concept of "electrical mass" needed for
the signal to "push against". To me that smacks of the same sort
of reasoning which says a rocket can't work in vacuum because the
exhaust has nothing to *push against*. That's false, of course,
and I think the electrical mass model is at best misleading as an
analogy, and false as a physical fact.

The reason the quarterwave needs a counterpoise is to *support the
standing wave*. For a standing wave to be self-supporting, it must
have a natural current (or voltage) zero at each end, IE be dipolar.
A half-wave element does have a standing wave current zero at each end,
but a quarter-wave element does not, it's zero at one end and max at
the other. The counterpoise electrically extends the quarter-wave to
the current zero so that the standing wave becomes self-supporting.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5013. Re: Passive Mixer IP3 Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DHEzoF.B44@hpqmoea.sqf.hp.com>
Source record: 109967

Alan F. Jovanovich (chronos@eskimo.com) wrote:

: In other words, is the Output Intercept -1.3dBm or +17.3dBm?

-1.3 dBm, I'm afraid.

Its scores are therefore:

HF Ought to be expelled
VHF Does not fully apply itself to the matter in hand
UHF Could try harder
Microwave Modest career prospects

Cheers
David GM4ZNX

5014. Re: Q: Using polarized caps back to back

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <47aica$rl4@crl2.crl.com>
Source record: 109968

Wes Stewart (N7WS@azstarnet.com) wrote:

: Try it this way...

: Connect the polarized caps in series, negative to negative.
: Shunt each cap with a diode; cathode to positive, anode to
: capacitor center-tap.

That looks like it should work. Please note, however, that for small voltage swings (less than 0.7 volts) the effective capacitance is half of what it is for larger swings. In most applications this will not make a heck of a lot of difference, but it is something to be aware of.

The use of schottkey (sp?) diodes should reduce the threshold of this effect to around 0.2 to 0.3 volts.

Later,

--

Don Miller My opinions are my own!
dmiller@crl.com

5015. Fix on Specs for WSR-1a Weather Satellite Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: wowee@msn.com
Message-ID: <00001fee+00000ca6@msn.com>
Source record: 109969

To: Anyone who received my specification list on the WSR-1 Weather Satellite Receiver System.

From: Mark Wyman (WOWEE@MSN.COM)

If you received my specification sheet before 11-1-95, the second IF specification under the ceramic filter should read +-15 Khz wide, not 15 kHz wide. This specification makes a large difference in the performance of the radio. If it were only 15 Khz wide, the Dopplar shift of the moving satellite would move the frequency outside of the receivable band. 30 Khz is much better, but notice also that the useable bandwidth is closer to 50 KHz due to the "skirts" of the crytal filter not being very steep. I hope this error did'nt turn too many of you away from purchaseing this system.

Again sorry for the error;
Mark Wyman

5016. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <DHFr47.42L@hpcvsnz.cv.hp.com>
Source record: 109970

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:

: I have a problem with this concept of "electrical mass" needed for
: the signal to "push against". To me that smacks of the same sort
: of reasoning which says a rocket can't work in vacuum because the
: exhaust has nothing to *push against*. That's false, of course,
: and I think the electrical mass model is at best misleading as an
: analogy, and false as a physical fact.

Just as the vector sum of momentum of the rocket's exhaust and the momentum of the rocket must be zero, the sum of charge passing a point must be zero. If you push charge into, and pull charge out of, the end of an antenna, be it half-wave or other, there must be a corresponding current on the _other_ side--the feedline side--of that point which represents the end of the antenna.

I don't have a problem with the idea that that current ends up charging capacitance between/among various conductive objects like feedlines and antenna elements and radials and whatever else is or is not around, but the vector sum of currents into any chosen (effectively infinitely small) node must be zero.

(If the node you are dealing with is small, but not infinitely small, then you can store charge within the node and end up with currents into it that don't sum quite to zero. That will happen if you consider a short section of the antenna wire: the current at one end will be different than the current at the other end, in general.)

73, K7ITM

5017. KWD TS450SAT mod for recv antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: scholla@candw.ag
Message-ID: <47aou6$17b@dragon.solect.com>
Source record: 109971

Hi

Recently I heard of a modification that can be done to a KWD TS850s that would allow you to connect a receiving antenna (Bev or Ewe) for contests etc. I own a KWD TS450S AT and I am wondering if anyone has done any such mods on the 450SAT. I guess that you would have to make a connection to the receive section of the relay inside but I am not that adventuraous
with a 1400.00 rig :-). If there is anyone who have done any such mods i would appreciate an email
(direct preferably) on such mods.

Tnx in advance and very

7
3

de V21BF

Alan (scholla@candw.ag)

5018. Re: WTB: 811 Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-02 00:00:00 UTC
From: donrm@sr.hp.com
Message-ID: <47b8j5$9m3@canyon.sr.hp.com>
Source record: 109972

Dave Hockaday (wb4iuy@nando.net) wrote:

[...]
> Russian 811's have the tube base installed 90 degrees out of "whack" from the
> Americans...this placed minimum clearance between the filament and plate.

Make that filament and grid...Svetlana supposedly has "fixed" the
orientation problem and are now compatible with any one else's 811s.

73 de K6LTS
Don Montgomery
donrm@sr.hp.com

5019. Passive Mixer IP3 Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <47bn5l$11ii@flood.weeg.uiowa.edu>
Source record: 109830

Thank you Harry

5020. WTB: Long-distance wireless communication device

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: "rathindra (r.) guha" <rguha@bnr.ca>
Message-ID: <47chgs$r2m@vixen.cso.uiuc.edu>
Source record: 109831
Cross-posted to: aus.radio.amsat,aus.radio.packet,aus.radio.wicen,bnr.clubs.ham-radio,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.broadcasting,rec.radio.cb,rec.radio.info,rec.radio.scanner,rec.radio.shortwave,alt.radio.networks.cbc,

```
I am looking to buy a wireless communication device
that can transmit over 150 miles (250km). It cannot be a cellular
phone since the infrastructure for cellular phone is
not available. The requirements are for point-to-point communication
over long distances. Security issues have not been decided.

What kind of device will solve my problem?
If radio, what type of Radio communication device will suffice?
How much will this cost?

Please reply to rguha@bnr.ca since I usually don't frequent these
newsgroups.

--
%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%
%@ Rathindra Guha GISDN Basic Call Architecture %@
%@ rguha@bnr.ca Bell-Northern Research, Ltd. %@
%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%@%
```

5021. Wanted: Low Cost CW IDer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: lepage@bluefin.net
Message-ID: <47c112$jh5@service-2.bluefin.net>
Source record: 109832

Wanted: Comments or recomendations for low cost CW IDer's
for deployment on 440Mhz Repeater. Will consider building or
purchasing these components.

Send email to: lepage@bluefin.net

Thanks,

Peter / KD1XZ

5022. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov3.023609.2475@ke4zv.atl.ga.us>
Source record: 109833

In article <DHFr47.42L@hpcvsnz.cv.hp.com> tomb@lsid.hp.com (Tom Bruhns) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>
>: I have a problem with this concept of "electrical mass" needed for
>: the signal to "push against". To me that smacks of the same sort
>: of reasoning which says a rocket can't work in vacuum because the
>: exhaust has nothing to *push against*. That's false, of course,
>: and I think the electrical mass model is at best misleading as an
>: analogy, and false as a physical fact.
>
>Just as the vector sum of momentum of the rocket's exhaust and the momentum
>of the rocket must be zero, the sum of charge passing a point must be zero.
>If you push charge into, and pull charge out of, the end of an antenna, be
>it half-wave or other, there must be a corresponding current on the _other_
>side--the feedline side--of that point which represents the end of the antenna.
>
>I don't have a problem with the idea that that current ends up charging
>capacitance between/among various conductive objects like feedlines and
>antenna elements and radials and whatever else is or is not around, but
>the vector sum of currents into any chosen (effectively infinitely small)
>node must be zero.
>
>(If the node you are dealing with is small, but not infinitely small, then
>you can store charge within the node and end up with currents into it that
>don't sum quite to zero. That will happen if you consider a short section
>of the antenna wire: the current at one end will be different than the
>current at the other end, in general.)

I don't have any argument with what you're saying at all, but I don't
see how it addresses the point. After all, we are dealing with an AC signal,
and what flows one way during one half of the cycle flows the other during
the other half, so net charge movement is zero. Some *energy* is lost in the
process, however, both copper loss, and if the structure is long enough with
respect to the alternating charge motions, radiation loss. But the charge
all stays in the antenna, in the standing wave. It doesn't go gallivanting
off across the countryside, it just bounces back and forth from one current
zero to the other, reversing direction as the potential poles at each
end of the antenna reflect it back toward the other end.

The charge in an antenna is like a kid on a swing, you give it a little
pat on the butt and off it goes, then back it comes at the natural
resonant frequency of the swing. If you don't give it another pat,
the amplitude of the swings will decline over time due to losses,
(swing friction losses at the pivot, analogous to copper losses in
an antenna, and wind resistance losses of the child's motion, analogous

to radiation loss) but if you give it another little pat at exactly
the right time, and of exactly the right energy, it'll go on swinging
at the same amplitude again and again, losing energy on every swing,
but gaining it back with every pat.

There's no net charge flow in a naturally resonant antenna, charge just
rebounds back and forth in the standing wave, getting its timed little
"pat" from the alternating potential at the feedpoint. There is a net energy
flow, however, into the antenna from the driving source, and out of the
antenna as radiation and heat. It's not a closed circuit, it's an open
system.

I don't see how this relates to the need for an external "electrical
mass" (is that measured in kilograms?) or the idea that you need it
to "push against" however.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5023. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: murray.mcgregor@stonebow.otago.ac.nz
Message-ID: <47bpsa$gem@celebrian.otago.ac.nz>
Source record: 109834

In article <46gn8j$1s6@hpscit.sc.hp.com>
rkarlqu@scd.hp.com (Richard Karlquist) writes:

> In article <8019-240941402@humnet.humberc.on.ca>,
> <hduff@humnet.humberc.on.ca> wrote:
> >
> >>
> >The radio remains intact...I just inject the VCO signal further up the
> >line.
> >
> >Hmmm... the '157 I have here is running at 26 Mhz !!
> >
> The '157 is spec'ed at 15 MHz for sine wave and 22 MHz for 5V P-P
> square, running from a 5V supply. Your circuit may not continue
> to operate correctly when you install it in the radio and it gets
> warmed up, etc. It is does work for you, great.
> >
> >Maybe this is pushing it to its limit.

<SNIP!>

Coming in late to this thread - have you considered a 1 chip solution?
Specifically one of the Philips series of PLL Frequency Synthesizer
chips for use in AM/FM radios. RF inputs of 512Khz-30Mhz or
30Mhz-150Mhz.

SAA 1075, TSA 6057, TSA 6060 or for <30Mhz, TDA 8735

For myself, I'd like to be able to source small quantities of ONE of
the above!
Or find a similar product from any other manufacturer.

Cheers, Murray

5024. Re: How to determine dBm when driving diode mixers with square waves

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <47caab$l9t@news.azstarnet.com>
Source record: 109835

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>In article <479hmr$au1@news.azstarnet.com> Wes Stewart <N7WS@azstarnet.com> writes:
>>
>>The mixing process can be performed by devices that are either nonlinear
>>or devices that are time-variant.

[other profound stuff deleted]
>
>The best way to think of the hard switched diode is just as a device
>working in a *very* non-linear region of its response curve. You can't
>get much more non-linear than a snap transition from on to off.
>

Well, when a good switch is *on*, its IV curve is a straight line.
When it's *off*, its IV curve is also a straight line. Sounds linear
to me :-) I'm glad too. Imagine the rf noise from all the light
switches in the house if it were otherwise.

Regards, Wes

5025. Re: How does a "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: blair@mksim8.dseg.ti.com
Message-ID: <47bqmj$1pc@mksrv1.dseg.ti.com>
Source record: 109836
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Douglas Braun (douglasbraun@hol.gr) wrote:
: I have seen descriptions of these for microwaves, where they are built from
: waveguide and ferrite. But I would like to make one for 28 MHz out of discrete
: components. Has anyone ever seen a description of how these really work,
: or a circuit for one? Is it even possible to make one from discrete
: components (coils, transformers, etc.), or does the operation depend on
: some magical property of ferrite?

I can only give you the name of the mag. I dont remember the date but it
was a few years ago. The magazine is called "RF design". You might
find it in a university Engineering library.
Art.

5026. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <47d6rc$1gng@info4.rus.uni-stuttgart.de>
Source record: 109837

>>>>>You need no
>>>>>ground whatsoever with a halfwave vertical antenna.
>>
>>>A halfwave antenna *does not require ground* to function.

Hi Gary,

Thank you for you posting. Pleas note however, that in the paragraph I
cite below, you repeat what I have been trying to say in the
course of this thread.

The above statements are at least misleading, as they suggest
that ground losses, which are a problem with a 1/4 wave vertical
unless you provide a proper radial system do not exist
for a 1/2 wave vertical.

:Any antenna near a lossy conductor (such as Earth)
:will induce a field in that conductor. The loss resistance of that
:lossy parasitic conductor will then convert some of the field energy
:to heat. This *directly* reduces the antenna *system* efficiency.

73, Moritz DL5UH

5027. Re: KA7DAT and Input/output intercept point of diode mixer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: whouston@ix.netcom.com
Message-ID: <47c19m$krj@ixnews7.ix.netcom.com>
Source record: 109838

In article <474up5$m84@flood.weeg.uiowa.edu>, sabinw@crpl.cedar-rapids.lib.ia.us says...
>
>If two tones, each at +8 dBm at the input, produce IMD equal to
>+8 dBm (the intercept point) then at the mixer output the two tones
>are -1.3 dB and the IMD is also -1.3 dBM. Using the definition of
>intercept point, the OIP3 is -1.3 and the IIP3 is +8 dBm. Bill Sabin W0IYH
>

two tones of +8dBm each gives a total input power of +11dBm! Don't you mean two tones of +5dBm each?

73 William N6AGV

5028. Crystal CW Rig - Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: ejacksch@bnr.ca
Message-ID: <47d81r$696@bcrkh13.bnr.ca>
Source record: 109839
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hello all!

I'm still looking for schematics for a very simple, single freqency
crystal controlled 8m cw transmitter and/or receiver. I have found
lots of fancy, tunable units, etc...what I need is a very stable,
one frequency unit. It's for telemetry - low power is fine!

Email to ejacksch@bnr.ca would be greatly appreciated.

Thanks,
Eric.

5029. Re: How to determine dBm when driving diode mixers with square waves

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <309A387A.3223@netaxs.com>
Source record: 109840

A DBM should be thought of as a signal multiplier, not as a non-linear processor. True, a non-linear processor accomplishees signal multiplication because its transfer function can be described by exponentials (remember from high school math that adding exponentials is the same as multiplying the arguments?).
The DBM actually multiplies the RF signal by +1 or -1 according to which half-cycle of the LO is driving the mixer. It's just a fancy diode switch which reverses the signal phase according to LO input. Multiplying AC signals produces terms which include the sum and difference of the inputs...mixing, as we call it.

Joe
WA3CMQ

5030. Re: How does a "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <47dgnp$r5o@info4.rus.uni-stuttgart.de>
Source record: 109841
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

>I am trying to connect a transverter to a HF radio (TS-50) without a
>seperate transverter connection, and one of these could elegantly solve
>the T/R switching problem...

Doug,
There is a device called lumped elements circulator, it seems to
be made from three windings on a magnetically biased core or so.
They have been used in 2 meter repeaters with a single antenna.
But surely this is nothing that can be made easier than a T/R
switch and attenuator you are looking for. And they are prone to
saturation and other effects.

73, Moritz DL5UH

5031. Re: Q: Using polarized caps back to back

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <47dnnn$c45@solaris.cc.vt.edu>
Source record: 109842

In article <47aica$rl4@crl2.crl.com>,
dmiller@crl.com (Donald J. Miller) wrote:
>Wes Stewart (N7WS@azstarnet.com) wrote:
>
>: Try it this way...
>
>: Connect the polarized caps in series, negative to negative.
>: Shunt each cap with a diode; cathode to positive, anode to
>: capacitor center-tap.
>
>That looks like it should work. Please note, however, that for small
>voltage swings (less than 0.7 volts) the effective capacitance is half
>of what it is for larger swings. In most applications this will not make
>a heck of a lot of difference, but it is something to be aware of.

In the commercial applications I've seen, the arrangement is just to connect the capacitors back to back in series without any other network on the center point. These were used in applications involving a slowly varying DC bias of unknown polarity, with a small AC signal being coupled through. In this case, there is apparently plenty of time for the reverse-biased capacitor to leak and transfer charge to the other one. There shouldn't be any harm in protecting the capacitors with diodes, a leaky capacitor is probably about as non-linear as a conducting diode anyway, though neither condition should occur in normal operation. This is because the AC signal is low enough in level and high enough in frequency that the capacitors aren't charged and discharged more than a few mV by the AC. Thus changes in the effective capacitance don't affect the level of signal being coupled through. Applications that don't meet the low-ripple criteria (audio filters, speaker crossovers, etc) use a genuine bi-polarized capacitor, which really isn't much more expensive than the two capacitors it replaces, especially in the smaller values.

>
>The use of schottkey (sp?) diodes should reduce the threshold of this
>effect to around 0.2 to 0.3 volts.

Probably a bad idea unless the capacitors are likely to be damaged by the 0.7 V from a regular diode. Since the diodes will conduct sooner, distortion might increase. Schottky diodes are also rather leaky when reverse-biased. The inverse-series capacitor crutch should be used only if the ripple voltage is small. In this case, the effective capacitance will be fairly linear and 1/2 the capacitance of each capacitor. The effective capacitance will increase some during transient conditions but the impedance of the capacitor array is already very low compared to the rest of the circuit so it doesn't make much difference.

-Mike KD4QDM

5032. wind speed indicator

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: daveb@ihr.mrc.ac.uk
Message-ID: <DHGqC8.Lts@cs.nott.ac.uk>
Source record: 109843

Has anyone thought of using one of these cheap pedal cycle
handlebar mounted trip computers as a wind speed indicator
for the shack? They seem to have speed and peak hold which
would be quite handy. Main problem is getting the "wheel size"
entry small enough, could use gears to fool it I suppose!
How do you correlate size of homebrew anemometer head to actual
speed taking in to account drag etc, or do you drive down the
road with it on the roof of your car?
Any comments welcome
Dave G6UWO.

5033. Re: How does a "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: dlleigh@frank.harvard.edu
Message-ID: <47dq1e$ffd@satisfied.apocalypse.org>
Source record: 109844
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <47a3ee$mah@newsflash.hol.gr>, Douglas Braun <douglasbraun@hol.gr> writes:

>[description of circulator deleted]
>I have seen descriptions of these for microwaves, where they are built
>from waveguide and ferrite. But I would like to make one for 28 MHz out
>of discrete components. Has anyone ever seen a description of how these
>really work, or a circuit for one? Is it even possible to make one from
>discrete components (coils, transformers, etc.), or does the operation
>depend on some magical property of ferrite?

Isolators, circulators and their ilk do depend on a "magical" property
of the ferrite. The ferrite is within a strong magnetic field, which
causes the little iron atoms to precess (in a preferred direction).
This makes one circular polarization of EM energy travel faster through
the medium than the other, and since linear polarization can be seen as
the sum of two opposite circular polarizations, the polarization
direction of a linearly polarized EM wave will rotate. This is Faraday
rotation (which the EME and satellite people know all about).

Got all that? Since the rate of polarization rotation is know, you can
set things up so that a wave travelling one direction will pass through
just fine while a wave in the other will just bounce back. This is the
non-reciprocal behavior that requires the "magic" material.

During World War II people thought that it was theoretically impossible
to make such non-reciprocal devices, though they sure would have been
handy for radar, etc.

I have never heard of a circulator for HF freqs. I imagine that, if
such a thing existed, it would be very large.

5034. Re: Coherent CW, what is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951103120153.23401G-100000@biggulp.callamer.com>
Source record: 109845

Gary and interested CCW people:
You are right on regarding the contribution of CCW to the weak signal art as well as the change in effort due to the use of small computers. There is a very large number of experimenters using CCW and an even larger number using more advanced correlation techniques and slower speeds. The transmission method is Biphase or Differential BPSK usually at the one to three character per second speed. In more direct answer to where to get additonal information: A bibliography is being assembled by Pete Eaton, WBFLW eatonp@eniac.ac.siue.edu
Of greater interest to most is the effort of Bill DeCarle, VE2IQ who has for years written programs for CCW that can be run on reasonably fast IBM computers. The DSP portion of the system is based on his "sigma-delta" audio spectrum analyzer published in the Jan 1992 QST. Even more complete discription have appeared in QEX and "RADCOM" in the UK. For the individual asking in Germany, a complete program using the DeCarle techinques but more user friendly is available from DJ7HS, Ernst F. Schroeder, Pinkenburger Str. 25 D, D-30655 Hannover, Germany. His program is called PCW for precision CW. Ernst's program is for CCW only. DeCarle continues to write highly advance decoding schemes and make available software and hardware for both CCW and BPSK. His address is: Bill DeCarle, 29, Sommet Vertical, St.Adolphe D'Howard, QC, J0T 2BO, Canada.
As mentioned previously, the Digital Digest has a column with CCW news which is used internationally. Comments regarding BPSK is contained each month by amateur contributors such as myself and other experimenters. If all else fails listen "thirty five up" kilohertz on all the ham bands as this is convention used by CCW and BPSK experimenters. CCW sounds just like 12 WPM CW only very precise, so ears still make a most satisfactory decoder. Do join us. 73 Cliff Buttschardt W6HDO

On Thu, 2 Nov 1995, Gary Coffman wrote:

> In article <47abs8$uom@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
> >>Is there a technique called "Coherent CW" for
> >>low power, DX communications?
> >>
> >>Where can I find more information about it?
> >
> >Well, there was a lot written about it in the early eighties.
> >However, it fell by the wayside, partly because special
> >equipment was needed (every oscillator in your TX / RX should be
> >very accurate). However, today with DSP adn DDS it might another
> >matter.
> >
> >I have read however about another problem with CCW: The performance

> >was reported to fall considerably short of the high theoretical ex-
> >pectations. Anyone knows more?
>
> I think it was more a matter of, if you're going to go to the
> trouble to use a coherent signal, you might as well use a better
> encoding as well. At the time that coherent operation became
> practical for amateurs to implement, better coders and decoders
> also became available. It turned out that the benefit of going
> to a better encoding was more cost effective than the benefit
> of using coherent signals, so the latter method isn't widely
> used. The two used together, however, provide impressive results
> under the right conditions. The problem is, we rarely work with
> signals that weak, so there's little need to go the last mile.
>
> Petit touted coherent CW for the QRPp operator, but they generally
> prefer very simple equipment. And he touted it for EME, but
> Rayleigh scattering broadens the signal return, IE Doppler shifts
> it, negating some of the advanatage of the very narrow effective
> bandwidth of coherent CW transmission systems.
>
> Gary
> --
> Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
> Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
> 534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
> Lawrenceville, GA 30244 | |
>
>

5035. Re: Wanted: Low Cost CW IDer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951103123022.23401H-100000@biggulp.callamer.com>
Source record: 109846

A very inexpensive kit is available from Curry Communications, 737 North Fairview St., Burbank, CA 91505. Dave makes a number of kits for experimenters in the 1750 meter band one of which is a simple ID-er. The ID-er in QST three months ago is just dandy for the job as well.

On 3 Nov 1995, Peter LePage wrote:

> Wanted: Comments or recomendations for low cost CW IDer's
> for deployment on 440Mhz Repeater. Will consider building or
> purchasing these components.
>
> Send email to: lepage@bluefin.net
>
> Thanks,
>
> Peter / KD1XZ
>
>
>
>

5036. Re: Using elecronic organizers(Sharp-YO600) with tnc

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: monte@monte.seanet.com
Message-ID: <monte-0311951237000001@monte.seanet.com>
Source record: 109847

In article <47ac44$osk@firehose.mindspring.com>, n4clh@mindspring.com (Bob Austin) wrote:

> anyone used the little organizers as a terminal unit for packet?
> Anyone have pinouts for the organizer interface?
> howabout a 3105 for non-ttl interface to the tnc?

> 73,
>
> Bob,N4CLH
>
> Atlanta, GA. Hosting the 1996 Olympic Games

I have a Sharp OZ-9500, ActiSys Corp. Fax/Modem Converter #ACT2-101, KPC-3 Kam tnc and this all works perfectly, considering the system size and limitations. If you want any more particulars, let me know. 73 Monte N7TAU

5037. Re: How does a "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov3.194133.8121@ke4zv.atl.ga.us>
Source record: 109848
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <47dl8p$7ni@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist) writes:
>
>To make a passive circulator, you need a non-reciprocal circuit element.
>Coils, transformers, resistors, capacitors, etc. are reciprocal. Some
>ferrites are non-reciprocal as are hall effect devices, although hall
>effect devices are not really passive. There have also been papers
>describing "active" circulators using opamps, but 28 MHz is too high for
>that (even with 1 GHz. op amps).

How about a lumped element version of a coaxial ratrace? That
has properties similar to a circulator without the need for the
ferrite material. I'd expect the achievable isolation would be
insufficient for this application, however.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5038. Re: Q: Using polarized caps back to back

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: paulc@jax.se.continental.com
Message-ID: <47bpe3$ca3@usenet.continental.com>
Source record: 109849

A suggestion that has worked well for me in audiophile applications:

Connect the two electrolytics of the same capacitance value back-to-back with the positive sides together. Place a 100K-ohm resistor at this junction and the other end of the resistor to a high supply rail not exceeding the working voltage rating of the capacitor (e.g., +12VDC is fine).

Depending on the circuit's configuration, the 100K resisor in effect biases the capacitors properly. Try it and get back to us!

-Paul, N9AZ

5039. Re: an HT from Hong Kong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: jgardner@netcom.com
Message-ID: <jgardnerDHHIA7.JDE@netcom.com>
Source record: 109850
Cross-posted to: rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.amateur.homebrew

Michael Fogarty (mfogarty@netcom.com) wrote:

: I am surprised that nobody really seemed to mention the possibilities and
: benefits of expanded frequencies. Perhaps you're all old timers who've
: gotten the modifiable radios (like my friends), or you don't really care
: to listen in on the verboten bands. Regardless, I'll have an HT on
: returning from HK or I'll get one here soon thereafter (likely the latter).

Expanded frequency coverage is a compromise. If I want such a compromise,
I'll buy a cheap Radio Shack scanner. I'd rather not made such a compromise
with my ham gear.

--
Jerry Gardner | Maintainer of the Large Format Digest
jgardner@netcom.com | Send subscription requests to jgardner@netcom.com

5040. help mobile phone info ericsson gh198

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: Brian Olliver <Brian@briano.demon.co.uk>
Message-ID: <815413712snz@briano.demon.co.uk>
Source record: 109851

tnx fr reading
i have a hand portable cell phone digital type
and on the base is a multi way connector to which
i connect a very uninteresting battery charger
however the connector has loads of other pins and
i was wondering if anyone could tell me there connections
as i want to make a few periferal for it e.g. data comms
ext l.s. etc and don't want to pay for high street kits
someone has to know these things please
--
Brian Olliver

5041. Re: How does a "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-03 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <47dl8p$7ni@hpscit.sc.hp.com>
Source record: 109852
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <47a3ee$mah@newsflash.hol.gr>,
Douglas Braun <douglasbraun@hol.gr> wrote:
>There is a nifty RF device called a "circulator". It has three terminals.
>RF energy fed into terminal A comes out terminal B, energy fed into terminal
>B comes out terminal C, and energy fed into terminal C comes out terminal A.
>
>I have seen descriptions of these for microwaves, where they are built from
>waveguide and ferrite. But I would like to make one for 28 MHz out of discrete
>components. Has anyone ever seen a description of how these really work,
>or a circuit for one? Is it even possible to make one from discrete
>components (coils, transformers, etc.), or does the operation depend on
>some magical property of ferrite?
>
>Doug Braun (SV/N1OWU)
>

When I was young and foolish, I looked into the possibility of a circulator
at a "low" frequency such as 28 MHz. There are papers written about so
called lumped element circulators at frequencies as low as 100 MHz. They
consist of a hockey puck size piece of ferrite with 3 windings around them
at 120 degree angles, with a big permanent magnet to bias them. The basic
problem with going to arbitrarily low frequencies is that the magnetic bias
required is proportional to frequency, but there is a "low field loss"
phenonmenon which you are stuck with for the low fields used at "low" frequencies.
(Low vs. microwaves). The impedance matching to the coils is a conventional
circuit design problem, but it is going to be fairly narrow band and lossy
no matter what you try to do. You also don't get a hell of a lot of isolation
maybe 10 to 15 dB. The ferrite does need to be a special type like YIG with
so called "gyroscopic" properties; you can't use the ferrite you would typically
use at 28 MHz, such as Fair-Rite #68 nickel-zinc ferrite. If you want an
interesting, non-practical, project, you might see what you could do at
28 MHz. You can probably get some degree of circulation going.

To make a passive circulator, you need a non-reciprocal circuit element.
Coils, transformers, resistors, capacitors, etc. are reciprocal. Some
ferrites are non-reciprocal as are hall effect devices, although hall
effect devices are not really passive. There have also been papers
describing "active" circulators using opamps, but 28 MHz is too high for
that (even with 1 GHz. op amps).

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5042. Re: KA7DAT and Input/output intercept point of diode mixer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: blair@mksim8.dseg.ti.com
Message-ID: <47ecit$po2@mksrv1.dseg.ti.com>
Source record: 109853

William Houston (whouston@ix.netcom.com) wrote:
: In article <474up5$m84@flood.weeg.uiowa.edu>, sabinw@crpl.cedar-rapids.lib.ia.us says...
: >
: >If two tones, each at +8 dBm at the input, produce IMD equal to
: >+8 dBm (the intercept point) then at the mixer output the two tones
: >are -1.3 dB and the IMD is also -1.3 dBM. Using the definition of
: >intercept point, the OIP3 is -1.3 and the IIP3 is +8 dBm. Bill Sabin W0IYH
: >

: two tones of +8dBm each gives a total input power of +11dBm! Don't you mean two tones of +5dBm each?

If I may jump in, No he doesn't. It's not the total power that counts, it's the power at each frequency (+8).
Art.

5043. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <47eusg$ffd@nnrp2.news.primenet.com>
Source record: 109854

Murray McGregor (murray.mcgregor@stonebow.otago.ac.nz) wrote:

: <SNIP!>

: Coming in late to this thread - have you considered a 1 chip solution?
: Specifically one of the Philips series of PLL Frequency Synthesizer
: chips for use in AM/FM radios. RF inputs of 512Khz-30Mhz or
: 30Mhz-150Mhz.

: SAA 1075, TSA 6057, TSA 6060 or for <30Mhz, TDA 8735

: For myself, I'd like to be able to source small quantities of ONE of
: the above!
: Or find a similar product from any other manufacturer.

: Cheers, Murray

It is very refreshing to finally see someone who has something
constructive to contribute to this thread. Thank God that the previous
brown-nosers decided to take a powder!

The National LMX1501/1511 is also a suitable device for the ap-
lication, and is comparable to the Philips devices noted above. Unfor-
tunately, in this country, the Philips products are getting harder to ob-
tain, and I've pretty much dropped them from my preferred vendour list.
Now, I usually use NEC for discrete devices. Philips makes a large num-
ber of devices that are ideally suited for good quality receiver design,
but the devices are not readily available. I can get samples and purchase
small quantities of NEC material any time I want from CEL.

There is nothing at all wrong with striking out on your own and
learning by way of your own mistakes.

--

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /

----------oo0~(_)~0oo----------

5044. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <47fqco$f5q@newsbf02.news.aol.com>
Source record: 109855

>Just as the vector sum of momentum of the rocket's exhaust and the
momentum
>of the rocket must be zero, the sum of charge passing a point must be
zero.
>If you push charge into, and pull charge out of, the end of an antenna,
be
>it half-wave or other, there must be a corresponding current on the
other
>side--the feedline side--of that point which represents the end of the
antenna.

Hi,

Well it looks like we're all space cadets now! ;-) Just kidding.

That's correct Tom. The ground system has two functions. To provide a low impedance to "push against", and to stop field coupling to the lossy media below the ground system.

OTOH, the "image antenna" is simply a tool for pattern analysis. The current represented in the image antenna does NOT really exist in that physical location of space, and it does NOT provide a reference impedance (if it did the input impedance od a quarter wave resonant vertical would be around 60 ohms). It is an imaginary source that represents the earth (or reflective media) SURFACE currents for many wavelengths in each direction from the radiator.

73 Tom

5045. Re: How to determine dBm when driving diode mixers with square waves

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <47fuak$36u@proffa.cc.tut.fi>
Source record: 109856

Carl Gregory <cgregory@uiuc.edu> wrote:

> BTW, I think that if you use a square-wave,
> the peak drive voltage can be lower for equal efficiency.
> A sinewave drive should be high-enough level so that it
> is significantly clipped by the mixer (thus becoming a square wave).
> Think of it as a valve which turns on when the drive exceeds the threshold.
> If the valve only turns on for a small fraction of a cycle,
> you won't get mch water (signal) through it).

A related question, how does the duty cycle (if not exactly 50 %) affect
the dbm performance (particulary spurious response) ? If the oscillator or
buffer clips the other half-wave of the sine-wave a bit, the zero crossings
in the AC-coupled LO-port no longer happen at exactly 0 and 180 degree,
thus changing the duty cycle.

Should the LO-injection be low-pass (or even band-pass) filtered to
restore perfectly equal duty cycle?

How would this affect mixer performance, when the leakage from the
RF-port to the LO-port will find something that is radically different
from 50 ohms resistive. Should the low-pass filter at the LO-port be
T- or pi-configuration representing a high resp. low. impedance for the
high frequency leakage from the LO-port.

Paul OH3LWR

--
Phone : +358-31-213 3657 Mail: Hameenpuisto 42 A 26
Internet: Paul.Keinanen@cc.tut.fi FIN-33200 TAMPERE
Telex : 58-100 1825 (ATTN: Keinanen Paul) FINLAND
X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

5046. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: n9ssg@xnet.COM
Message-ID: <Chameleon.951104122801.N9SSG@n9ssg.xnet.com>
Source record: 109857

Since we're talking about transverters here.... In a 73 mag from
about 1978, ther was a plan for a 2mtr to 220 transverter. It even handled
split properly. The author, who I called and got a really rude response,
listed some parts paks that could only be obtained from him. No luck. Does
anyone know of any plans or have one of these laying around they would like
to part with.
dahdidahdidahdidahdidahdidahdidahdidahdidahdidahdidahdidahdidahdid
a Date : 11/04/95 Time: 12:24:54 a
h Name:David Allen Yanke E-mail:N9SSG@n9ssg.xnet.com h
d Member: ARRL/FRRL/IC/PITA d
i RCC i
d "I want to die like my grandfather, quietly, in my d
a sleep. Not like his passengers, screaming in a
h terror." h
d d
idahdidahdidahdidahdidahdidahdidahdidahdidahdidahdidahdidahdi

5047. VHF Communications Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: Michael J Wooding <vhf-comm@g6iqm.demon.co.uk>
Message-ID: <898262304wnr@g6iqm.demon.co.uk>
Source record: 109858

Hi there,

Yes I am afraid its me again - but initiating my own thread!!!

I now I cannot compete with HRT - heaven forbid! - but for all those
who might be interested we have arrived on the Web!

Our Web pages can be found at:

http://www.taynet.co.uk/~gdx/ag/vhfcomm.htm

Initially our pages are quite simple, in order to guage response etc.
So, please let me have your comments (not too unkind please!) and
suggestions and I will see what can be done.

Even better - how about subscribing!!!!!!

73 ... Mike
--
Michael J Wooding vhf-comm@g6iqm.demon.co.uk
CompuServe: 100441,377
Tel: (0)1788 890365 Fax: (0)1788 891883
KM Publications, 5 Ware Orchard, Barby, Nr.Rugby, CV23 8UF, UK
VHF Communications Magazine - Especially Covering VHF, UHF and Microwaves

5048. Re: KA7DAT and Input/output intercept point of diode mixer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: whouston@ix.netcom.com
Message-ID: <47gd0u$jkf@ixnews6.ix.netcom.com>
Source record: 109859

In article <474up5$m84@flood.weeg.uiowa.edu>, sabinw@crpl.cedar-rapids.lib.ia.us says...
>
>If two tones, each at +8 dBm at the input, produce IMD equal to
>+8 dBm (the intercept point) then at the mixer output the two tones
>are -1.3 dB and the IMD is also -1.3 dBM. Using the definition of
>intercept point, the OIP3 is -1.3 and the IIP3 is +8 dBm. Bill Sabin W0IYH
>
Hi Guys,
In an earlier post I asked the question "don't you mean two +5dBm tones?". Someone responded that this was
wrong and that it is only important to consider one of the tones. Alas, my news server seems to have dropped
my post as well as this one. First, if the manufacturer of the mixer is stating the intercept point they are
referring to the total power at which this occurs. Why? Lets ask this question....what would be the
performance of the mixer with two tones of uneven power? What would be the performance with a complex signal?
Sure, when you perform a "two-tone" test on a device you might measure the intermod rejection from one of the
input tones to one of the third order products. What do you do if one of the third order products is smaller
than the other? How do make this information useful? You have to consider the total power. Therefore, if
the intercept point occurs at +8dBm then the manufacturer must have been using two tones of +5dBm each.
Otherwise, the powerlevel would have been correctly stated as being 3dB higher. Of course, any of you who
have performed intermod measurements would know that the manufacturer used tones which were much smaller than
+5dBm each while measuring this mixer!

73 William N6AGV

5049. Mic Wiring

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: djarrett@gc.net
Message-ID: <47gbme$ud1@global.gc.net>
Source record: 109860

Does anyone have the pinouts for a 4-wirw D-104 to and AZDEN pcs-4000 (8-wire), obviously I'm not concerned about the extra features that the hand mic has, just want to use the thing....

73's

Dave
KF4APJ

5050. WTB: C2 air variable capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: jchol@aol.com
Message-ID: <47h03u$r7c@newsbf02.news.aol.com>
Source record: 109861

Hi! I need a 500 up to a 2000 picofarad air variable suitable for linear project. Check your junque boxes gentlemen.

Thanks and 73 de John, WA5TWL....

5051. Re: LO Drive to SL6440: Was (Re: diode mixer drive level)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <47g0sp$ghd@ixnews5.ix.netcom.com>
Source record: 109862

In <47e939$7gt@news.jf.intel.com> Roger L Traylor
>
>I understand the theory behind this and attempted to try out a real
>world case. I drove a SL6440 (active mixer-Gilbert cell type) with a
>clean signal in the RF port. To the LO port I tried a crystal
>oscillator with filtering and with filtering disabled.
>The filtered output from the oscillator had harmonics that were down
>at least 30db from the fundamental. Unfiltered, harmonics were down
>very little.
>
>With the clean LO, the results were as expected; translation of the
>RF signal at its fundamental and at harmonics. At the harmonics
>of the LO however, signal levels were down greatly.
>
>With the unfiltered LO, almost all sum and difference products were
>at the same amplitude! It looked like a mess of signals on the spectrum
>analyzer.
>
>Is there some fundamental difference (beyond the obvious) in how these
>two mixers work? I feel better when I see some correlation between
>theory and practice.

I had to dig around a little to find my class notes on Gilbert cell multipliers. After blowing off 18 years of accumulated dust, here is a brief summary of three different ways to apply them.

1. If the input signals are kept small enough, the multiplier acts as a true linear four-quadrant multiplier. The output is proportional to the multiplication of the two inputs.

2. Increasing one of the signals to large enough levels essentially "squares it up", and you end up multiplying the low level signal by a square wave. This is similar in concept to the diode ring mixers previously discussed on the list. The advantage here is that you maximize your conversion gain, although with the disadvantage that you produce mixing products with all of the square-wave's harmonics.

3. The third application of the Gilbert cell mulitplier is as a phase detector. In this case both inputs are run with high level signals, and the output is a square wave (functionally, this operates just like an XOR gate).

From Roger's description, it sounds as though the SL6440 is operating under the conditions described in "1" above. That is, if we are multiplying sine by sine, we'd expect the sum and difference

products related to those two signals, and minimal (as spec'd by the multiplier) distortion products. However, if one of the signals is "pre-distorted" (unfiltered, in this case), then we should see sum and difference products with all of the harmonics too. In Roger's case, the level of the unfiltered LO's harmonics were "down very little" from the fundamental, so the product terms with these harmonics should also be down very little, which is consistent with Roger's observations.

If we were operating in case 2, then I'd expect the level of the harmonic product terms to be the same, irrespective of input filtering.

Someone on the list may have a data sheet for the SL6440 -- what levels do they recommend for the inputs? And do they discuss the multiplier's operation (is the LO signal "squared up"?).

- Jeff, WA6AHL

By the way - for those interested, there is a good analysis of Gilber Cell Multipliers in the book "Analysis and Design of Analog Integrated Circuits", by Gray and Meyer (published by Wiley).

5052. Help! Motorola info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: Richard Lutz <rlutz@gnn.com>
Message-ID: <47h2kq$jk5@news-e1a.megaweb.com>
Source record: 109863

I have a control head and a matched microphone, the numbers on the mic are: HMN1001B and the numbers on the control head is: NTN4267A I would greatly appreciate any info on the pinouts of both the Mic an d the head. the head has two molex connectors a 2ppin (power) and a 4 pin, the mic uses a phone type snap in with 6 pins although only 4 or 5 are connected to the mic. thanks so much to any helpI cvan get

73 kd4sev
Richard S. Lutz MSGT, USAF
KD4SEV !Sic transit gloria mundi!

5053. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <47ha14$oq@newsbf02.news.aol.com>
Source record: 109864

In article <815468475.13840@pinetree.microserve.com>,
jackl@pinetree.microserve.com (WB3U) writes:

>How much greater are the near-field earth losses when a dipole is
>oriented vertically rather than horizontally? Also, how does the
>increased loss incurred from vertical polarization compare to the
>energy gained from the lowered radiation angle?
>
>73,
>
>Jack WB3U

That's a tough one Jack. There are too many variables to give an exacting answer.
The higher the field density at a given lossy surface, the more power lost. The power loss can come from both electric and magnetic field effects.

Horizontal antennas generally have less loss because they're often placed higher above earth, "fields" are less concentrated. Even the performance of fairly high dipoles can be enhanced by adding counterpoise wires. A low dipole's performance can be greatly improved by adding counterpoise wires.

An end-fed vertical *always* requires some form of electrically neutral mass to terminate one feedline terminal. That causes additional system I*I R losses, or even power loss by direct radiation.

A base fed half-wave vertical has this problem, not quite as bad as a quarter wave vertical, but the loss is still there. That's because the base impedance of a practical half-wave vertical isn't infinite (for a thick radiator it can be a few hundred ohms).

All half-wave verticals (even center fed) have strong electric fields at both ends, that causes E field losses to predominate near the base. But they also have magnetic field losses.

73 Tom

5054. WANTED INFO: How to build modems.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-04 00:00:00 UTC
From: mutchg@topaz.cqu.edu.au
Message-ID: <1995Nov4.100849@topaz>
Source record: 109865

Hi all
I'm chasing schematics or circut diagrams/proofs full designs
what ever , to make modems, phone modems , fax modems packet tnc. etc...
Can anyone help in this area. I wish to build telecom approved modems
in the not to distant future. I have a pet project: I would like to
program multi port software and I think purchasing volumes of modems
may get expensive. So I'm waying up the option of building them myself.

Any replys with schematics for Australia preferably , if not anything will
do . I can add modifications I guess.

I'm new at the modem game so go easy on the any details :)

-G.D.Mutch
Email :Mutchg@Topaz.Cqu.Edu.Au

5055. Halicrafters S40A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: dbosch@freenet.columbus.oh.us
Message-ID: <47ivc0$8rr@acme.freenet.columbus.oh.us>
Source record: 109723

Have any inforamtion or suggestions?

I am currently trying to resolve a "hum" problem with my 1946 s40a
by replacing capcitors that show visual signs of failure, such as leaking,
and all electrolitics. The problem I am having is locating a resource for
suitable capacitors. Due to the ratings of these capacitors the search
has been a frustrating one. Does anyone know of a great place to find a
"huge" assortment of capacitors that will accomodate specifications of
this era?

thnks in advance. doug

5056. link rep. controler

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: richesop@cici.com
Message-ID: <47jdos$un@latte.cici.com>
Source record: 109724

does any one know of a good low cost controler for a remote reciever
rep. all it needs to do is id and time out.
--
. '''
. (o o)
___ooO-(_)-Ooo____
Peter D. Richeson | "I don't believe in a no-win |
Email: richesop@cici.com | scenaro." |
http://www.cici.com/~richesop | - Admiral James T. Kirk |

5057. Re: R2 Rx PCB supplier?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: Duane Anderson <dandersn@popd.ix.netcom.com>
Message-ID: <47jfet$9gj@ixnews2.ix.netcom.com>
Source record: 109725

Kanga US has the R2 module and mini R2 module among other kits to order:

you can visit the web page at: http://qrp.cc.nd.edu/Kanga/
email order to: kanga@bright.net or send snail mail to:

Kanga US
Bill Kelsey
3521 Spring Lake Dr.
Findlay, OH 45840

Phone: 419-423-4604

73, Duane, KJ7HO

5058. WWVB reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: wmoyes@cello.gina.calstate.edu
Message-ID: <47kcpq$6me@cello.gina.calstate.edu>
Source record: 109726
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Does anyone have a schematic of a WWVB reciever? I want to use
it to sync several computers/microcontrollers for some experments
(basically a frequency refrence). Something that can also decode the
current time would be an added bonus. Thanks.

-William Moyes
wmoyes@cello.gina.calstate.edu

5059. PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8037253364803@humnet.humberc.on.ca>
Source record: 109727

> > >The radio remains intact...I just inject the VCO signal further up the
> > >line.
> >
> > >Hmmm... the '157 I have here is running at 26 Mhz !!
> >
> > The '157 is spec'ed at 15 MHz for sine wave and 22 MHz for 5V P-P
> > square, running from a 5V supply. Your circuit may not continue
> > to operate correctly when you install it in the radio and it gets
> > warmed up, etc. It is does work for you, great.
> >
> > >Maybe this is pushing it to its limit.

>
> <SNIP!>
>
> Coming in late to this thread - have you considered a 1 chip solution?
> Specifically one of the Philips series of PLL Frequency Synthesizer
> chips for use in AM/FM radios. RF inputs of 512Khz-30Mhz or
> 30Mhz-150Mhz.
>
> SAA 1075, TSA 6057, TSA 6060 or for <30Mhz, TDA 8735
>
> For myself, I'd like to be able to source small quantities of ONE of
> the above!
> Or find a similar product from any other manufacturer.
>
> Cheers, Murray

Hi Murray... Thanks for your comments.
One chip solution eh !?!? What do you mean by this ? Do you mean it has
a built-in VCO, requires no external programming chips ect... :)
or do you mean that no external prescalar is required ?

My latest scheme is to use the Motorola MC145170p. This one is rated
for 160 MHz, serially tuned. I got a few samples from Motorola and
should have no trouble getting them in small quantities from a local
dealer. It's avalaible in DIP or surface mount package.
Minimal change in my firmware to change from the '157 to the 170 for
programming it. Obtaining Phillips parts around here is not easy...I
guess you work with whatever is available !

Regards! Hugh Duff VA3TO

• NFX v1.3 [000]

--

HumberNet LSS (Learning Support System) - Humber College, Toronto
"Tomorrow's communication and learning environment, today"
Visit our Website at http://humnet.humberc.on.ca/

5060. Hardware Control with Visual Basic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: Scott Currier <74514.2615@CompuServe.COM>
Message-ID: <47jim1$4se$1@mhafn.production.compuserve.com>
Source record: 109866
Cross-posted to: comp.archives.msdos.d,rec.radio.amateur.homebrew,sci.chem.labware,sci.engr.biomed

EVIO.VBX
Use Visual Basic to interface your external hardware using
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the following ID's

EVIO ID 5063 --- HREVIO ID 8044 --- HREVIO16 ID 8048

5061. Re: ATV North Country Radio (WARNING)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: Mark Castiglione <mcast@novalink.com>
Message-ID: <47hj79$9u4@loki.novalink.com>
Source record: 109867

the2x4@aol.com (The2X4) wrote:
>Thanks your warning came in time. I was gonna get
>one of their ATV 's.
>
>Thansk.....................
>
>Carl

Hold on on minute Partner..I have one of their kits ..
The 5 watt transeiver kit..I was the one to originate
the query on the kit..I received a few answers and
they wwere all positive.And so far the kit is
working Okay..I am in the prossess of tuning it.
Send out a query of your own..As for the guy who l
lost his radio..???I never knew they repaired
radios...Thats it for now..73 Mark N8REZ

5062. Re: KA7DAT and Input/output intercept point of diode mixer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: whouston@ix.netcom.com
Message-ID: <47hk94$9q6@ixnews7.ix.netcom.com>
Source record: 109868

In article <47gd0u$jkf@ixnews6.ix.netcom.com>, whouston@ix.netcom.comï¿½ says...
>
>In article <474up5$m84@flood.weeg.uiowa.edu>, sabinw@crpl.cedar-rapids.lib.ia.us says...
>>
>>If two tones, each at +8 dBm at the input, produce IMD equal to
>>+8 dBm (the intercept point) then at the mixer output the two tones
>>are -1.3 dB and the IMD is also -1.3 dBM. Using the definition of
>>intercept point, the OIP3 is -1.3 and the IIP3 is +8 dBm. Bill Sabin W0IYH
>>
>Hi Guys,
>In an earlier post I asked the question "don't you mean two +5dBm tones?". Someone
responded that this was
>wrong and that it is only important to consider one of the tones. Alas, my news server
seems to have dropped
>my post as well as this one. (snip)

Hi guys,
I was wrong and the following message from Bill Sabin jarred me back to reality! Here is
what he "VERY
correctly" had to say on the subject!

The IIP3 is specified in terms of two equal tones as a matter of
custom so that everyone knows what the standard conditions are.
If the IIP3 is specified at +8dBm, then each tone is +8dBm and
at that level the IMD products would also be +8dBm if the mixer
were still linear at that signal level. By linear I mean that gain
compression has not occurred. But because the mixer is not linear
at that input level the test is performed at a lower level where
the mixer has not yet gone into gain compression. For example
they might use -10dBm per tone. The IIP3 is then calculated from a formula
IIP3(dBM)= SIG(dBM) + 0.5*S/D(dB) where SIG is the level/tone of the
two equal test signals and S/D is the ratio, in dB, of each signal to
each distortion product. The IIP3 value is the level of each of the
two equal tones. Page 17.6 of the ARRL Handbook 1995/1996 editions
gives a discussion that gives more details. If the tones are not
equal then some special mathematical analysis is needed which I
will not have time to get into.

Thanks Bill

my apologies for any confusion I may have caused!

73 William N6AGV

5063. Re: KA7DAT and Input/output intercept point of diode mixer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: whouston@ix.netcom.com
Message-ID: <47hn2l$cm5@ixnews5.ix.netcom.com>
Source record: 109869

In article <47gd0u$jkf@ixnews6.ix.netcom.com>, whouston@ix.netcom.com says...
>
>In article <474up5$m84@flood.weeg.uiowa.edu>, sabinw@crpl.cedar-rapids.lib.ia.us says...
>>
>>If two tones, each at +8 dBm at the input, produce IMD equal to
>>+8 dBm (the intercept point) then at the mixer output the two tones
>>are -1.3 dB and the IMD is also -1.3 dBM. Using the definition of
>>intercept point, the OIP3 is -1.3 and the IIP3 is +8 dBm. Bill Sabin W0IYH
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at that input level the test is performed at a lower level where
the mixer has not yet gone into gain compression. For example
they might use -10dBm per tone. The IIP3 is then calculated from a formula
IIP3(dBM)= SIG(dBM) + 0.5*S/D(dB) where SIG is the level/tone of the
two equal test signals and S/D is the ratio, in dB, of each signal to
each distortion product. The IIP3 value is the level of each of the
two equal tones. Page 17.6 of the ARRL Handbook 1995/1996 editions
gives a discussion that gives more details. If the tones are not
equal then some special mathematical analysis is needed which I
will not have time to get into.

Thanks Bill

my apologies for any confusion I may have caused!

73 William N6AGV

5064. Re: KA7DAT and Input/output intercept point of diode mixer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: whouston@ix.netcom.com
Message-ID: <47hnbt$cm5@ixnews5.ix.netcom.com>
Source record: 109870

In article <47gd0u$jkf@ixnews6.ix.netcom.com>, whouston@ix.netcom.com says...
>
>In article <474up5$m84@flood.weeg.uiowa.edu>,
sabinw@crpl.cedar-rapids.lib.ia.us says...
>>
>>If two tones, each at +8 dBm at the input, produce IMD equal to
>>+8 dBm (the intercept point) then at the mixer output the two tones
>>are -1.3 dB and the IMD is also -1.3 dBM. Using the definition of
>>intercept point, the OIP3 is -1.3 and the IIP3 is +8 dBm. Bill Sabin W0IYH
>>
>>>Hi Guys,
>In an earlier post I asked the question "don't you mean two +5dBm tones?".
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>wrong and that it is only important to consider one of the tones. Alas, my
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compression has not occurred. But because the mixer is not linear
at that input level the test is performed at a lower level where
the mixer has not yet gone into gain compression. For example
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each distortion product. The IIP3 value is the level of each of the
two equal tones. Page 17.6 of the ARRL Handbook 1995/1996 editions
gives a discussion that gives more details. If the tones are not
equal then some special mathematical analysis is needed which I
will not have time to get into.

Thanks Bill

my apologies for any confusion I may have caused!

73 William N6AGV

5065. Re: Crystal CW Rig - Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: Frank G3YCC <yorks@frank>
Message-ID: <jHfZmDAuvMnwEwkx@yorks.demon.co.uk>
Source record: 109871
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <47d81r$696@bcrkh13.bnr.ca>, Eric Jacksch <ejacksch@bnr.ca>
writes
>Hello all!
>
>I'm still looking for schematics for a very simple, single freqency
>crystal controlled 8m cw transmitter and/or receiver. I have found
>lots of fancy, tunable units, etc...what I need is a very stable,
>one frequency unit. It's for telemetry - low power is fine!
>
>Email to ejacksch@bnr.ca would be greatly appreciated.
>
>Thanks,
>Eric.
Did you really mean 8m?
--
Frank G3YCC (G QRP 042)
Email: frank@yorks.demon.co.uk

5066. Re: How does a "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-05 00:00:00 UTC
From: tubegod@cml.com
Message-ID: <ragnaroek1995Nov5.125159.12341@news2.compulink.com>
Source record: 109872
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Douglas Braun (douglasbraun@hol.gr) wrote:
: There is a nifty RF device called a "circulator". It has three terminals.
: RF energy fed into terminal A comes out terminal B, energy fed into terminal
: B comes out terminal C, and energy fed into terminal C comes out terminal A.

I can't explain the theory but it's a sandwich of three metal discs and two disc-shaped magnets. The strength of the magnets has everything to do with the frequency at which it will pass RF. The size of the magnets has everything to do with how much power you can pump through it. Like anything involving a magnet, it is prone to saturation when high powers are involved. Most professional isolators (Celwave, Sinclair etc.) can handle 150Watts+. Typical insertian losses for single-isolators are 1dB.

They are available for any frequency band.

: I am trying to connect a transverter to a HF radio (TS-50) without a
: seperate transverter connection, and one of these could elegantly solve
: the T/R switching problem...

Excellent idea. If you want a much better description, write my friend Jon at: "chooch@idirect.com" and tell him "tubegod" sent you.

Cheers!

Andy

: Stop for a drink at the Internet TeleCafe: telnet://telecafe.com:9000 :

5067. Question: How to modify VHF-UHF Alinco DR-599E...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: rogue@chiara.dei.unipd.it
Message-ID: <47kgp5$917@maya.dei.unipd.it>
Source record: 109728
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hallo everybody,
Is there anybody who knows how to modify a Alinco DR-599E VHF-UHF transceiver (it's the European version of the Alinco DR-599T) to enlarge the RX range to the air bands and the civil bands in VHF and in UHF and to the 900 MHZ band?
Thank you, and, please, send the answer via mail because I cannot check the newsgroups so often:)

byebye Andrea
--
Andrea D'Andrea (rogue)
Internet E-Mail: rogue@[maya][paola][chiara].dei.unipd.it
Snail Mail: Cannaregio 49, 30121 Venezia - ITALIA
Tel: (041) 71.61.61

5068. HBR Receiver info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <47jmcq$n6k@news.azstarnet.com>
Source record: 109729

Gentlemen,

I recently acquired a beautifully constructed receiver at a local hamfest.
I recognized it immediately as a version of the HBR series of receivers that
were described in QST in the sixties.

Unfortunately my copies of QST from that era were lost some time ago.
I would like to track down info on this receiver. I know there were many
versions and articles. Can anyone help?

Thanks, Wes -- N7WS

5069. Re: Crystal CW Rig - Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <47jm5n$99b@ixnews5.ix.netcom.com>
Source record: 109730
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

>In article <47d81r$696@bcrkh13.bnr.ca>, Eric Jacksch <ejacksch@bnr.ca>
>writes
>>Hello all!
>>
>>I'm still looking for schematics for a very simple, single freqency
>>crystal controlled 8m cw transmitter and/or receiver. I have found
>>lots of fancy, tunable units, etc...what I need is a very stable,
>>one frequency unit. It's for telemetry - low power is fine!
>>
>>Email to ejacksch@bnr.ca would be greatly appreciated.
>>
>>Thanks,
>>Eric.

Have you considred the ARRL handbook or W1FB's QRP book, they both have
a plethora of low power CW transmitter schematics.

Best wishes,

Tim

5070. Re: ATV North Country Radio (WARNING)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <47jmp0$9b6@ixnews3.ix.netcom.com>
Source record: 109731

In <47hj79$9u4@loki.novalink.com> Mark Castiglione <mcast@novalink.com>
writes:
>
>the2x4@aol.com (The2X4) wrote:
>>Thanks your warning came in time. I was gonna get
>>one of their ATV 's.
>>
>>Thansk.....................
>>
>>Carl
>
>Hold on on minute Partner..I have one of their kits ..
>The 5 watt transeiver kit..I was the one to originate
>the query on the kit..I received a few answers and
>they wwere all positive.And so far the kit is
>working Okay..I am in the prossess of tuning it.
>Send out a query of your own..As for the guy who l
>lost his radio..???I never knew they repaired
>radios...Thats it for now..73 Mark N8REZ
>

Interesting, I put a query out regarding this kit about the same time
as you aparently, I look forward to hearing from you, the responces I
read were mixed. One indicated he had built several kits, some worked
some didnt. Hope you have success and write about it!

73,

Tim

5071. Re: (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <47km32$qip@newsbf02.news.aol.com>
Source record: 109732

In article <Chameleon.951104122801.N9SSG@n9ssg.xnet.com>, n9ssg@xnet.COM
(David Allen Yanke) writes:

>dahdidahdidahdidahdidahdidahdidahdidahdidahdidahdidahdidahdid
>a Date : 11/04/95 Time: 12:24:54 a
>h Name:David Allen Yanke E-mail:N9SSG@n9ssg.xnet.com h
>d Member: ARRL/FRRL/IC/PITA d
>i RCC i
>d "I want to die like my grandfather, quietly, in my d
>a sleep. Not like his passengers, screaming in a
>h terror." h
>d d
>idahdidahdidahdidahdidahdidahdidahdidahdidahdidahdidahdi

Was this supposed to impress us?

5072. Re: LO Drive to SL6440: Was (Re: diode mixer drive level)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DHMCMo.Eq4@hpqmoea.sqf.hp.com>
Source record: 109733

Roger L Traylor (Roger_L_Traylor@ccm.jf.intel.com) wrote:
: dstock@hpqmdla.sqf.hp.com (David Stockton) wrote:
: >
: > Just one final remark; A lot of people, on hearing of squarewave LO
: > drive for ring mixers, rebel, thinking that it will make loads of unwanted
: > mixing products due to the much larger harmonic content of the LO
: > waveform. This is not so, as switching action in the diodes does this
: > anyway even with a sinusoidal voltage drive. Going to a full squarewave
: > LO port driver makes only a small difference.
: >
: >

: I understand the theory behind this and attempted to try out a real
: world case. I drove a SL6440 (active mixer-Gilbert cell type) with a
: clean signal in the RF port. To the LO port I tried a crystal
: oscillator with filtering and with filtering disabled.
: The filtered output from the oscillator had harmonics that were down
: at least 30db from the fundamental. Unfiltered, harmonics were down
: very little.

: With the clean LO, the results were as expected; translation of the
: RF signal at its fundamental and at harmonics. At the harmonics
: of the LO however, signal levels were down greatly.

: With the unfiltered LO, almost all sum and difference products were
: at the same amplitude! It looked like a mess of signals on the spectrum
: analyzer.

: Is there some fundamental difference (beyond the obvious) in how these
: two mixers work? I feel better when I see some correlation between
: theory and practice.

: Roger Traylor
: Roger_L_Traylor@ccm.jf.intel.com

5073. The VHF/UHF DX Book is back!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <688139122wnr@ifwtech.demon.co.uk>
Source record: 109734

'The VHF/UHF DX Book' will be available again from December 1st.
The second printing includes some minor typographical revisions and
an updated version of G4DDK's 'Suffolk' 28-144MHz transverter.

RSGB will be handling all distribution, but expect delays of some
months before the book is available from national distributors such
as ARRL. In the meantime, anybody, world-wide, can order direct from
RSGB.

Their phone number is +44 1707 659015, although fax is obviously
cheaper and more accurate: +44 1707 645105. The mail address is:

RSGB
Lambda House
Cranborne Road
POTTERS BAR
EN6 3JE
England

The price is 18.00 UK pounds (under 16 pounds to RSGB members).
Insist on airmail, because surface mail takes forever. I believe
that airmail for a single copy is under 3.00 pounds. Currently
1 UK pound = about $1.50-1.60.

RGSB accept all major credit cards. As far as I know, the exchange
rates on credit card transactions are very fair, so credit card
looks like the best way to order.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)

[Note that I have no direct commercial involvement with the
distribution of the book: this message is for information only.]

5074. Re: Ham-Homebrew Digest V95 #360

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: EFBRYA@acxiom.COM
Message-ID: <ebcfc5f0@acxiom.com>
Source record: 109735

kevinf@aquilagroup.com (Kevin Ferguson) wrote:

>The technique is to sychronize sending with master reference (WWV fer
>example).The reciever then samples each "time slot" (time slot would
>be "dit" length, or 1/2 1/3)and makes a yes/no decision about if the
>signal was present. If yes, then it fills the whole time slot with a
>tone. If no, it fills the slot with silence.
>
>It is also possible to lock the reference clock to the incoming
>signal, by looking for transitions. This is required to some degree
>even if syncing to WWV, due to variable prop delays..

What is the max. difference in timing on this signal when the two
stations are ~300 miles apart? How variable is this? If I compensate
for the difference in propogation how much will the propogation vary
from minute to minute and day to day?

5075. Re: link rep. controler

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: Dave Hockaday <wb4iuy@nando.net>
Message-ID: <47l8vb$mc0@castle.nando.net>
Source record: 109736

>does any one know of a good low cost controler for a remote reciever
>rep. all it needs to do is id and time out.

I like the RC-100 by MCC. They are about $150 and are very versatile. You could actually install rx's on 2 bands at the same site, voice ID's the link, cw id the link, and have full remote control of the link (which is nice when you're trying to figure out where a problem is sometimes, heehee). You can also program a beep on your link tx back to the main site to id it as being a signal from the remote.

73 de WB4IUY

PS...Micro Computer Concepts advertises in the ham mags with an add for their full blown controller/patch for $249 or so.

5076. Re: WTB: C2 air variable capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: Dave Hockaday <wb4iuy@nando.net>
Message-ID: <47l92t$mc0@castle.nando.net>
Source record: 109737

>Hi! I need a 500 up to a 2000 picofarad air variable suitable for linear
>project. Check your junque boxes gentlemen.
>
>Thanks and 73 de John, WA5TWL....

Hi John....got one...or two, or three :-). What voltage?? What is the power out of your amp??

73 de WB4IUY

5077. ATV Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: Roger White <rwhite@mw66>
Message-ID: <47lauq$o3@mksrv1.dseg.ti.com>
Source record: 109738

Any newsgroups on ATV Operation (especially UHF/Microwave operation)?

Roger White, AJ5L
rwhite@ms3.dseg.ti.com

5078. VLF Voltage Probe?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: jjesse@four.net
Message-ID: <47lbe4$h87@ultrix.FOUR.net>
Source record: 109739

Hello,
I wanted to try some VLF DXing this winter and while thumbing through some old mags, I saw an aticle for a "voltage probe".. It concentrated on imped. matching rather than high gain. Trouble is, no diagram or parts list. Does anyone have a diagram for a VLF voltage probe?

Thanks and 73...
Jon...WS1K...
jjesse@four.net

5079. Femdom In Search of Naughty Boys

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: vac@indirect.com
Message-ID: <DHMnpE.7EK@goodnet.com>
Source record: 109740
Cross-posted to: alt.fan.ecsd,rec.radio.amateur.homebrew

Seriously, this is a chance of a lifetime. I want all you naughty boys to contact me at once. Do not delay. Location is unimportant.

Let me know how you've been naughty and what type of corrective punishment you deem appropriate. It's time we clean up the net.

Anne

Anne Schoofs
vac@indirect.com Fax: 602 912 8823 Attn: RAS

5080. Re: Halicrafters S40A

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: James Garland <garland@ohstpy.mps.ohio-state.edu>
Message-ID: <47lid5$esj@pacific.mps.ohio-state.edu>
Source record: 109741

Finding paper and electrolytic capacitors for restoration of vacuum tube equipment is a major hassle. Antique Electronic Supply [(602) 820-5411] has a limited selection of capacitors (including the twist-lock aluminum can ones), but you probably won't find exact replacements. The prices are very high, and there seems to be little current production. I'm having trouble finding replacement capacitors for a VIking Ranger II and Viking Valiant restoration. If anyone knows other good sources, then PLEASE post it. Thanks. Jim W8ZR

5081. Contributions to the R2/T2 Home Page Welcome

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDHMv95.EMq@netcom.com>
Source record: 109742

Thanks to those of you who have visited and commented on the R2/T2 home page at Lehigh -- http://www.lehigh.edu/lists/qrp-l/k0jd/index.html -- and the files it points to.

I welcome any additional contributions -- descriptions of your own R2/T2 setup and/or comments, future plans to use it, supplementary circuits, etc. Send them to me and I'll archive them.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <

5082. Re: WANTED INFO: How to build modems.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <47linl$ofd@unisql.unisql.com>
Source record: 109743

Have you given any consideration to a DSP-based product that would work essentially with any signal, and do your product differentiation based on software?

Jim N6OTQ

5083. Vacuum capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: ashworth@plaza.ds.adp.COM
Message-ID: <9511061846.AA18430@adphdw20>
Source record: 109744

By any REMOTE chance, has anyone had experience with the Jennings CVDG-1000 vacuum capacitors and know how to fabricate a drive mechanism for them? The caps were originally used for a Collins military project, motor driven, and are rated for 10-1000pf @ 15KV. I have two, and would dearly love to use them, but have no way to interface them mechanically to a knob.

Thanks for the bandwidth
Dennis, K7FL
Oregon City, OR
ashworth@plaza.ds.adp.com

5084. Re: Q: Using polarized caps back to back

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <47lotn$3ve@newsbf02.news.aol.com>
Source record: 109745

>The use of schottkey (sp?) diodes should reduce the threshold of this effect to around 0.2 to 0.3 volts.

Is this true? I thought the schottky's switched on and off faster, but I didnt know that they had a lower forward bias. .2-.3 volt drops are usually associated with germanium devices.
PFZouave@aol.com
Pete Friedrichs
*** We don't inherit the earth from our parents, we borrow it from our children ***

5085. Re: need 2N-3641

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: jstroppe@uhl.uiowa.edu
Message-ID: <47lut2$cku@flood.weeg.uiowa.edu>
Source record: 109746

Richard:

Have you checked the other components out in the circuit? Something
else could be running a muck.

John

--
John Stroppel | Internet: jstroppe@uhl.uiowa.edu
The University of Iowa - Hygienic Lab | Amateur Radio: WA0VYZ
Oakdale Research Campus, OH-M7A | Voice: (319) 335-4500
Iowa City, IA 52242 | Fax: (319) 335-4555

5086. Re: help w/ headphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <47lrm0$hgv@detroit.freenet.org>
Source record: 109747

Try :

FAIR RADIO
Lima, Ohio

(they deal in surplus electronics)
--

5087. need 2N-3641

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: dakota@ccwf.cc.utexas.edu
Message-ID: <47ltmc$t10@geraldo.cc.utexas.edu>
Source record: 109748

need 2N3641 for a heathkit 27 mhz xmitter

ecg book says that 123A crosses over - thought it does work
it geets too hot and burns out in 5 minutes

any one have an OEM

thanks

richard

5088. Re: European Transistor Cross-Reference?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: fifield@lan.nsc.com
Message-ID: <9511061523.AA40237@davef>
Source record: 109749

In article <hambrew-0211952035390001@net70.qadas.com>, hambrew@qadas.com (George De Grazio) writes:

> Can anyone point me in the direction of a cross-reference for
> European Transistor replacements (i.e., European designators to
> US designators)?
> I understand SPRAT had such a list published in the past, but as yet
> I have not been able to locate the issue.
> Any help will be appreciated.
> 73,
> George De Grazio, WFï¿½K
>

There is an excellent publication called "Towers International Transistor Selector", which I believe has just been updated. It is published in the UK and is available from Maplin Electronic Supplies in Essex, England, phone 011-44-1702-554161.

I have an older version of the book and I'd be more than happy to look to look up some specific numbers for you, let me know.

73 de KE6ZBZ

Dave Fifield (ex G8INR)

Phone 408.721.7937, Fax 408.749.7582, email fifield@lan.nsc.com

This email/posting represents my own personal views and not those of my employer, National Semiconductor Corp., who kindly tolerate my extra curricular use of this medium.

5089. Re: How does a "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <47m3u1$nfv@hpscit.sc.hp.com>
Source record: 109750
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <1995Nov3.194133.8121@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>In article <47dl8p$7ni@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist) writes:
>>
>>To make a passive circulator, you need a non-reciprocal circuit element.
>>Coils, transformers, resistors, capacitors, etc. are reciprocal. Some
>
>How about a lumped element version of a coaxial ratrace? That
>has properties similar to a circulator without the need for the
>ferrite material. I'd expect the achievable isolation would be
>insufficient for this application, however.
>
>Gary

Here we have a common misconception. A rat-race hybrid, or for that matter any kind of hybrid, power divider, or directional coupler, whether lumped or distributed, coaxial or waveguide, is a reciprocal network. By definition, reciprocal networks have no isolation. What does "reciprocal" mean? It means that the insertion loss for a source connected to port A driving a load at port B is the same as the insertion lost for the same source connected to port B driving the same load now connected to port A. (This is true for all commonly used definitions of insertion loss, such as Z12, Y12, S12, transducer gain, what have you.) For networks with more than two ports, it is true for any pair of ports, assuming the terminations of the other ports don't change when the source and load are swapped. In a 3 port circulator, a source at port A ideally puts all its power into a load at B and none into C. Moving the source to port B puts all the power into port C and none into A. This is non-reciprocal behavior.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5090. Re: WANTED INFO: How to build modems.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <47m455$nji@hpscit.sc.hp.com>
Source record: 109751

In article <1995Nov4.100849@topaz>,
New Age; New Times; New Ideas <mutchg@topaz.cqu.edu.au> wrote:
>Hi all
> I'm chasing schematics or circut diagrams/proofs full designs
>what ever , to make modems, phone modems , fax modems packet tnc. etc...
>Can anyone help in this area. I wish to build telecom approved modems
>in the not to distant future. I have a pet project: I would like to
>program multi port software and I think purchasing volumes of modems
>may get expensive. So I'm waying up the option of building them myself.
>
>Any replys with schematics for Australia preferably , if not anything will
>do . I can add modifications I guess.
>
>I'm new at the modem game so go easy on the any details :)
>
>-G.D.Mutch
>Email :Mutchg@Topaz.Cqu.Edu.Au

First, get John Bingham's book on modem design. That will point
you to lots of other information on the subject. Also, John
knows many modem designers, if you want to buy an existing design
from someone.

Rick Karlquist rkarlqu@scd.hp.com
rkarlqu@scd.hp.com

5091. Re: Crystal CW Rig - Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <47l99n$1cj@ixnews3.ix.netcom.com>
Source record: 109752
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <47d81r$696@bcrkh13.bnr.ca> ejacksch@bnr.ca (Eric Jacksch) writes:
>
>Hello all!
>
>I'm still looking for schematics for a very simple, single freqency
>crystal controlled 8m cw transmitter and/or receiver. I have found
>lots of fancy, tunable units, etc...what I need is a very stable,
>one frequency unit. It's for telemetry - low power is fine!
>
>Email to ejacksch@bnr.ca would be greatly appreciated.
>
>Thanks,
>Eric.
I don't remember the years, but the ARRL handbook published a
transmitter they called the Cubic Incher, I would guess about the 1985
timeframe. It was a cubic inch in size, and I beleive 1 watt output.

Also a very simple single conversion receiver can also be constructed
using a crystal for the LO, greatly simplifying the circuit. I beleive
a Popular electronics about 5 years ago had the schematics for this.

Sorry I can't be more specific, I made a great sacrifice, We have a
foreign exchange student from Paraguay and ALL of my reference material
is stored for the year along with most of my test gear.

KI5GY Sparky

5092. Re: WWVB reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: wayne@rbdc.rbdc.com
Message-ID: <wayne.1017.005D0158@rbdc.rbdc.com>
Source record: 109753
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <47kcpq$6me@cello.gina.calstate.edu> wmoyes@cello.gina.calstate.edu (William A Moyes) writes:
>From: wmoyes@cello.gina.calstate.edu (William A Moyes)
>Subject: WWVB reciever?
>Date: 5 Nov 1995 23:17:14 -0800

> Does anyone have a schematic of a WWVB reciever? I want to use
>it to sync several computers/microcontrollers for some experments
>(basically a frequency refrence). Something that can also decode the
>current time would be an added bonus. Thanks.

> -William Moyes
> wmoyes@cello.gina.calstate.edu

William, since you're on the net, you might want to check out the SNTP (Simple Network Time Protocol) system on the Internet. The Windows Client I'm using is WinSNTP. I can't recall which FTP site I got it from, sorry. I'm following this post with a FAQ file about SNTP, with an appendix on radio time transmissions.

+-----------------+-------------------+------------------------------+
Wayne Farmer	Kernersville,	wayne @ rbdc.rbdc.com
	North Carolina	72377.134 @ compuserve.com
"a thing of beauty	WayneOHere @ aol.com
is a joy forever" - Keats	
+-----------------------------------+------------------------------+

"We have arrived at the megabyte millenium, using our sophisticated worldwide communications system to talk dirty to strangers."
- Ellen Goodman, The Boston Globe

5093. Re: VLF Voltage Probe?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDHoMJI.AA2@netcom.com>
Source record: 109754

in <47lbe4$h87@ultrix.FOUR.net>, Jon Jesse wrote:
: Hello,
: I wanted to try some VLF DXing this winter and while thumbing through
: some old mags, I saw an aticle for a "voltage probe".. It concentrated
: on imped. matching rather than high gain. Trouble is, no diagram or
: parts list. Does anyone have a diagram for a VLF voltage probe?

Get a hold of Radio-Electronics magazine for 1983. Ralph Burhans
did a series of articles on VLF antennas. One of them was a
FET input active antenna, and that or one of the other articles
covered the impeadance matching and all that good stuff.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

5094. Linear Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-06 00:00:00 UTC
From: singhr@cuug.ab.ca
Message-ID: <DHM2Lq.H8H@cuug.ab.ca>
Source record: 109755

Has anyone had any experience building the solid state linear amplifier as in May 1993 issue of 73 magazine. It was a 200 watt 40 mtr - 220 mhz solid state job. There may be other similar ones out there that you may be aware of. My primary interest is for HF mobile use.

If you have some info please email me at singhr@cuug.ab.ca

Thanks
Raj Singh
VE6RAJ

5095. What's circulator good for? was Re: How does "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: jdc3538@osfmail.isc.rit.edu
Message-ID: <47m7td$t8b@news.isc.rit.edu>
Source record: 109756
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

>Douglas Braun (douglasbraun@hol.gr) wrote:
>: There is a nifty RF device called a "circulator". It has three terminals.
>: RF energy fed into terminal A comes out terminal B, energy fed into terminal
>: B comes out terminal C, and energy fed into terminal C comes out terminal A.

OK, but what are they used for?

73..Jim

5096. Ramsey FX440

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: mlapolt@netaxis.com
Message-ID: <47mnju$8qd@henry.netaxis.com>
Source record: 109757

Has anyone out there received satisfactory results with the Ramsey FX440 transceiver kit? I built one, but once completed, I noticed a plethora of ploblems. For instance, the microphone amp not working, the VCO being VERY susceptable to 'mechanical' noise (i.e. touching the board with an insulated tweaker), no power out, and lousy sensitivity. I thought I did a pretty decent job assembing this thing, but either I'm WAY off in my assembly techniques, or the kit's not what it's cracked up to be. I'm going to start troubleshooting the rig this week (I hope), and will keep any interested parties up to date.

mlapolt@netaxis.com
Mark LaPolt N1UNE

5097. Re: How does a "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov7.134831.27479@ke4zv.atl.ga.us>
Source record: 109758
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <47m3u1$nfv@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist) writes:
>In article <1995Nov3.194133.8121@ke4zv.atl.ga.us>,
>Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>>In article <47dl8p$7ni@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist) writes:
>>>
>>>To make a passive circulator, you need a non-reciprocal circuit element.
>>>Coils, transformers, resistors, capacitors, etc. are reciprocal. Some
>>
>>How about a lumped element version of a coaxial ratrace? That
>>has properties similar to a circulator without the need for the
>>ferrite material. I'd expect the achievable isolation would be
>>insufficient for this application, however.
>>
>>Gary
>
>Here we have a common misconception. A rat-race hybrid, or for that
>matter any kind of hybrid, power divider, or directional coupler, whether
>lumped or distributed, coaxial or waveguide, is a reciprocal network. By
>definition, reciprocal networks have no isolation. What does
>"reciprocal" mean? It means that the insertion loss for a source connected
>to port A driving a load at port B is the same as the insertion lost for
>the same source connected to port B driving the same load now connected
>to port A. (This is true for all commonly used definitions of insertion loss,
>such as Z12, Y12, S12, transducer gain, what have you.) For networks with
>more than two ports, it is true for any pair of ports, assuming the
>terminations of the other ports don't change when the source and load
>are swapped. In a 3 port circulator, a source at port A ideally puts
>all its power into a load at B and none into C. Moving the source to
>port B puts all the power into port C and none into A. This is non-
>reciprocal behavior.

I knew I'd get a response like this just as soon as I posted. What
I meant is that for the application he has in mind, a lumped ratrace may
give him the virtual TR switch he's looking for. I understand the ratrace
isn't one way like a circulator. Sorry if what I wrote above gives that
impression (and I can see how it might). That's not what I was trying
to say. A ratrace can offer adjacent port isolation due to the relative
phasing around the loop. And if I read what he's trying to do correctly,
that's what he really needs, not the non-reciprocal action of a circulator.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary

Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5098. Re: 40m vertical - How to make?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <47o3la$tiu@info4.rus.uni-stuttgart.de>
Source record: 109759

Gary,

see in rec.radio.amateur.antenna for an answer!

73, Moritz DL5UH

5099. Transverter 28 MHz to 144 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: Ulf.Lange@tripnet.se
Message-ID: <47o6t7$6go@minox.tripnet.se>
Source record: 109760

Is there any European or US company, respectively, manufacturing or selling
a reasonably priced 28 MHz to 144 MHz transverter kit?

Please, reply via e-mail to Ulf.Lange@space.se

73's de SM6FYQ Ulf

5100. Spec Analyzer + Noise Gen = Tracking Generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: john.ackermann@daytonOH.ncr.com
Message-ID: <john.ackermann.407.000B9A96@daytonOH.ncr.com>
Source record: 109761

Sorry if this is a bit long, but in addition to posing a question this might be useful info for other folks.

If you can't have a network analyzer for tuning cavities, the next best thing is a spectrum analyzer with a tracking generator. Of course, such things aren't cheap.

I'd always wondered if a noise generator could serve as a signal source for cavity tuning. If its output is relatively flat over the narrow range you typically look at, you should be able to see the bandpass characteristic very nicely.

Well, at Hamvention last year, I got an answer. The Advantage Instruments people were selling their spectrum analyzer with a tracking generator option for only $100 extra. I asked them about it and discovered it was, in fact, a noise generator! The gen is supposedly flat to 1500 MHz.

They were willing to sell the noise generator module separately, so I ordered one. And, I finally got my Tek 491 analyzer back from the shop and was able to play with the combination a little bit last evening. With the video filter in line to smooth out the noise, and with a slow sweep speed, it did work!!!

Well, pretty much, anyway. I was able to look at some helical resonators and see a very nice passband, and do a good job tuning them. On the other hand, attempts to look at notch-type devices (a couple of notch only duplexers) didn't work at all. I could get all sorts of bumps on the screen, but couldn't see anything that looked like a notch.

Also, I noticed that the analyzer showed some dips -- including one very large one near the left edge of the display -- that didn't move with tuning. I don't know if these were image responses or some other spurious signal. I suppose that the mixing products from a broadband noise source could be interesting!

Anyway, I wonder if anyone else has experience with this sort of lash up, and any advice on how to make it work better -- particularly how to look at notches. My first guess is that using 50 ohm pads on both the output of the generator and the input to the analyzer might make a big difference by ensuring that the cavity is seeing the right impedance.

73,
John AG9V
john.ackermann@daytonOH.attgis.com

5101. Converting pass cavity to notch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: john.ackermann@daytonOH.ncr.com
Message-ID: <john.ackermann.408.000BA851@daytonOH.ncr.com>
Source record: 109762

Does anything need to be done to an ordinary pass-band cavity to use it as a notch cavity? It seems "obvious" that a tee connector on one of the connectors would do it, but is it that simple? Does the other coupling loop need to be terminated -- if so, into 50 ohms, or a short? Any magic length for the cable between the signal source/sink and the tee connector?

Thanks and 73,

John AG9V
john.ackermann@daytonOH.attgis.com

5102. Re: Converting pass cavity to notch

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: Dave Hockaday <wb4iuy@nando.net>
Message-ID: <47ofku$mpa@castle.nando.net>
Source record: 109763

john.ackermann@daytonOH.ncr.com (John Ackermann) wrote:
>Does anything need to be done to an ordinary pass-band cavity to use it as a
>notch cavity? It seems "obvious" that a tee connector on one of the
>connectors would do it, but is it that simple? Does the other coupling loop
>need to be terminated -- if so, into 50 ohms, or a short? Any magic length
>for the cable between the signal source/sink and the tee connector?
>Thanks and 73,
>John AG9V
>john.ackermann@daytonOH.attgis.com

Hi John! I've had very good luck by removing one coupling loop and plugging the hole with a metal disk. Change the remaining loop to approx. 1/10th wavelength, and tune for notch. Position the loop so that the "cold" end is towards the 1/4 wavelength center stub.

Hopw that helps.
73 de Dave WB4IUY

5103. Re: Spec Analyzer + Noise Gen = Tracking Generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: Dave Hockaday <wb4iuy@nando.net>
Message-ID: <47ofrd$n6f@castle.nando.net>
Source record: 109764

>Anyway, I wonder if anyone else has experience with this sort of lash up, and
>any advice on how to make it work better -- particularly how to look at
>notches. My first guess is that using 50 ohm pads on both the output of the
>generator and the input to the analyzer might make a big difference by
>ensuring that the cavity is seeing the right impedance.
>
>73,
>John AG9V
>john.ackermann@daytonOH.attgis.com
>

that is exactly what I was about to say! I've had similar problems with notch cavities and found that 50 ohm pads will do the trick.

I build a lot of my own cavities, including bandpass cans. I prefer notch cavities, hands down, if my stuff is gonna be at a fairly clean site.

73 de Dave WB4IUY

5104. Re: What's circulator good for? was Re: How do

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1995Nov7.202414.29781@schbbs.mot.com>
Source record: 109765

>>Douglas Braun (douglasbraun@hol.gr) wrote:
>>: There is a nifty RF device called a "circulator". It has three terminals.
>>: RF energy fed into terminal A comes out terminal B, energy fed into terminal
>>: B comes out terminal C, and energy fed into terminal C comes out terminal A.

>OK, but what are they used for?

>73..Jim

I have seen them used in fragile 900 MHz (cellular base station) power amplifiers. The power amplifier output goes into port "A" and comes out port "B" which is connected to the load (basically, the antenna). In the case of mismatch, power reflected from the antenna is reflected back into port "B", which then appears at port "C", which is a 50 ohm dummy load.

End result? Said fragile amplifer transistors are protected from SWR problems.

- Dan Tayloe, WB0NVB

5105. Re: What's circulator good for? was Re: How does

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: Rik Slingerland <rik@iaehv.nl>
Message-ID: <47ojsl$eo@iaehv.IAEhv.nl>
Source record: 109766
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Another extra (although not too interesting): it limits the amount of RF reflected to the amplifier, thus limits the SWR. Useful for high power units.

PE1BIZ

5106. Re: Crystal CW Rig - Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: ejacksch@bnr.ca
Message-ID: <47ohdu$mlt@bcrkh13.bnr.ca>
Source record: 109767
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Frank G3YCC (yorks@frank) wrote:
: Did you really mean 8m?

Oops...nope...I meant 80m.

Thanks,
Eric.

5107. UHF transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: PsyTech@massey.ac.nz
Message-ID: <47onjb$l7j@cc-server9.massey.ac.nz>
Source record: 109768

Hi,

I have been experimenting with low power UHF/microwave oscillators and amplifiers and now want to increase the power level that I am using. Most of these experiments were with wideband, low power devices (BFR96S, BFG34 etc) which are inexpensive and easily obtained. What I would like are some suggestions for medium power (1-5W) UHF transistors that are cheap (I will probably blow up several of them!) and readily available. I was wondering what cell-phones use for the final stage - presumably cellphone transistors are relativly cheap and common (unless of course they use a hybrid module for the PA). Any suggestions ?

Malcolm

5108. Re: ATV Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-07 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <47o7sq$806@cnn.exu.ericsson.se>
Source record: 109769

On 6 Nov 1995 15:51:54 GMT, Roger White <rwhite@mw66> wrote:

>Any newsgroups on ATV Operation (especially UHF/Microwave operation)?

Not that I've been able to find, Roger. Sure wish there was though.

-Mike KD6PKJ

5109. HBR Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.226.000B0CA6@TRL.OZ.AU>
Source record: 109770

Look up; QST for October '59, P11-18; "The HBR Communications Receiver" by Ted Crosby, W6TC. also

QST for June' '61, P18-21 "The HBR-16 with Eddystone Dial" by Alex Stewart (with Ted Crosby). also

QST for October '65, P11-18 "HBR Developments" by Ted Crosby.

73 Drew, VK3XU.

5110. Re: What's circulator good for? was Re: How does "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <47p0g9$4jr@news.azstarnet.com>
Source record: 109771
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

jdc3538@osfmail.isc.rit.edu (CRONIN) wrote:
>>Douglas Braun (douglasbraun@hol.gr) wrote:
>>: There is a nifty RF device called a "circulator". It has three terminals.
>>: RF energy fed into terminal A comes out terminal B, energy fed into terminal
>>: B comes out terminal C, and energy fed into terminal C comes out terminal A.
>
>OK, but what are they used for?
>
>73..Jim

Jim:

There are several applications. Among them:

1) Most radars use one as a pseudo antenna changeover relay. The transmitter output drives port 'A' and appears at the antenna connected to 'B'. During the transmitter pulse, some energy still appears at port 'C' due to imperfect isolation and antenna SWR. This is usually additionally attenuated by some type of limiter. Today, these usually use self-biased PIN diodes. During receive, signals from the antenna circulate to port 'C' which is connected to the receiver input. In the case of poorly balanced mixers (not common these days) LO leakage, which might "give away" information to potential jammers can be surpressed by another circulator used as an isolator (see next item.)

2) A circulator with port 'C' terminated will act as an isolator. If a signal source drives port 'A' and a mismatched load connects to 'B', any reflected energy from the load will circulate to port 'C' and be dissipated. Therefore, the signal source sees a "perfect" load, regardless of the actual reflection coefficient of the load. Isolators are often used to protect delicate amplifiers from the effects of things like arcing waveguides or the pilot of a fighter plane turning on his fire-control radar while still in the metal hangar. These are often water-cooled!

3) A circulator with an adjustable short on port 'B' will act as a phase shifter. A signal into port 'A' appears at 'B' where is sees a 100% reflection. The reflected signal circulates on to 'C', delayed in phase by two times the length of the short.

4) In some reflection amplifiers, a circulator is used for interstage coupling. A reflection amplifier is really an oscillator that is injection locked to a lower level input signal. The injection signal is input to 'A', circulates to 'B' where it drives the locked oscillator. The output from the oscillator circulates to port 'C' which is the output. This process can be repeated with additional higher power stages. One missile I am familar with uses three IMPATT amplifiers, each driven in this fashion.

These are some of the applications I am familar with. Hope this has
been informative.

Regards,
Wes -- N7WS

5111. Re: Q: Matching caps and inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.227.000D567D@TRL.OZ.AU>
Source record: 109772

>I am building R2 receiver, and some of the inductors and capacitors
>need to be matched within 1%. >I don'�t have an lc-bridge (all I have is a
digital multimeter!).>Are there any other ways of matching these components,
>or do I have to build an lc-bride as well?>If so, how can I make sure that
the bridge itself >is accurate enough? >Any suggestions are most welcome.
>72,999 de Kari OH6BZ

Kari, see if you can get a copy of; "Build this L-C Checker" by Jack Najork, W5FG in Ham Radio (USA) Dec. '88. Jack uses a Colpitts oscillator, to which are applied your unknown coils and capacitors. If you have access to a frequency counter (or another calibrated receiver), you should be able to match components to well within 1%. Use this simple formula;

CpF = 25330 divided by (frequency MHz squared X LuH), and

LuH = 25330 divided by (frequency MHz squared X CpF).

73, Drew, VK3XU.

5112. WTB: Directional Coupler (QST article)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: fanfant@ix.netcom.com
Message-ID: <47pess$1n5@ixnews4.ix.netcom.com>
Source record: 109773

I'd like to build the automatic remote antenna tuning controller in the Sept 95 QST. This project requires a directional coupler, part number CU-987... Anyone out there have any ideas as to how I can get my hands on this part???

-rob WB7TDU

Email: fanfant@ix.netcom.com

5113. Re: What's circulator good for? was Re: How

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: burke_br@adcae1.comm.mot.com
Message-ID: <47q8qa$gvk@brokaw.comm.mot.com>
Source record: 109774

In article 29781@schbbs.mot.com, tayloe_d@sat.mot.com (Dan Tayloe) writes:
}>>Douglas Braun (douglasbraun@hol.gr) wrote:
}>>: There is a nifty RF device called a "circulator". It has three terminals.
}>>: RF energy fed into terminal A comes out terminal B, energy fed into terminal
}>>: B comes out terminal C, and energy fed into terminal C comes out terminal A.
}
}>OK, but what are they used for?
}
}>73..Jim
}
}I have seen them used in fragile 900 MHz (cellular base station) power
}amplifiers. The power amplifier output goes into port "A" and comes out
}port "B" which is connected to the load (basically, the antenna). In the
}case of mismatch, power reflected from the antenna is reflected back into
}port "B", which then appears at port "C", which is a 50 ohm dummy load.
}
}End result? Said fragile amplifer transistors are protected from SWR problems.
}
}- Dan Tayloe, WB0NVB

The other important usage is to prevent unwanted radiation from getting back into TX PA, mix with its signal which will then re-radiate all kinds of unwanted goodies!

73,
Bruce, WB4YUC, el YUCCO. . .

5114. RF JFET/BJT Spice models

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <47qkqs$j7h@tempo.univ-lyon1.fr>
Source record: 109775

Hello !++After the successful (spelling ?) compilation of Spice 3f4 on my Atari Falcon (running Linux - just in case), I am obviously looking for Spice models of RF devices, mostly JFET like 2N4416 or J310 and power BJT (I have no reference in mind).
Does anybody know where I could find those (precious) documents ?

THX ES 73 DE F5RCS :-)

Vince.

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

5115. J-Comm TC-K question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: fedpress@omnifest.uwm.edu
Message-ID: <47qpap$64@omnifest.uwm.edu>
Source record: 109776

I would like to connect my Kenwood TS-940SAT to my PC. If I get J-Comm's TC-K, is that ALL that I'd need? Or would I ALSO need something else, like Kenwood's IF-10B and/or IF-232C?

TNX ES 73,

Rick WB9GYT

5116. DeOxit or ProGold?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: wdr@world.std.com
Message-ID: <DHqvz7.2pJ@world.std.com>
Source record: 109777

The brochures on DeOxit and ProGold, from CAIG labs,
sound good. (They sent 'em after I'd seen their ads in QST etc
and requested 'em.)
What experiences have you all had?

A cleaner that will take corrosion off of batter terminals
would be great; the number of toys, radios, flash-lights
with blue-green battery contacts is embarrassing. It sounds
like that's one of the uses for DeOxit. It makes sense to me
that there should be some solvent that dissolves CuOx and
similar corrosion product; I'd been wondering what to
buy. Is this it?

But what about the claims for ProGold? It says it re-bonds
the plated surface if any to the original metal and prevents
corrosion; it claims that intended signals pass through it
via quantum tunneling but that it acts as an insulator to
corrosive currents? Does that make sense? Does ProGold work,
or just gunk up your connectors?

Sign me, hopeful but skeptical in Boston,
73 de N1VUX
--
Bill Ricker, The Swamp-Castle Press "The freedom of the press belongs
wdr@world.std.com N1VUX to those who own one."--A.J.Lieberman

5117. hmmmm

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: rmw@ids.net
Message-ID: <rmw-0811951925120001@pslip249b.egr-ri.ids.net>
Source record: 109778

```
*NEW* Amateur Radio Link BBS @ 401-885-3074
Includes: FidoNet, Usenet
InterNet EMail, HAM-Net File
Distribution, & 2000 files available Online!

--
-R.M.Williams
RMW@ids.net
Check out my *NEW* Web Page
http://ids.net/~rmw/news.html
```
NEW Amateur Radio Link BBS @ 401-885-3074
Includes: FidoNet, Usenet
InterNet EMail, HAM-Net File
Distribution, & 2000 files available Online!

5118. Re: QST Nov '95: A Small High-Performance CW Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <47rffn$vaa@mgate.arrl.org>
Source record: 109779

fifield@lan.nsc.com (David Fifield) wrote:
>In the November 1995 edition of QST there is a nice design for a 20m QRP rig
>using the miniR2.
>
>In the VFO/TX schematic on pages 42/43 I have noticed a few things:
>
>1) I don't see how the CW offset transistor can be an NPN device with its
>emitter connected to +12V. I reckon they have transposed the emitter and
>collector terminals. Anyone care to comment?
>

I think it should be a 2N3906 PNP instead of the 2N3904 (how I would
have done it). You could also use the 2N3904 if you reversed
the emitter and collector.

>2) The VFO inductor L1 has a tap, but there doesn't appear to be any
>information on the number of turns up the tap should be. Anyone know what it
>should be?

Typically, tapping 1/3 the way up usually works. (8 turns) Tap up
higher if you need more feedback--closer to the ground for less.

>
>3) The quadrature generation circuit consisting of L2A/B and associated
>components gives us no information as to the phasing of the inductor windings.

I'd put the phasing dots next to either of the 100 pF capacitors--but
not both!--Zack KH6CP/1

5119. Re: QST Nov '95: A Small High-Performance CW Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <47rfge$vaa@mgate.arrl.org>
Source record: 109780

fifield@lan.nsc.com (David Fifield) wrote:
>In the November 1995 edition of QST there is a nice design for a 20m QRP rig
>using the miniR2.
>
>In the VFO/TX schematic on pages 42/43 I have noticed a few things:
>
>1) I don't see how the CW offset transistor can be an NPN device with its
>emitter connected to +12V. I reckon they have transposed the emitter and
>collector terminals. Anyone care to comment?
>

I think it should be a 2N3906 PNP instead of the 2N3904 (how I would
have done it). You could also use the 2N3904 if you reversed
the emitter and collector.

>2) The VFO inductor L1 has a tap, but there doesn't appear to be any
>information on the number of turns up the tap should be. Anyone know what it
>should be?

Typically, tapping 1/3 the way up usually works. (8 turns) Tap up
higher if you need more feedback--closer to the ground for less.

>
>3) The quadrature generation circuit consisting of L2A/B and associated
>components gives us no information as to the phasing of the inductor windings.

I'd put the phasing dots next to either of the 100 pF capacitors--but
not both!--Zack KH6CP/1

5120. Re: QST Nov '95: A Small High-Performance CW Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <47rfk1$vaa@mgate.arrl.org>
Source record: 109781

fifield@lan.nsc.com (David Fifield) wrote:
>In the November 1995 edition of QST there is a nice design for a 20m QRP rig
>using the miniR2.
>
>In the VFO/TX schematic on pages 42/43 I have noticed a few things:
>
>1) I don't see how the CW offset transistor can be an NPN device with its
>emitter connected to +12V. I reckon they have transposed the emitter and
>collector terminals. Anyone care to comment?
>

I think it should be a 2N3906 PNP instead of the 2N3904 (how I would
have done it). You could also use the 2N3904 if you reversed
the emitter and collector.

>2) The VFO inductor L1 has a tap, but there doesn't appear to be any
>information on the number of turns up the tap should be. Anyone know what it
>should be?

Typically, tapping 1/3 the way up usually works. (8 turns) Tap up
higher if you need more feedback--closer to the ground for less.

>
>3) The quadrature generation circuit consisting of L2A/B and associated
>components gives us no information as to the phasing of the inductor windings.

I'd put the phasing dots next to either of the 100 pF capacitors--but
not both!--Zack KH6CP/1

5121. Radio Shack FM antenna mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: rsellers@misha.net
Message-ID: <47pat1$jq2@delta.misha.net>
Source record: 109782

Could someone give me any specs on how to modify a Radio Shack Hi gain FM (yagi type) antenna to work on 2 meters. I'm looking for info on what lengths to cut the elements to. I heard this could be done and good for use on fox-hunts.
Please reply he or e-mail me at rsellers@misha.net.
Thanks,
Roger
KB9LBU

5122. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: Ken Florence <kenf@enter.net>
Message-ID: <30A19AC1.706A@enter.net>
Source record: 109783
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I would like to build an antenna tuner for 2 meters and 220.
Something that works on both, or plans for a unit to wrk one or
the other wud be great. Can anyone point me to a book or
magazine article on the above? Only needs to handle 100 watts or
so. Thanks.
--
Ken Florence KA3PLS
kenf@enter.net

5123. Re: What's circulator good for? was Re: How do

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: john.ackermann@daytonOH.ncr.com
Message-ID: <john.ackermann.410.000E2AD4@daytonOH.ncr.com>
Source record: 109784

In article <1995Nov7.202414.29781@schbbs.mot.com> tayloe_d@sat.mot.com (Dan Tayloe) writes:

>>>Douglas Braun (douglasbraun@hol.gr) wrote about circulators:

>>OK, but what are they used for?

>I have seen them used in fragile 900 MHz (cellular base station) power
>amplifiers. The power amplifier output goes into port "A" and comes out
>port "B" which is connected to the load (basically, the antenna). In the
>case of mismatch, power reflected from the antenna is reflected back into
>port "B", which then appears at port "C", which is a 50 ohm dummy load.

>End result? Said fragile amplifer transistors are protected from SWR problems.

>- Dan Tayloe, WB0NVB

A similar use is made in the Motorola UHF Micor radios. The finals there were early solid-state UHF devices that were more than a bit fragile, and to protect them from VSWR Motorola built a circulator into the antenna switch. Neat design -- the antenna relay switched the C port between the receiver and a dummy load.

73,
John AG9V
john.ackermann@daytonOH.attgis.com

5124. ? PLL VCO TECHNOLOGY ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-08 00:00:00 UTC
From: tom.alldread@minfox.com
Message-ID: <9511081820167755@minfox.com>
Source record: 109785

Greetings:

I have been reviewing the technical data on the National Semiconductor LMX1501A frequency synthesizer chip. Does anyone know of companion VCO chips? The documentation suggests that muRata and M/A Com manufacture a line of VCOs compatible to the LMX1501A. I wonder what VFO frequency ranges are available and if there are any that operate in the 10-100 MHz frequency range?

The literature suggests single chip VCOs are available in a surface mount package that operate in the 800 MHz range. The only external components are for the loop low pass filter. The oscillator gain block, resonant components and varicap diodes all appear to be contained within the chip. A VCO is shown on one block diagram that is designated EX934. I wonder who manufactures this chip and what frequency range it covers? Apparently it is not a National number.

Thanks in advance for any information that sheds light on the current VCO technology.

---
* QMPro 1.53 * Very Best Regards, tom.alldread@minfox.com

5125. Re: NEED CASH?!!...Don't You?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: rogerh@cris.com
Message-ID: <rogerh.503.003A503A@cris.com>
Source record: 109786
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.rad

>Give me a break!! The sad thing is that there are people out there that will
>actually do what you say and you will make money. Please don't post this crap
>here again. Scum like you will get it in the end...I believe you are what we
>all call a scam artist!!

>NO ONE FOLLOW THIS GUYS ADVICE!! SCAM ALERT ALERT ALERT!!!!

Everyone send him mail...Fill his box.

5126. PRC-47 LSB Mod????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <47tbhh$nad@ixnews4.ix.netcom.com>
Source record: 109787
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I read somewhere that a mod for adding LSB to the PRC-47's USB transmit/receive exists. Anyone know anything about this? The name of the company that supplies the kit, parts, schematic, whatever?

Thanks!!

John
KE6TGN

Only a Tech, but working on the General . . .

5127. INTERESTING NEW WWW PAGE

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: donb@Direct.CA
Message-ID: <47s8m9$3ul@grid.direct.ca>
Source record: 109788
Cross-posted to:
rec.radio.amateur.homebrew,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.swap

Hello to all who read this message.

I am letting you all know about a new WWW page which is Ham Radio,
scanner &
satellite T.V. related.

The page is at "http://www.burnabyradio.com/ham/brc.html"

We are: Burnaby Radio Communications Ltd.
4257 E. Hastings Street
Burnaby, B.C. Canada
V5C 2J5
Phone: (604)298-5444
Fax: (604)298-5455
BBS: (604)298-3283

WWW: http://www.burnabyradio.com/ham/brc.html

Please visit us!!!

Thanks.

Don Boekenkruger
donb@burnabyradio.com

5128. RE: Ramsey FX440

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: wowee@msn.com
Message-ID: <00001fee+00000d10@msn.com>
Source record: 109789

Try giving Ramsey Tech support a buzz, they will be happy to help you with your problems. The tech team there is very helpfull. Also I know of many HAMS who are very happy with the FX series of transceiver kits. (Some even use them for 9600 baud packet with no problems!).

The phone number is 1(716)924-4560 and have a good description of the problem.

Mark Wyman
WOWEE@MSN.COM

5129. RE: basic pirate radio help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: wowee@msn.com
Message-ID: <00001fee+00000d11@msn.com>
Source record: 109790

Give the newsgroup ALT.RADIO.PIRATE or ALT.RADIO.MCC a try (I'm not sure which is what) but there is lots of good info on low power FM trasmitters there. Also Ramsey Electronics carries two FM Stereo kits, one synthesized, and one is not. Give them a buzz at 1-800-HOBBY KI(TS).

Mark Wyman
WOWEE@MSN.COM

5130. Re: What's circulator good for? was Re: How does "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: fridberg@dragon.pfc.mit.edu
Message-ID: <9NOV95.15150724@dragon.pfc.mit.edu>
Source record: 109791
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In a previous article, THOMAS STICHELBOUT <stichelt@esiee.fr> wrote:
->when energy coming from a goes to b through a circulator,
->in a 3 way terminal, it won't go on the way c, which will be isolated.
->It used for receiver : Imagine an antenna which is plugged on way a, a
->receiver
->on way b , and ground on way C. You don't want your receiver to emit anything
->on
->the antenna. Therefor you use a circulator : All the energy coming back from
->the receiver will go to the ground and not on the antenna, which is "isolated
->from the receiver" Is that clear enough ?
->If you want to know some more about the subject, try to read books dealing
->with
->hyperfrequencies techniques...
->
Eh.., hm... well, this example is ok, but it's not very often when you worry
about reciever emmitting anything back to antenna. Besides, you can't really
get rid of RF by grounding it. You'd need to put load there. The lot more
common application is when you have tranmsitter and reciever using same antenna
and you want to make sure that transmitted signal going into antenna only,
and recieved signal from antenna going to reciever only. So, you connect
transmitter to port a, antenna to port b, and reciever to port c, you'll
get signal from transmitter (port a) going to port b (antenna) and nowhere
else, and recieved signal from antenna (port b) going to reciever (port c)
and nowhere else. Another application would be when you want to protect
transmitter from load mismatch and isoltare reflected signal from forward one.
Actually, in all of these examples you can use hybrid as well...

Mike.

5131. Re: DeOxit or ProGold?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <47t96b$btq@unisql.unisql.com>
Source record: 109792

If you believe CAIG's claims, I can find a distributor for "Co-ax Grease,"
that miracle substance of the 1970s that kept SWRs from clinging
to your feedline.

I'm no longer a QST subscriber (not because of the quality of the mag
or the ARRL, I should mention) so I haven't seen the ads -- QST does
have a policy of not accepting misleading or deceptive ads and I'm really
surprised they took this ad.

I know it's hard to check out every product and every ad in a magazine.
How about one of the ARRL people who's a frequenter of this newsgroup
following up on CAIG's claims of "quantum tunneling" and preventing
"corrosive currents"?

Since it's not April, I know you're looking at a paid ad.

Jim N6OTQ

5132. NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: ao779@torfree.net
Message-ID: <DHs5Jq.5A5.0.queen@torfree.net>
Source record: 109793

Where have all the NE602's gone. I have checked stock with most of the major NA suppliers and all of them have had this device on back order for many months.

Does anyone have a Philips source to find out the reason for the delays?

Or is the NE602 going the way of the 40673 ?

73 de Brian VE3EX
ao779@freenet.toronto.on.ca

5133. Re: ATV Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: Jim Stafford-W4QO <w4qo@america.net>
Message-ID: <Pine.SV4.3.91.951109135056.24794A-100000@atl1>
Source record: 109794

There is lots of stuff on ATV on internet. Not in newsgroup form, but on
web pages. Here are a couple.

In Atlanta, ATV is active and on

http://www.mindsrping.com/~rwf.aatn1.html

and the California ATV gang has lots of connections to other ATV sites at

http://www.ladas.com/ATN

This should lead to lots of microwave stuff as well.

73/72/jim/w4qo

On Tue, 7 Nov 1995, Mike Groves wrote:

> On 6 Nov 1995 15:51:54 GMT, Roger White <rwhite@mw66> wrote:
>
> >Any newsgroups on ATV Operation (especially UHF/Microwave operation)?
>
> Not that I've been able to find, Roger. Sure wish there was though.
>
> -Mike KD6PKJ
>
>
>

5134. Re: (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: Al Bolton <Al@boltons.demon.co.uk>
Message-ID: <815943126snz@boltons.demon.co.uk>
Source record: 109795
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <30A19AC1.706A@enter.net> kenf@enter.net "Ken Florence" writes:
> I would like to build an antenna tuner for 2 meters and 220.
> Something that works on both, or plans for a unit to wrk one or
> the other wud be great. Can anyone point me to a book or
> magazine article on the above? Only needs to handle 100 watts or
> so. Thanks.
> Ken Florence KA3PLS
> kenf@enter.net

Ken,

Why on earth do you need an antenna tuner for 2 and 1.5 m??? All antenna tuners introduce SOME losses and on VHF frequencies you want to minimise these..... There have been tuner designs but If I were you I would try to correctly set up my antenna system in the first place and not rely on a tuner to "fudge" the system to resonance.

Cheers,

Al Bolton.
OK8VSQ/OM/G4VSQ.
Caversham, UK.
G-QRP 8741.

5135. Re: homebrew six meter transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: George.Gingell@bbs.abs.net
Message-ID: <1995Nov09.152538.1694@abs.net>
Source record: 109796

ug2075@sees.bangor.ac.uk ((Mr) N Brodt-Savage) writes:

> Bill DuBroff (wdubrof@eng.clemson.edu) wrote:
> : In article <46rfqg$pqc@ixnews3.ix.netcom.com>, mdman@ix.netcom.com
> : says...
>
> : Does any one know of any kits to build low power six meter CW
> : transmitters? I am specifically looking to build a beacon.
>
>
> : Believe Ten-Tec sells this type of kit.
>
> : wd
> : KF4ECX
>
> any european (preferably British) sources for 6 mtr kits ?
>
> Nigel Brodt-Savage

> n.brodt-savage@sees.bangor.ac.uk > GW7USO
YOU MIGHT WANT TO CHECK OUT KANGA KITS
THEY ARE ON INET AT Kanga@brutus.bright.net
Bill Kelsey, N8ET in Findlay Ohio (419)423-5643 7-11 pm EST.
In UK it is KANGA Dick Pascoe, G0BPS
seaview house
crete road east
Folkestone, Kent CT18 7EG
ENGLAND
Sorry, I don't have Dicks phone or email info handy.
He is also associated/well known member of G-QRP Club. They
have a QRP-List over there also. Sorry that info not handy now either.
G3RJV at Blacksheep ETC can help.
QRP DX TU (C)1986 Danny Gingell,K3TKS@bbs.abs.net

>

5136. Re: What's circulator good for? was Re: How does "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: joeld@sr.hp.com
Message-ID: <47tr6h$p8k@canyon.sr.hp.com>
Source record: 109797
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

On circulators: These are non-reciprocal devices that work by the fact that the magnetic field propogation is different in different directions. You might think of it has having one phase shift (say 15 degrees) propogating from right to left, but a different phase shift (say 75 degrees) propogating from left to right. The circulator takes advantage of this to cancel signals in one direction, (say port 1 to port 3) but add them in another (port 1 to port 2). A hybrid does the same thing, in a way, but depends upon the match at each port to maintain balance. Hybrids that I've seen cost at least 3 dB of power because of the matching requirement. Circulators can be perfectly matched on all three ports, and are still (nearly) lossless.

I have often seen circulators used as isolators (port 3 goes to a load) in order to protect transmitters. The output stage goes into port 1 of the circulator, port 2 goes to the antenna (which is usually matched to have a small reflection signal) and port 3 goes to a load. If an ice storm knocks off the antenna, the circulator routes the large reflected signal to the load on port 3.

For a very academic (mathematical) view, you might consult "Foundations for Microwave Engineering" By R.E. Collin. A different, though not less mathematical treatment can be found in "Microwave Engineering" by David Pozar. I think this is one of the best texts for engineers, as the derivations are complete, without the usual "skipping steps that are obvious (NOT)".

Joel D.

P.S. I saw an article in RF Design Magazine, maybe 2-3 years ago, by a sharp guy at (I hope I get this right) Comlinear, with an active circulator working up to the tens to low hundreds of MHz. All this if from my swiss cheese memory.

5137. Re: ? PLL VCO TECHNOLOGY ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <47tr4a$rg9@abyss.West.Sun.COM>
Source record: 109798

In article <9511081820167755@minfox.com>,
Tom Alldread <tom.alldread@minfox.com> wrote:
>
>Greetings:
>
> I have been reviewing the technical data on the National
>Semiconductor LMX1501A frequency synthesizer chip. Does anyone know of
>companion VCO chips? The documentation suggests that muRata
>and M/A Com manufacture a line of VCOs compatible to the LMX1501A. I
>wonder what VFO frequency ranges are available and if there are any that
>operate in the 10-100 MHz frequency range?
>
> The literature suggests single chip VCOs are available in a
>surface mount package that operate in the 800 MHz range. The only
>external components are for the loop low pass filter. The oscillator
>gain block, resonant components and varicap diodes all appear to be
>contained within the chip. A VCO is shown on one block diagram that is
>designated EX934. I wonder who manufactures this chip and what frequency
>range it covers? Apparently it is not a National number.

I'll bet these VCOs aren't single chips; they're almost certainly
hybrid modules, often about the same size as a 14 pin DIP. Admittedly
a minor point, but it could cause confusion when you're asking
a vendor about their VCO chips ;-).

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

5138. Mods for Icom IC-736

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: yingst@knighted.com
Message-ID: <47u3jh$les@crier.knighted.com>
Source record: 109799

Does anyone have any mods for the ICOM IC-736? I'm looking for a way to
turn the pre-amp back on below 1.6 Mhz.
Icom turns it off even though it the light says it's on.
I would like to listen for some lowfer stations 1750 meter band
(160-190 kc. 1 watt into a 50 ft antenna). I'm also looking for a way to
improve the recieve audio.
The recieve audio sounds flat and distant, lacking highs & lows.
With the notch filter ON the audio sounds a little better,
but it still could use some improvement.
They re-shape the audio through the notch filter,
and it actually has a nicer sound with the notch filter on
(Has more highs & lows).
I had a IC-737 that had the same problem with the audio,
just not sounding quite right. I am also interested in any other mods
for the Icom IC-736. Please send any replies to yingst@knighted.com Note:
If you post a reply into this newsgroup I proably wont get it,
my internet provider only holds news for 1 day. Thank You. Harry
N6VUJ

5139. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <47u0v8$nfp@newshost.lanl.gov>
Source record: 109800

I just wasted an hour calling my usual sources (Jameco,
Digi-Key, etc) as well as multiple searches through the
National Semiconductor web site and could find no evidence they
ever knew it existed. I have several that I stocked up with
several years ago for "future receiver projects"... if they
truly have been orphaned I guess I'd just as well sell them to
you cheep. Let me look thru the parts stock to see how many I
have (trouble is I have several receivers that use this IC,
such as several Ramsey aircraft band receivers and a 220 MHZ
Ramsey receiver).

--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5140. Xtal source(s)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: Franklin Aldrich <aldrichf@essex.UCHSC.edu>
Message-ID: <Pine.ULT.3.91.951026003937.4321C-100000@essex.UCHSC.edu>
Source record: 109801

Where, or from whom, can I buy custom-frequency crystals?
Tnx es 73--

Frank Aldrich, WS0W
Boulder CO

5141. Re: WTB: directional coupler (QST article)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <47t8d4$flu@mgate.arrl.org>
Source record: 109802

fanfant@ix.netcom.com (Robert Fanfant) wrote:
>
>Sept 95 issue of QST had an article on an automatic remote antenna
>tuning controller. I'd like to build it but can't find the directional
>coupler... Part number is CU-987. Can anyone tell me who carries this
>part??? Does anyone on the net have one for sale???
>
>-rob WB7TDU
>
>E-mail: fanfant@ix.netcom.com

According to the author, he bought a couple from Fair Radio
but they sold out. He said they are quite similar to the 312B4's
used in the Collin's S line.

However, the directional coupler isn't very critical. The one on
page 22.41 of the 1995 ARRL Handbook ought to work just fine.

Most surplus couplers ought to work as well, as long as they
are for the right impedance (might be some 75 ohm jobs out there)
and the right power level. You might have to reverse the diodes
if the output voltage is negative, or add 50 ohm dummy loads and
detector diodes, but this shouldn't be that challenging.

Zack KH6CP/1 zlau@arrl.org

Yes, I'm still working on that 2M high directivity
microstrip coupler for QEX but have been too busy
with more important tasks...

5142. /tmp/L88730.html

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: pandora@iglou.iglou.com
Message-ID: <DHrGy0.C0H@iglou.com>
Source record: 109803

[No readable article body recovered]

5143. tncs & hamradios

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-09 00:00:00 UTC
From: emre@mercan.cmpe.boun.EDU.TR
Message-ID: <Pine.LNX.3.91.951109163428.13029A-100000@mercan.cmpe.boun.edu.tr>
Source record: 109804

Hi,

I'm in Turkey, and here nobody can even find a kit. I don't know why
but this is so. I wish I could construct my own but I have no schematics
or other kind of information on tncs & hamradios.

..I couldn't get an abstract answer up to this time, and I don't know
where to ask.

Waiting for your help.
Thanks.

5144. Re: OSCILLATORS USING MMIC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: lrware@aol.com
Message-ID: <48078j$82@newsbf02.news.aol.com>
Source record: 109674

In: Oscillator Design & Computer Simulation by
Randall W. Rhea, Prentice Hall, ISBN 0-13-642513-5
He talks about using MMIC's in general and the MAR-3 as an example
for SAW oscillators. pg. 181.
This is a fairly high level book, but does include DOS based modeling
programs. I've used the "STAR" program included, and found it to be a
very good model of oscillator and related networks. It's not very easy to
use because it demands good input data, as S-Parameters or you have,
G.I.G.O.
A MAR-3 model is also included.
Suggest you try this only if you like working in the 100-3000MHZ range.

- Larry Ware
lrware@aol.com

5145. Re: OSCILLATORS USING MMIC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov10.231617.14087@ke4zv.atl.ga.us>
Source record: 109675

In article <lbraden-0911951800580001@hambone.botany.utexas.edu> lbraden@mail.utexas.edu (Larry Braden) writes:
>I have about four MAR-1 MMIC devices that I want to use in a few
>projects. I was thinking of using a couple of them to build an RF pre-amp
>for a receiver or my frequency counter. But it occured to me that they
>might also be quite useful in an oscillator application. Though the MAR-1
>MMIC's are "unconditionally stable" - which I take to mean it may not
>oscillate very easily, I was wondering if anyone might be using these or
>other MMIC devices as oscillators? If so, I would appreciate hearing
>about your basic approach to this.

What "unconditionally stable" means in this context is that no value of mismatch at an input or output port of the amplifier will cause it to break into self-oscillation. That's an entirely separate issue from a deliberate oscillator. Any amplifier with a gain of 1 or more can be made into an oscillator by feeding back the output to the input (through a suitable external frequency/phase selective network).

A big problem with MMICs as oscillators is their wide bandwidth. They tend to motorboat if you aren't careful, and have higher phase noise than is desirable too. MMICs are deliberately designed to be broad band, and that's an undesirable trait in an oscillator, or in a preamp where best noise figure is desired. You'd prefer the device to have less than unity gain at all frequencies other than the desired one.

MMICs are great as *buffer* amps following an oscillator, or as buffers following a good FET preamp where insensitivity to the following load impedance is an asset, or as post-mixer or post-filter amps where a broad band termination is desired, but they aren't so good as the first element of a preamp or as the active device in an oscillator.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5146. Re: WANTED INFO: How to build modems.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: Stephen John Farthing <Stephen@stevef.demon.co.uk>
Message-ID: <816035210snz@stevef.demon.co.uk>
Source record: 109676

The December 1995 issue of Electronics and Wireless World has an article
on how to make a modem. Try martin.eccles@rbp.co.uk for details of getting
a copy. In the UK its easy to find but not sure about the US.
--
Steve Farthing | stephen@stevef.demon.co.uk |
Melksham RSGB GQRP 7766 BCS Still struggling with the morse code
Wiltshire UK

5147. Re: OSCILLATORS USING MMIC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <816040022snz@lfheller.demon.co.uk>
Source record: 109677

In article <lbraden-0911951800580001@hambone.botany.utexas.edu>
lbraden@mail.utexas.edu "Larry Braden" writes:

> Hello brewers:
>
> I have about four MAR-1 MMIC devices that I want to use in a few
> projects. I was thinking of using a couple of them to build an RF pre-amp
> for a receiver or my frequency counter. But it occured to me that they
> might also be quite useful in an oscillator application. Though the MAR-1
> MMIC's are "unconditionally stable" - which I take to mean it may not
> oscillate very easily, I was wondering if anyone might be using these or
> other MMIC devices as oscillators? If so, I would appreciate hearing
> about your basic approach to this.

A few months ago Electronics and Wireless World had an article on this.
I think it was by Ian Hickman, one of their regular contributors. I
don't think it was a particularly useful oscillator, however, in terms
of stability, purity, etc.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

5148. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDHvzIz.HDr@netcom.com>
Source record: 109678

in <47u0v8$nfp@newshost.lanl.gov>, Jim Devenport wrote:
: I just wasted an hour calling my usual sources (Jameco,
: Digi-Key, etc) as well as multiple searches through the
: National Semiconductor web site and could find no evidence they
: ever knew it existed.

That's not surprising, considering that it's a Philips/Signetics
part.

A quick surf on http://www.semiconductors.philips.com/ps/
gave me:

"
DISTRIBUTORS

Contact one of our local distributors:
Allied Electronics
Anthem Electronics
Arrow/Schweber Electronics
Future Electronics (Canada only)
Gerber Electronics
Hamilton Hallmark
Marshall Industries
Newark Electronics
Richardson Electronics
Wyle Laboratories, EMG "

Allied (800-433-5700), Arrow (800-93ARROW) and Newark (look in your
phone book for the local office) are all supposed to be reasonably
friendly to small orders on your credit cards. Active Electronics is
a US division of Future, and may have some access to their stock.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

5149. Re: NEED CASH?!!...Don't You?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: Jimmy_Nelson@radian.com
Message-ID: <47u6ge$7c3@zippy.radian.com>
Source record: 109805
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

Give me a break!! The sad thing is that there are people out there that will actually do what you say and you will make money. Please don't post this crap here again. Scum like you will get it in the end...I believe you are what we all call a scam artist!!

NO ONE FOLLOW THIS GUYS ADVICE!! SCAM ALERT ALERT ALERT!!!!

5150. Re: NEED CASH?!!...Don't You?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: jmrubin@ix.netcom.com
Message-ID: <47uejf$gh8@cloner2.ix.netcom.com>
Source record: 109806
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

In article <309FBFAE.6F6A@hawaii.edu>, backman@hawaii.edu says...
>
>BEGIN -- Cut Here -- cut here
>Before you start thinking oh no not one of these, take the time to read this
>completely. Just save and print it out or print it out for later but you
>really need to pay attention to this. Ready? OK here we go!
>
>I thought these things were scams also but in the last week I received
>$50,000. in the mail from people around the world. I don't know about pyramid
>schemes or anything like that but I do know I made $50,000 and all it cost me
[snip]
> This list will become more valuable as it grows in size. This is a
>service. And IT IS PERFECTLY LEGAL! If you have any doubts as to the legality
>of this service, please refer to Title 18,h sections 1302 NS 1341 of the
>Postal Lottery Laws.
>
Well, unfortunately, the U.S.P.S. disagrees with you about the legality and the statistics professors out there at the University of Hawaii will be glad to tell you that chain letters require more people than the population of the earth to succeed more than a few levels.

Here is what the U.S.P.S. has to say:

ftp://garbo.uwasa.fi/pc/docs-net/chain.txt:

" FROM THE UNITED STATES POSTMASTER GENERAL:

Chain Letters

A chain letter is a "get rich quick" scheme that promises that your mail box will soon be stuffed full of cash if you decide to participate. You're

told you can make thousands of dollars every month if you follow the detailed instructions in the letter.

A typical chain letter includes names and addresses of several individuals whom you may or may not know. You are instructed to send a certain amount of money--usually $5--to the person at the top of the list, and then eliminate that name and add yours to the bottom. You are then instructed to mail copies of the letter to a few more individuals who will hopefully repeat the entire process. The letter promises that if they follow the same procedure, your name will gradually move to the top of the list and you'll receive money -- lots of it.

There's at least one problem with chain letters. They're illegal if they request money or other items of value and promise a substantial return to the participants. Chain letters are a form of gambling, and sending them through the mail (or delivering them in person or by computer, but mailing money to participate) violates Title 18, United States Code, Section 1302, the Postal Lottery Statute. (Chain letters that ask for items of minor value, like picture postcards or recipes, are may be mailed, since such items are not things of value within the meaning of the law.)

Recently, high-tech chain letters have begun surfacing. They may be disseminated over the Internet, or may require the copying and mailing of computer disks rather than paper. Regardless of what technology is used to advance the scheme, if the mail is used at any step along the way, it is still illegal.

The main thing to remember is that a chain letter is simply a bad investment. You certainly won't get rich. You will receive little or no money. The few dollars you may get will probably not be as much as you spend making and mailing copies of the chain letter.

Chain letters don't work because the promise that all participants in a chain letter will be winners is mathematically impossible. Also, many people participate, but do not send money to the person at the top of the list. Some others create a chain letter that lists their name numerous times--in various forms with different addressee. So, in reality, all the money in a chain is going to one person.

Do not be fooled if the chain letter is used to sell inexpensive reports on credit, mail order sales, mailing lists, or other topics. The primary purpose is to take your money, not to sell information. "Selling" a prod-

uct does not ensure legality. Be doubly suspicious if there's a claim that
the U.S. Postal Service or U.S. Postal Inspection Service has declared the
letter legal. This is said only to mislead you. Neither the Postal Service
nor Postal Inspectors give prior approval to any chain letter.

Participating in a chain letter is a losing proposition. Turn over any chain letter you receive that asks for money or other items of value to your local postmaster or nearest Postal Inspector. Write on the mailing envelope of the letter or in a separate transmittal letter, "I received this in the mail and believe it may be illegal."

5151. Re: LO Drive to SL6440: Was (Re: diode mixer drive level)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: 100416.151@compuserve.com
Message-ID: <47u8am$37m@dub-news-svc-4.compuserve.com>
Source record: 109807

jeffa@ix.netcom.com (Jeff Anderson) wrote:

> Someone on the list may have a data sheet for the SL6440 -- what
>levels do they recommend for the inputs? And do they discuss the
>multiplier's operation (is the LO signal "squared up"?).

> - Jeff, WA6AHL

Like most Gilbert cells, it's noisy as hell (compared to a diode
mixer) so you'll need a little RF gain ahead of it.

Unlike most it is rated to 150 MHz, and I've used it in a high quality
AM/FM tuner (for both bands!)

LO drive - 250mV rms (and give or take 6 dB, seems to make very little
difference, to linearity or conversion gain, so I think it's switching
at that level).

Input intercept point is said to be +30 dBm, and I can believe it.
To get this, though, takes a lot of power!

Hope thisa helps - Brian.

5152. ANNOUNCE: Al's Circuit Simulator version 0.19

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: al@atd.rochester.ny.us
Message-ID: <1995Nov10.174952.19564@atd.rochester.ny.us>
Source record: 109808
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.cad,sci.electronics.misc,sci.electronics,comp.lsi.cad

A new version of ACS is now available.

This release offers "improved" convergence.

Several new options have been added to control iteration damping.
In some cases, the program will take a partial step in an attempt
to tame the wild fluctuations that can occur during iteration with
Newton's method. This version appears to be considerably more
robust than Spice 2g6. Several test circuits that fail to converge
on Spice do converge on ACS. The cost of this is sometimes slower
convergence. It generally takes about 2 more iterations per step
than the previous version. This can be turned off, using the
"dampstrategy" option at a slight cost in robustness. See the
manual on the options command for more information.

Archive sites:

by ftp from: mammoth.lle.rochester.edu in pub/local/acs
ftp.cs.rit.edu in pub/acs
ftp.ee.rochester.edu in pub/acs
login as "anonymous". Send your email address as the password.
It is in pub/acs.

by dial-up (USA) from 716-473-0063 in local/acs
login as "guest". No password is required.

ACS is a general purpose circuit simulator. It performs nonlinear
dc and transient analyses, fourier analysis, and ac analysis
linearized at an operating point. It is fully interactive and
command driven. It can also be run in batch mode or as a server.
The output is produced as it simulates. Spice compatible models
for the MOSFET (level 1 and 2) and diode are included in this
release.

ACS has several advantages over Spice, including:

The ability to probe just about anything. For example, you can get
a plot (ASCII) of MOSFET capacitance against signal input. There
is no need for dummy voltage sources as current probes. It will
show you when a MOSFET crosses a region boundary.

It is faster for large circuits, due to better sparse matrix
techniques and incremental update.

The code is more modular and easier to follow. This will help if
you want to study the source to see how simulators work, or add

your own models. The source language is C++.

ACS can continue after a convergence failure, leaving only a glitch in the plot.

Disadvantages compared to Spice:

No BJT model. Only level 1 and 2 MOSFET. Only Meyer's capacitance model.

Other missing features. (noise, pole-zero, ...)

--

5153. NEED HELP w/ SIMPLE AM SET-UP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: you@somehost.somedomain
Message-ID: <47vug1$g4e@NNTP.MsState.Edu>
Source record: 109809

I need some fast help with an AM transmitter (in the 350khz range) and an AM receiver. This only has to transmit about 60-80 ft. I think I can handle the receiver, but I could use some help (i.e. a schematic) with the transmitter. Anyone with a simple sketch of this system could really bail me out.

Thanks.

5154. Re: 1750 Meter Band Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: wilder@abs.net
Message-ID: <DHu549.8MB@abs.net>
Source record: 109810

Joel Govostes (jwg6@cornell.edu) wrote:

: Are there any hams on the newsgroup who are active on 1750 meters? I'd
: like some basic info. on equipment and station design and also a list of
: beacons I might hear here in central NY. Thanks N1AEP

I am not on 1750m but suggest you join the Longwave Club of America,
45 Wildflower Rd, Levittown, PA 19057. $18.00 per year. They publish
a monthly news letter that contains the kind of information that you
need. Also, you will find announcements of publications and BBS that
can help you. Check part 15 of the FCC rules. I believe unlicensed
folks are allowed 1 Watt into a short antenna about 30 feet; not sure
of specifics.

My current interest in LF is that I am a consultant to the ARRL and am
searching below 500 kHz for a piece of spectrum for a new amateur band.
The 1750m meter band (160-190 kHz) is being considered but it is too
early to tell if that will be my recommendation to the ARRL board.

I did operate LF in 1947 and 1948 before I was licensed in the Amateur
Radio Service. I had a lot of fun -- think you will too.

73, Dick Wilder, K3DI wilder@clark.net

5155. Re: Spec Analyzer + Noise Gen = Tracking Generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4804kd$jc9@hg.oro.net>
Source record: 109811

john.ackermann@daytonOH.ncr.com (John Ackermann) wrote:

>Sorry if this is a bit long, but in addition to posing a question this might
>be useful info for other folks.

>If you can't have a network analyzer for tuning cavities, the next best thing
>is a spectrum analyzer with a tracking generator. Of course, such things
>aren't cheap.

>I'd always wondered if a noise generator could serve
[snip in consideration of bandwidth]

Hey, now THAT's a clever idea. But I've never seen a noise generator
that would put out enough poop to be seen on a spectrum analyzer with
any decent dynamic range left. How much poo did the noise generator
put out across the band? And what did they use for a noise source?
I've used zener diodes biased on the knee of the curve and gotten
enough excess noise to do NF measurements on receiver front ends, but
only down in the microvolt range. What you've found seems to be a
blowtorch diode that puts out significant fractions of a milliwatt.
Any answers?

Oh, BTW, Advantage also sells a $700 tracking generator that appears
to be a TRUE tracking generator out to 2 gig. I hope to get RF Design
mag to let me do a feature article reviewing their stuff in the next
six months or so.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

5156. Re: European Transistor Cross-Reference?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: Ed Hare <ehare@arrl.org>
Message-ID: <48031b$8og@mgate.arrl.org>
Source record: 109812

Should we get one for TIS?

fifield@lan.nsc.com (David Fifield) wrote:
>In article <hambrew-0211952035390001@net70.qadas.com>, hambrew@qadas.com
>(George De Grazio) writes:
>
>> Can anyone point me in the direction of a cross-reference for
>> European Transistor replacements (i.e., European designators to
>> US designators)?
>> I understand SPRAT had such a list published in the past, but as yet
>> I have not been able to locate the issue.
>> Any help will be appreciated.
>> 73,
>> George De Grazio, WFï¿½K
>>
>
>There is an excellent publication called "Towers International Transistor
>Selector", which I believe has just been updated. It is published in the UK
>and is available from Maplin Electronic Supplies in Essex, England, phone
>011-44-1702-554161.
>
>I have an older version of the book and I'd be more than happy to look to look
>up some specific numbers for you, let me know.
>
>
>73 de KE6ZBZ
>
>Dave Fifield (ex G8INR)
>
>Phone 408.721.7937, Fax 408.749.7582, email fifield@lan.nsc.com
>
>This email/posting represents my own personal views and not those
>of my employer, National Semiconductor Corp., who kindly tolerate
>my extra curricular use of this medium.
>
>

5157. ** HELP with mic preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: tgoins@accessone.com
Message-ID: <tgoins.17.003BA6DF@accessone.com>
Source record: 109813

Hi all,

I have a Heil Dual desk mic that I am trying to get to work with an Icom 735.
The problem is that the Heil does not provide enough output to the radio and I
have to almost yell into it with the gain turned all the way up to get any ALC
action at all.

So I went forth and built the high Z preamp from the schematic in the ARRL handbook.
It is a real simple circuit that uses a MPF102 FET as an amp. One problem
--- it doesn't seem to work. No output from the preamp at all.

Here is what I know.
1) The Icom 735 only has 8 volts available from the mic jack. The plans call for 12v.

2) The 8 volts is getting into the the circuit but the first thing it encounters is a 10K
resistor
which immediately drops the voltage a great deal. (is this resistor too big?)

3) I do not have an O-scope to check for audio in the circuit.

4) I built it inside of a metal box and I put panel mount mic jacks on both ends.
The components are built on single sided PC board. At this point nothing is
connecting the circuit board ground bus to the metal box. (should it be??)

5) I should have bought the Icom SM-8 instead of this Heil. You spend $100+ dollars
and it ought to work without this grief. :-)

6) I need some help.

Thanks,
Todd
N0MZT - Seattle

tgoins@accessone.com

5158. Re: ATV Newsgroups [now talking USENET traditions]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: rfm@urth.eng.sun.com
Message-ID: <RFM.95Nov10112944@urth.eng.sun.com>
Source record: 109814

In article <00001fee+00000d0e@msn.com> KF8QU@msn.com (Bob Tournoux) writes:

>I've been looking for the same thing [ATV newsgroups]. If you find one
>let me know!

Folks, one very traditional and effective way to get a new USENET newsgroup going is to discuss the topic in a general newsgroup, then if the volume is sufficient, have someone go through the USENET new group creation procedure. In this case, the obvious general newsgroup is rec.radio.amateur.misc. If you have questions or discussion about ATV, post it there! Put "ATV" in the subject so people can find the posts. Should there be sufficient interest, I'll be glad to point anyone willing to do the work to the instructions on how to get the new group approved -- email me.

Rich, KO6CL

--
Rich McAllister (rfm@eng.sun.com)

5159. Re: Xtal source(s)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: a313@Lehigh.EDU
Message-ID: <4808mh$1551@ns3-1.CC.Lehigh.EDU>
Source record: 109815

In article <Pine.ULT.3.91.951026003937.4321C-100000@essex.UCHSC.edu>, Franklin A
ldrich <aldrichf@essex.UCHSC.edu> writes:
>Where, or from whom, can I buy custom-frequency crystals?
>Tnx es 73--
>
>Frank Aldrich, WS0W
>Boulder CO
>
Marsh Crystals in Missouri (?)
Jan Crystals in Ft. Meyers Fla

These come to mind. Check out the classified section of QST as well as the
advertizers index in the rear of the popular ham magazines for addresses
and more info. They are out there.
73's Dick K8WHA
>
>

5160. Re: ** HELP with mic preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: Jim Strohm <jstrohm@blazer>
Message-ID: <480bhe$s65@unisql.unisql.com>
Source record: 109816

Some things to try:
1) Might be...see next. You might try a 9V battery for B+, which seems adequate for most preamps -- or kludge up a +12 supply (easy to do).
2) Can you put a 10K trimmer here, and experiment? This might be the fix.
3) Even a high-impedance analog voltmeter would help here. Say "AAAAH-DIO" to see a good signal. But not on the air!
4) You might have a ground loop, but if it were a problem you'd experience distortion, feedback, or maybe microphonics. Lowered gain is not a common ground loop side effect. Instead of suspecting the box it's in, you might re-heat all the solder joints, especially at the phone jacks, and make sure those are perfect. I've had bad connections to jacks before, and it was ^&^&^%%$@^ to diagnose, because the circuit worked fine when it was out of the box.
5) KISS. I like to buy _working_ solutions also. Could it be an impedance mismatch? Playing with an audio transformer might tell you something. You might even have a bum mic, though Heil has a good reputation for quality control. You might try swapping with somebody who has a known good Heil.
6) Experiment with component values, particularly those that provide the feedback loop for the MPF102. And don't be afraid to blow it up -- they're really cheap and pretty rugged, and you can test for over-dissipation with your fingertip. That's one way to know if you're moving in the wrong direction.

I'm not going to dis the handbook today. But I'd like to add that not every project in every circuit cookbook is going to work every time.

Jim N6OTQ
Standard disclaimer

All you flamers, go ahead and FLAME AWAY!! You've never missed a chance yet to flame me for trying to help another ham -- why give up your perfect record now?

5161. Re: DeOxit or ProGold?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov10.221947.13575@ke4zv.atl.ga.us>
Source record: 109817

In article <DHqvz7.2pJ@world.std.com> wdr@world.std.com writes:
>
>The brochures on DeOxit and ProGold, from CAIG labs,
>sound good. (They sent 'em after I'd seen their ads in QST etc
>and requested 'em.)
> What experiences have you all had?
>
>A cleaner that will take corrosion off of batter terminals
>would be great; the number of toys, radios, flash-lights
>with blue-green battery contacts is embarrassing. It sounds
>like that's one of the uses for DeOxit. It makes sense to me
>that there should be some solvent that dissolves CuOx and
>similar corrosion product; I'd been wondering what to
>buy. Is this it?

Tarn-X, or any weak phosphoric acid solution, will do just
as well, and costs less.

>But what about the claims for ProGold? It says it re-bonds
>the plated surface if any to the original metal and prevents
>corrosion; it claims that intended signals pass through it
>via quantum tunneling but that it acts as an insulator to
>corrosive currents? Does that make sense? Does ProGold work,
>or just gunk up your connectors?

That's nonsense. It can't tell the difference between a signal
electron and a corrosion electron. What it can do is keep
oxygen and water vapor away from a cleaned surface, and *that*
will prevent oxidation. Cramolin works better, but any high
dielectric oil will do.

Nor can it "rebond" the plating to the base material. The
resin used can sort of "hold it together" in the same sense
that a bottle's walls hold a liquid together. But to get
electrical contact, the fingers have to gouge through the
resin (the resin itself can't conduct or it'd short out
adjacent fingers). And unlike Cramolin, the gouge won't
flow shut when the connector is unplugged, so after a few
times plugging and unplugging you're back to an exposed
surface that can corrode.

Gary
--
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Lawrenceville, GA 30244 | |

5162. Re: DeOxit or ProGold?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov10.222200.13654@ke4zv.atl.ga.us>
Source record: 109818

In article <47t1pu$bjg@pacific.mps.ohio-state.edu> James Garland
<garland@ohstpy.mps.ohio-state.edu> writes:
>I'm very dubious about ProGold's claim about bonding plated metals to
>the substrate metal. How, for instance, does the product work its way
>under the plating? Also, the "quantum tunneling" description sounds like
>advertising malarky (Could this product be intended for 'high-end' audio
>enthusiasts, a group whose susceptibilty to high-tech but
>meaningless jargon knows no bounds?)

Bingo!!!!

Gary

--
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5163. Re: What's circulator good for? was Re: How does "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov10.224423.13866@ke4zv.atl.ga.us>
Source record: 109819
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <9NOV95.15150724@dragon.pfc.mit.edu> fridberg@dragon.pfc.mit.edu writes:
>In a previous article, THOMAS STICHELBOUT <stichelt@esiee.fr> wrote:
>->when energy coming from a goes to b through a circulator,
>->in a 3 way terminal, it won't go on the way c, which will be isolated.
>->It used for receiver : Imagine an antenna which is plugged on way a, a
>->receiver
>->on way b , and ground on way C. You don't want your receiver to emit anything
>->on
>->the antenna. Therefor you use a circulator : All the energy coming back from
>->the receiver will go to the ground and not on the antenna, which is "isolated
>->from the receiver" Is that clear enough ?
>->If you want to know some more about the subject, try to read books dealing
>->with
>->hyperfrequencies techniques...
>->
>Eh.., hm... well, this example is ok, but it's not very often when you worry
>about reciever emmitting anything back to antenna. Besides, you can't really
>get rid of RF by grounding it. You'd need to put load there. The lot more
>common application is when you have tranmsitter and reciever using same antenna
>and you want to make sure that transmitted signal going into antenna only,
>and recieved signal from antenna going to reciever only. So, you connect
>transmitter to port a, antenna to port b, and reciever to port c, you'll
>get signal from transmitter (port a) going to port b (antenna) and nowhere
>else, and recieved signal from antenna (port b) going to reciever (port c)
>and nowhere else. Another application would be when you want to protect
>transmitter from load mismatch and isoltare reflected signal from forward one.
>Actually, in all of these examples you can use hybrid as well...

He's right, Mike, circulators are used primarily for reverse isolation.
As you note, you terminate port 3 with the characteristic impedance.
You don't short it to ground, which does no good at all, and in fact
guarantees a reflection. In microwave work, it's common to have receiver
radiation since the receiver usually has a mixer as its front end and
can allow LO to leak back toward the antenna. The other major use of
a circulator is to isolate a transmitter PA from VSWR on the antenna
or from out of band components which may enter the PA from the antenna
and mix there to produce intermod which is then reradiated. The latter
problem can happen in a receiver mixer too. Circulators can minimize
either problem. Circulators are also commonly used to isolate an oscillator
from "pulling" by a following stage, and to isolate a driver stage from a
PA so that input tuning of the PA doesn't interact with driver output tuning.

Now a circulator as TR switch isn't too useful because the isolation
typically isn't that good, only about 20 db between port 1 and port

3. Since the transmitter typically puts out watts while the receiver wants to see no more than microwatts, the isolation is insufficient. You want something on the order of 60 db (or better) of isolation. A circulator can't give you that so you have to get it other ways. For transmitter receiver pairs operating on split frequencies, IE a typical repeater, you do that with cavity duplexers. For transmitter receiver pairs operating on the same frequency, the only real way that they can share a common antenna is by an active TR switch, either a relay or PIN diodes. A single relay typically only offers about 30 db of isolation due to capacitance through the NO contacts, but the relay can be designed to reduce that (rotary relays for example which rotate the open contacts 90 degrees to each other). But today, pi or Tee section configured PIN diode switches can offer up to 70 db of isolation, and that's plenty for most applications. And they're fast too.

Gary
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Lawrenceville, GA 30244 | |

5164. Re: How does a "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov10.225654.13961@ke4zv.atl.ga.us>
Source record: 109820
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <47tbua$4hm@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist) writes:
>
>Perhaps we have discovered a law governing the figure of merit of
>circulators: A 3 port circulator with more than 3 dB. of insertion
>loss can be replaced by a power combiner, and hence has a figure
>of merit of zero. Anyone agree or disagree with this conjecture?

Well, yeah, that's a good way to compare a circulator and a hybrid
for TR purposes, but circulators typically don't have enough port
1 to port 3 isolation to serve as a good TR in any case (typically
less than 20 db, hybrids are typically a little better at around
30 db). The primary use for a circulator is to take advantage of
it's unique reverse isolation. The hybrid can't offer that non-reciprocal
behavior. So you can protect a circuit from "pulling" by a following
circuit, including an antenna with high VSWR. And you can sharply
reduce intermod caused by signals entering the PA and mixing there
before being reradiated. Or you can reduce intermod generated in
a receiver using a mixer as the front end and reradiated back out
the antenna, and reduce LO leakage to the antenna from such receivers
too.

Circulators are usually mandated at multiple repeater sites to
prevent intermod from multiple signals mixing in PAs, or receiver
first mixer IM product reradiation.

Gary
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5165. Re: Ramsey FX440

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov10.234839.14354@ke4zv.atl.ga.us>
Source record: 109821

In article <47mnju$8qd@henry.netaxis.com> mlapolt@netaxis.com (Mark LaPolt) writes:
>Has anyone out there received satisfactory results with the Ramsey
>FX440 transceiver kit? I built one, but once completed, I noticed a plethora of
>ploblems. For instance, the microphone amp not working, the VCO being VERY
>susceptable to 'mechanical' noise (i.e. touching the board with an insulated
>tweaker), no power out, and lousy sensitivity. I thought I did a pretty decent
>job assembing this thing, but either I'm WAY off in my assembly techniques, or
>the kit's not what it's cracked up to be. I'm going to start troubleshooting
>the rig this week (I hope), and will keep any interested parties up to date.

Note: my comments apply to both the 2 meter and 70 cm Ramsey kits.

Heh, I'm not surprised you're having problems with this kit. The failed
microphone amp is either a bad part or an assembly error (even Ramsey
can't screw up a simple audio amp). The microphonics are probably from
one of the crystal oscillators and not from the VCO. Did you mount the
crystals as recomended? That's very important.

The low output power is typical if you followed the Ramsey tuneup
instructions. You also need to use a spectrum analyzer when tuning
up because it's *very* easy to get lots of output power, but the
spectrum looks like a comb. I've found a point where good output
and clean spectrum coincide on the ones I've tuned, but there are
other points where they don't, so beware of using a simple power
meter for tuneup. You should be able to get a clean 3 watts out if
you muck around enough with the coil spacing for the PA and driver.
(The manual instructs you to wind them too close spaced to tune
up properly.)

You need to spread the receiver input coils *much* more than seems
reasonable to achieve good sensitivity. The turn to turn spacing
will wind up between 5 and 10 wire diameters when you have maximum
sensitivity. Ramsey doesn't like close wound coils (even though
the manual instructs you to wind them that way).

(You can make a tuning aid which will help you get the coils in
range. Take a wooden dowel and screw a steel screw in one end
and a brass screw in the other. If bringing the steel screw
near the coil increases output, you need to compress the turns.
If bringing the brass screw near the coil increases output,
you need to spread the turns a bit more.)

I haven't looked at a recent one of these kits, but early on the
transmitter was not inhibited when the synthesizer was sweeping
into lock. This can make you very unpopular with others on the
band. There's a lock indicator on an unused pin of the synthesizer

chip, and you can use that to qualify B+ to the driver stage through
a keying transistor. That'll keep it from kerchunking every repeater
on the band when you go from receive to transmit.

This will never be a great radio, but you can mod it to make
it an acceptable radio. Consider it a learning experience.

Gary
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Lawrenceville, GA 30244 | |

5166. WTB: Meter bezel

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-10 00:00:00 UTC
From: Franklin Aldrich <aldrichf@essex.UCHSC.edu>
Message-ID: <Pine.ULT.3.91.951110155753.4948B-100000@essex.UCHSC.edu>
Source record: 109822

Remember those old GE "meters" found in power plants & other heavy-duty applications? They weigh 2 or 3 pounds, have gray-painted cylindrical bodies, usually have 0-1 MADC movements. The scale has 270 degrees, and may be calibrated in DCV, DCA, PSIG, or whatever. The thick glass bezel is 4" diameter, with a center hole containing a zero-adjuster. The bezel is framed by a 4 3/8" square black metal or plastic frame, held in place with 4 corner screws
I need a replacement glass bezel, with zero-adjuster. If you have one to spare, please e-mail me your price. Tnx a meg -- Frank Aldrich, WS0W, Boulder CO.

5167. Req. SWL Freqs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4814cp$eda@server.iadfw.net>
Source record: 109679

I have a missionary friend in Ecuador who asked and I didn't know - is there a shortwave station that broadcasts NFL games? He is especially interested in Dallas Cowboy games.
Thanks (and sorry I'm a bit off topic),
Kerry Miller
WD5ABC

5168. Re: ** HELP with mic preamp

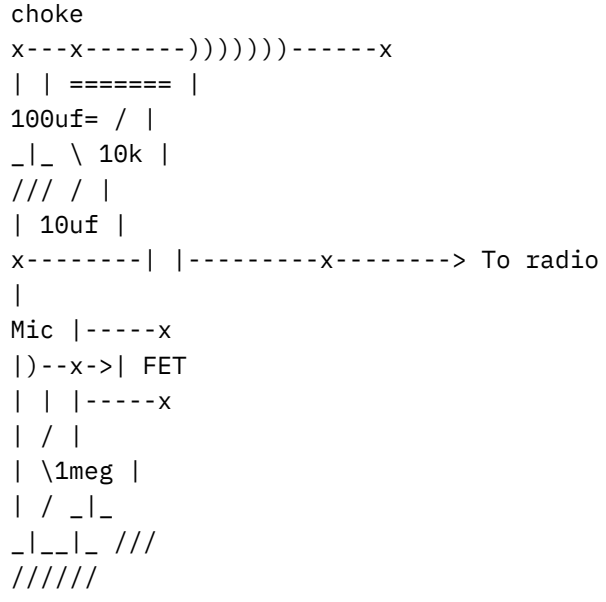
Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov11.014455.14837@ke4zv.atl.ga.us>
Source record: 109680

In article <tgoins.17.003BA6DF@accessone.com> tgoins@accessone.com (Todd Goins) writes:
>I have a Heil Dual desk mic that I am trying to get to work with an Icom 735.
>The problem is that the Heil does not provide enough output to the radio and I
>have to almost yell into it with the gain turned all the way up to get any ALC
>action at all.
>
>So I went forth and built the high Z preamp from the schematic in the ARRL handbook.

Which edition and what page?

> It is a real simple circuit that uses a MPF102 FET as an amp. One problem
>--- it doesn't seem to work. No output from the preamp at all.
>
>
>Here is what I know.
>1) The Icom 735 only has 8 volts available from the mic jack. The plans call for 12v.
>
>2) The 8 volts is getting into the the circuit but the first thing it encounters is a 10K
resistor
> which immediately drops the voltage a great deal. (is this resistor too big?)

Well, not having found the circuit, I can't say for sure, but remember
you're phantom powering this circuit so the output circuitry should
look something like this:



The idea is that the choke supplies the +8 VDC to the top of the
drain resistor without shorting out the audio voltage fed back
to the radio. The 10uf coupling capacitor couples the audio voltage

to the line going to the radio. The 100uf decoupler is the PS bypass.

This is a far from ideal circuit, but it should work better than what you're trying to do. Ideally, you want the preamp to have about 20 db of gain and a 600 ohm output impedance. The typical way to do that today is with a BiFET opamp as shown in the current edition of the Handbook.

In any event, you won't have any output unless you separate the DC phantom power from the audio signal. In the circuit above, the choke and output capacitor do that.

Gary
--
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Lawrenceville, GA 30244 | |

5169. I need some info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: morganp@freenet.edmonton.ab.ca
Message-ID: <4815g7$l9g@news.sas.ab.ca>
Source record: 109681

I would like to build a HF receiver like the one in November 1990 73 mag (pg 35) and I was wondering if anyone had any tips on making it? This will be my first receiver so ANY help would be greatly appreachiated (so I can't spell it right, big deal). Thanx

--
73 & ttyl Morgan Patterson
\\/// Internet: morganp@freenet.edmonton.ab.ca
(o o) Ham Radio: VE6MRP
(_) "Your Computer will self destruct in..5..4..3..2..1..KABOOM!!!"
----oOO-----OOo----------

5170. The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <4825eh$k1h@alterdial.UU.NET>
Source record: 109682
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

I said: "I have a VIC 20 I want to trade for a IC-781" (how long do we have read thesre messages where some ham wants to trade his junk for something woth something).

From: KH2KQ@KA6EYH.#NOCAL.CA.USA.NOAM
To : K1OIK@KQ1K.MA.USA.NA

Hello Burt,

You actually got one of those VIC-20's you wanna trade?

I do not have a Icom 781, but I does have a Kenwood 950SDX - howsa bout dat?

Only problem is dat it am attached under the counter of a 36 foot motorhome. So if youse trade for da 950 youse gotta take the motorhome too. Its got a generator and only 123 actual miles. But the problem der is dat it am havin a dead battery and it can't start and it is in the driveway of my vacation home at the beach in Malibu - so youse also gotta take the house in Malibu if youse want the 950SDX.

Howsomever, there is a beach bunny and her girlfriend that said they would just die if I sold the Malibu house on the beach, so they come with the house and the motorhome and the radio.

If dat am OK, then weese got a deal!

Oh yeah, does the VIC-20 got a DC power supply with it?

By the by, if you hear of anyone who has a Kenwood TS-50 attached to a Mercedes 450SLC - I would like to trade a Radio Shack 202 for it!!!!!!!

73 de Chuck

5171. What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <4825g6$k1h@alterdial.UU.NET>
Source record: 109683
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

The following messages were sent to me by a ham that is afraid to be identified beacuse of the torment most of you will put him through for having a different opinion. But it is how most young peeple feel (that is why they quit the hobby or never get in it). But you can keep thinking whatever you want and let ham radio die. Some say I send flames but I am not the author of below. I get lots of support and many messages like the ones that follow.

From: xxxxx@.xxxxcom
To: k1oik@ccsnet.com
Subject: You hate good news.
Date: Fri, 15 Sep 95 03:42:54

they like threats. they thrive off of it. i don't agree with everything you have said, burt. however, you are right on about several issues... one of them being the burping, farting, pants sagging in the crotch from too many handhelds on a waist that can't support them... i may carry a handheld, cellphone, and a pager all at once, but at least i'm not so out of shape that i have my pants sagging like they have a load in them. i stay somewhat in touch with reality... i liked the rabbit story. it made a pretty damn good statement... that's why they don't respond. many of them know that to take away code would allow intelligent people, people with more intelligence <gasp> than they are, into their little good ol' boys club.

no, not all hams that learn code are like what you described, only about i estimate 85-90% are like that, drooling with 10 handhelds on their belts looking like they're on some sort of mind-altering substance (too much rf overloading of the brain tissue). my group of friends and i all dress like we're the nightclub crowd for the underground scene... leather jackets with studs, some of us have half shaved heads (i'm probably one of the few that look almost normal), nocturnal, hang out on numerous 440 and commercial band repeaters, play paintball, get (raise eyebrows) exercise (i ride my bike at least 10 miles every other day), play sports once in a while, i love snow skiing, and take plenty of time out of the radios to go to the movies, spend time with my girlfriend (who just happens to like listening to the scanners with me once in a while to all the fire and pd activity), go camping, party...

seeing "young" punks like myself enter into the hobby bothers the oldtimer whiners and complainers on the local 2-meter boxes and the old fart elitist jerks that hang out on simplex on 144.245 around the valley

here, badmouthing everyone and everything that stumble across them on their commute home. i think my area has the largest population of INACTIVE currently licensed hams of just about anywhere. many of these people are interested in the "technical" aspects of ham, get their licenses, check into one of the local 2-meter high level boxes, hear all the old farts on all day pissing and moaning about colostomy bags, get dissillusioned and put their gear away in the closet. it's pretty sad.

they're so afraid that their little club will be "polluted" with fresh knowledge and arrogance to their little rituals that they lash out at any attempt to break the mold.

xxxx
xxxxxxx

id BFCKCGDF ; Thu, 21 Sep 1995 21:42:38 EST
From: xxxx@xxxx.com
To: k1oik@ccsnet.com
Subject: Great message
Date: Thu, 21 Sep 95 18:33:48

if you want to quote it, go right ahead, on one condition, DO NOT USE MY CALL LETTERS OR NAME OR EMAIL ADDRESS. i agree with the philosophies behind a great deal of your thinking, but i'm not going to put myself in a position where i get jumped on every time i respond or post in the newsgroup. i still find a few redeeming qualities in ham radio, and it is still (though more commercial communications / monitoring) my favorite hobby. i just happen to get exercise, prefer sex with my girlfriend over the radios, and eat somewhat decent food.

again, have fun with the quotes. just don't give me credit for them. i really have enough mail come into my mailbox on a daily basis without having to deal with drivel from some bloated cholesterol-laiden fuck who wants to discuss with me the merits of using a "bug" over a straight-key or trying to tell me how useless satellite communications are.

keep up the good work, burt. you're one of the few reasons i sti still read the newsgroup.

xxxx
xxxxx

5172. Re: Do it for the log.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: bmicales@facstaff.wisc.edu
Message-ID: <bmicales.309.006A276E@facstaff.wisc.edu>
Source record: 109684
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.rad

In article <4825d3$k1h@alterdial.UU.NET> Burt Fisher <k1oik@ccsnet.com> writes:

>Hams cannot stand to be personal. Thus they do not want to know THE
>name, the log wants to know THE name. Thus it is impossible for a ham to
>say "I would like to know YOUR name." A ham says, "What is THE name for
>the log?"

>Burt, K1OIK.

Burt,

If you looked closely at what is being said, you will see that one ham asking another ham's name for the log is entirely different than asking the ham for his or her name.

In the first instance, I am clearly stating as to why I want your name..I do keep a log of my contacts. Also this information can be used for sending QSL cards. All of this is quickly said by asking for your name for the log. However, I guess I could say "I would like to know your name because I am a nice guy,, I am keeping a log, and I might send you a QSL card". Hmmmm, seems a bit to much.

Hams are very personable otherwise you would not have FM voice, AM voice, SSB voice, or even ATV.
Bruce Micales
bmicales@facstaff.wisc.edu
Department of Anatomy
Amateur Radio : WA2DEU
Packet PBBS : WA2DEU@WD9ESU.EN53IE.WI.USA.NOAM

5173. Re: !! WWW & (new) FTP Radio Site !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <NEWTNews.816132497.8707.amsoft@486dx4_120>
Source record: 109685
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

FTP to the MAY 95 AmSoft CD-ROM at:
ftp://hamster.business.uwo.ca/cdrom/
be sure to download & read "files.dir" first

DO NOT put a dash between the word CDROM at the end of the URL

Thank you, and happy downloading. Thanks to Mark Bramwell VE3PZR
for provideing the only authorized access on the Internet to the
AmSoft CD-ROM library.

5174. Rules of ham DUMB.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <4835cg$ks1@alterdial.UU.NET>
Source record: 109686
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Ham operator Jokes:

1. What is the thinnest book in the world?
What hams know about women.

2. How does a ham take a bubble bath?
He eats beans for dinner.

3. What's a ham's idea of foreplay?
A half hour of contesting.

4. How can you tell if a ham is sexually excited?
If he's still breathing.

5. How many hams does it take to change a roll of toilet paper?
We don't know...it has never happened.

6. What's a ham's idea of helping with the housework?
Lifting his leg so you can vacuum.

7. What does a ham consider a seven course meal?
A hot dog and a six pack of beer.

5175. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: wong@PROBLEM_WITH_INEWS_DOMAIN_FILE
Message-ID: <481os1$sjc@madeline.INS.CWRU.Edu>
Source record: 109687

Jim Devenport (jdevenport@lanl.gov) wrote:
: I just wasted an hour calling my usual sources (Jameco,
Digi-Key, etc) as well as multiple searches through the

I did the same yesterday, but sad to say, it was a bit more then an hour.
The closest answer I got all day was not until early '96. My question
is, can any other part by sub'ed for the NE602? I've looked through
the cross ref guides with no luck, but I'm hoping that by some chance
I'll find one here.

jh. - n9rbi

5176. Re: What's circulator good for? was Re: How does "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: eus.eusmge@memo.ericsson.se
Message-ID: <481p4s$dqs@cnn.exu.ericsson.se>
Source record: 109688
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

On 9 NOV 95 15:15:07 GMT, fridberg@dragon.pfc.mit.edu wrote:

<snip>

> The lot more
>common application is when you have tranmsitter and reciever using same antenna
>and you want to make sure that transmitted signal going into antenna only,
>and recieved signal from antenna going to reciever only. So, you connect
>transmitter to port a, antenna to port b, and reciever to port c, you'll
>get signal from transmitter (port a) going to port b (antenna) and nowhere
>else, and recieved signal from antenna (port b) going to reciever (port c)
>and nowhere else. Another application would be when you want to protect
>transmitter from load mismatch and isoltare reflected signal from forward one.
>Actually, in all of these examples you can use hybrid as well...

I sure hope you've never tried what you just described. The tiniest reflection coming off your transmit antenna will fry your receiver, guaranteed. In fact you don't even need a reflected signal to do damage, the circulator will take care of that for you. Huh?? When you say "and nowhere else" you are assuming a *perfect* circulator. They don't exist (except in design simulation software). A small part of the signal presented to Port A WILL show up on Port C and drive right into your receiver.

You are correct though, in *theory* on how a circulator works. Any signal coming in Port A generally leaves through port B. Any signal coming in Port B generally leaves through Port C. And yes, any signal coming in Port C will generally leave through Port A. Hence the name.

The most common usage (as has been mentioned many times) is when Port C is terminated, usually in 50 ohms. (If this termination is "built-in" to the circulator you end up with a 2-port device called an Isolator.) Transmitted signals go in Port A and out Port B to the antenna. Reflected (and other unwanted) signals coming back down the antenna feed line, enter back into Port B where they are sent to Port C where they get terminated. Very little makes it back to the transmitter, so it is completely protected (or Isolated) from what ever impedance lurks on the other side of Port B.

///Mike

5177. Noise gen as tracking gen

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <481um8$dme@flood.weeg.uiowa.edu>
Source record: 109689

Suggest QST article May 1994 p.37 regarding calibrated noise source
and its use as a tracking gen. Bill Sabin W0IYH

5178. ic-701

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: sleepy@southwind.net
Message-ID: <482eum$glt@opal.southwind.net>
Source record: 109690

i am currently building a 2 meter transverter to accompany an icom ic701. does anybody have the pinout of the acc port on the rear, and/or any information on connecting a transverter to this transceiver? please post or email sleepy@southwind.net. thanks in advance.

n0uge

5179. Re: Q: Matching caps and inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: mkelly@brisbane.DIALix.oz.au
Message-ID: <4823c5$lt6$1@brisbane.DIALix.oz.au>
Source record: 109691

ddiamond@TRL.OZ.AU (Drew Diamond) writes:
>Kari, see if you can get a copy of; "Build this L-C Checker" by Jack Najork,
>W5FG in Ham Radio (USA) Dec. '88. Jack uses a Colpitts oscillator, to which
>are applied your unknown coils and capacitors. If you have access to a
>frequency counter (or another calibrated receiver), you should be able to
>match components to well within 1%. Use this simple formula;

>CpF = 25330 divided by (frequency MHz squared X LuH), and

>LuH = 25330 divided by (frequency MHz squared X CpF).

>73, Drew, VK3XU.

Another idea is to use an MFJ207 SWR analyser. By arranging the cap.
and coil in series and putting a 50R resistor in series too, the
reactance of the cap and coil are almost equal and opposite so that
all the MFJ207 sees is the 50R. It gives a very deep dip. The better
the q of the coil the closer to 1:1 you get.

As Drew says, get the frequency with a receiver, a counter, or better,
an analyser with the digital readout.

Give it a try if you can borrow the meter.

Cheers. Murray Kelly. vk4aok.

5180. Re: OSCILLATORS USING MMIC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4835cs$2s1@newsbf02.news.aol.com>
Source record: 109692

In article <816040022snz@lfheller.demon.co.uk>, Leon Heller
<Leon@lfheller.demon.co.uk> writes:

>A few months ago Electronics and Wireless World had an article on this.
>I think it was by Ian Hickman, one of their regular contributors. I
>don't think it was a particularly useful oscillator, however, in terms
>of stability, purity, etc.
>
>Leon

I wish I would have read these responses before spending a few days
looking at MMIC amps in an oscillator. What I found certainly agrees with
the posts, the only way a MMIC was stable and reasonably clean was when
the feedback path had level limiting and narrow band (hi-Q) feedback with
180 degree phase shift.
Tom

5181. Re: What's circulator good for? was Re: How does "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4835ej$2uk@newsbf02.news.aol.com>
Source record: 109693

In article <481p4s$dqs@cnn.exu.ericsson.se>, eus.eusmge@memo.ericsson.se (Mike Groves) writes:

>> The lot more
>>common application is when you have tranmsitter and reciever using same >antenna
>>and you want to make sure that transmitted signal going into antenna only,
>>and recieved signal from antenna going to reciever only. So, you connect
>>transmitter to port a, antenna to port b, and reciever to port c, you'll

>>get signal from transmitter (port a) going to port b (antenna) and nowhere
>>else, and recieved signal from antenna (port b) going to reciever (port c)
>>and nowhere else. Another application would be when you want to protect
>>transmitter from load mismatch and isoltare reflected signal from forward
>one.
>>Actually, in all of these examples you can use hybrid as well...

Let me see if I follow this correctly. To build a TR switch, substitute the receiver input for the dummy load in an isolator system.

Wouldn't an additional side benefit be "The transmitter will always see a low SWR, because the receiver dissipates all reflected power"?

Interesting concept.

73 Tom

5182. Re: What's circulator good for? was Re: How

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <c84_9511111733@mba.mba.org>
Source record: 109694

The first time I ever heard of a circulator was in
connection with parametric amplifiers. From what I
read, you could build one without a circulator, but
it was a whole lot easier and stable to do it with
a circulator.

Michael VE2BVW
--
| Return Address: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

5183. Burt Fisher, You are the anti-nerd.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: blair@stimpy.dseg.ti.com
Message-ID: <483cht$djb@mksrv1.dseg.ti.com>
Source record: 109695

Burt Fisher, You are the anti-nerd.

You believe that how you stand is more important than what you stand for.
You are the anti-nerd.
You believe that how you talk is more important than what you say.
You are the anti-nerd.
You think schools should replace math & science with "clothing skills".
You are the anti-nerd.
You wouldn't know a soldering iron from a marital aid.
You are the anti-nerd.
You're more of an appliance operator than a radio enthusiast.
You are the anti-nerd.
You have trouble programming your VCR.
You are the anti-nerd.
You dont care how it works. Just that it works.
You are the anti-nerd.
You think SPICE is something from Durkees.
You are the anti-nerd.
You have other interests... Like your hair.
You are the anti-nerd.
You worry about the color of your socks.
You are the anti-nerd.
You use DOS and think it's great (2nd only to MS Windows).
You are the anti-nerd.
You think a phasor is something from Star Trek.
You are the anti-nerd.
You spend > 20% of your life watching TV.
You are the anti-nerd.
You dont know what that ">" was on the last line.
You are the anti-nerd.
You are the type that tormented the type that I am in school.
You are the anti-nerd.
Now you probably work for the type that I am, and wonder why.
You are the anti-nerd.

In short, you're one of the cool people of the world that
contribute nothing. Yours is a useless existence.
When you go, you and your trivial priorities will be quickly
forgotten. Yours is the type that has kids so that they might
amount to what you never did, that they might contribute
something of substance.

You dont belong here. The most productive people in history were
died-in-the-wool nerds. They were obsessed with their studies,
their hobbies, their professions, forsaking the trivial details

that make up so much of your life. They never stopped to think about the color of their socks. The world was not built by people like you.

You are the anti-nerd.
I am the super-nerd.
I am your enemy, and I am bitter.

Arthur.

5184. QRP-help /c coils for Neophyte Rcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: bob_wold@ix.netcom.com
Message-ID: <482gkr$pp2@ixnews6.ix.netcom.com>
Source record: 109696

Hi, As a school project we are building a small SW radio receiver. We chose the Neophyte from QST but are having difficulty finding the 10.7 MHz If transformers (7:1 turns ratio, green core) that are called for. Can we wind something up on a torrid that will work? Or do you know of a source of these coils? Any suggestions?

Thank you from the young ladies @ Loretto HS Sacramento AP physics class. :-) :-) (-: <-: ;-}

5185. TAPR mods for PK232MBX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: kwherron@inow.com
Message-ID: <482j34$a18_001@du17.inow.com>
Source record: 109697

Has anyone reading ever completed any of the TAPR mods to the AEA PK232MBX?

73 de KB2NSX

5186. Supplier of handheld boxes and aerials?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-11 00:00:00 UTC
From: Sara Roberts <sara@xferret.demon.co.uk>
Message-ID: <816072003snz@xferret.demon.co.uk>
Source record: 109698
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.scanner,uk.radio.amateur

I was wondering if any company supplies handheld radio style enclosures
and aerials?

Cheers,

Sara.

--
._o
/ //\. Sara Roberts
\>> | sara@xferret.demon.co.uk
\\

5187. Re: 2000 Ohms headphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: pskh@aol.com
Message-ID: <485dv5$q7v@newsbf02.news.aol.com>
Source record: 109574

Those airline headphones have a impedance of around 400 OHms per
earpiece.
Connecting them in series will give U 800 Ohm. That might be close
enough for U.

Or you can use the telephone earpieces from old telephones.

5188. Re: Rules of ham DUMB.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: "Dennis A. Mason" <damason>
Message-ID: <483ogf$4j5@sanews.uswc.uswest.com>
Source record: 109699
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

well burt sounds like you are very educated.

5189. Re: Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: rawiley@blue.weeg.uiowa.edu
Message-ID: <rawiley.816154305@blue.weeg.uiowa.edu>
Source record: 109700
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

.

I think they can be fixed, see below;

>-> Burt Fisher Jokes:
>->
>-> 1. What is the thinnest book in the world?
>-> What Burt Fisher knows about women.
>->
>-> 2. How does Burt Fisher take a bubble bath?
>-> He eats beans for dinner.
>->
>-> 3. What's Burt Fisher's idea of foreplay?
>-> A half hour of contesting.
>->
>-> 4. How can you tell if Burt Fisher is sexually excited?
>-> If he's still breathing.
>->
>-> 5. Can Burt Fisher change a roll of toilet paper?
>-> We don't know...it has never happened.
>->
>-> 6. What's Burt Fisher idea of helping with the housework?
>-> Lifting his leg so you can vacuum.
>->
>-> 7. What does Burt Fisher consider a seven course meal?
>-> A hot dog and a six pack of beer.

Yeah, I know Burt gets off on seeing his name
posted, but I couldn't resist.

NE0R

5190. Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: ve7zvz@dowco.com
Message-ID: <ve7zvz-1111951828010001@206.12.26.40>
Source record: 109701
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <4835cg$ks1@alterdial.UU.NET>, Burt Fisher <k1oik@ccsnet.com> wrote:

-> Ham operator Jokes:
->
-> 1. What is the thinnest book in the world?
-> What hams know about women.
->
-> 2. How does a ham take a bubble bath?
-> He eats beans for dinner.
->
-> 3. What's a ham's idea of foreplay?
-> A half hour of contesting.
->
-> 4. How can you tell if a ham is sexually excited?
-> If he's still breathing.
->
-> 5. How many hams does it take to change a roll of toilet paper?
-> We don't know...it has never happened.
->
-> 6. What's a ham's idea of helping with the housework?
-> Lifting his leg so you can vacuum.
->
-> 7. What does a ham consider a seven course meal?
-> A hot dog and a six pack of beer.

Not only are they not funny they are not even original, your going to have
to find better material Burt! :)

73's

--
Scott Leaf VE7ZVZ
ve7zvz@dowco.com
Port Coquitlam, British Columbia, Canada
Mountain DX Club VA7SM - "To Boldy VHF Where No Man Has VHFed Before"

5191. Re: Burt Fisher, You are the anti-nerd.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <483mfu$6k8@server.iadfw.net>
Source record: 109702

blair@stimpy.dseg.ti.com (Art Blair) wrote:

>Burt Fisher, You are the anti-nerd.

>You think schools should replace math & science with "clothing skills".
>You wouldn't know a soldering iron from a marital aid.
>You're more of an appliance operator than a radio enthusiast.
>You have trouble programming your VCR.
>You dont care how it works. Just that it works.

>You are the type that tormented the type that I am in school.

>In short, you're one of the cool people of the world that
>contribute nothing. Yours is a useless existence.
>When you go, you and your trivial priorities will be quickly
>forgotten. Yours is the type that has kids so that they might
>amount to what you never did, that they might contribute
>something of substance.

>You are the anti-nerd.
>I am the super-nerd.
>I am your enemy, and I am bitter.

>Arthur.

Get Down! Nerds of the world, unite! Makes me proud to wear a pocket
protector, show off my nerdy Extra Class license and work CW!
Kerry
WD5ABC

5192. Re: How does a "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: jmelson@artsci.wustl.edu
Message-ID: <48452l$aa3@newsreader.wustl.edu>
Source record: 109703
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Douglas Braun (douglasbraun@hol.gr) wrote:
: There is a nifty RF device called a "circulator". It has three terminals.
: RF energy fed into terminal A comes out terminal B, energy fed into terminal
: B comes out terminal C, and energy fed into terminal C comes out terminal A.

The trick to a circulator is that the magnetic field created by the permanent magnets causes the iron atoms in the ferrite to gyrate - wobble on their axes like the earth's summer/winter orbit appears to wobble if the sun was your reference point. All the iron atoms (or at least a large portion of them) wobble at the same frequency and in the same direction. This wobble is tuned (by magnetic field strength) to the frequency band required. The incoming energy aligns the atoms not only by frequency, but phase, too. The RF energy can't go against the field wobble, so it is forced to go around the circulator in only one direction.

I had this explained to me by a world-renowned microwave engineer in about one minute, and I know I'm not doing his explanation justice, but I hope it is understandable.

I understand how microwave circulators work, I'm a little mystified how you can get a VHF or HF band one to work. The field strength must be VERY weak to make the atoms wobble so slowly, and so thermal noise will not allow them to stay well aligned. To get good isolation on the reverse path, the circulator would need LOTS of ferrite between ports, MUCH more than would fit in a 3" cube. So, there is probably a trick here, which I don't know because I've never seen a circulator for lower than, say, L band.

5193. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: asource@ix.netcom.com
Message-ID: <485m5d$gqq@ixnews4.ix.netcom.com>
Source record: 109704
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

In <4825eh$k1h@alterdial.UU.NET> Burt Fisher <k1oik@ccsnet.com> writes:

>
>I said: "I have a VIC 20 I want to trade for a IC-781" (how long do we
>have read thesre messages where some ham wants to trade his junk for
>something woth something).
>
>
>From: KH2KQ@KA6EYH.#NOCAL.CA.USA.NOAM
>To : K1OIK@KQ1K.MA.USA.NA

Burt there is a Salvation Army Thrift Store in Thornton Colorado (on
Washington Blvd.) that as of last week, had a box with 4 Vic 20's for
sale for $10 --- is that a hint ???? --- surely you were not serious
about that type of trade or was it a typo.>

>Hello Burt,
>
>You actually got one of those VIC-20's you wanna trade?
>
>I do not have a Icom 781, but I does have a Kenwood 950SDX - howsa
bout dat?
>
>Only problem is dat it am attached under the counter of a 36 foot
>motorhome. So if youse trade for da 950 youse gotta take the motorhome
>too. Its got a generator and only 123 actual miles. But the problem
der
>is dat it am havin a dead battery and it can't start and it is in the
>driveway of my vacation home at the beach in Malibu - so youse also
>gotta take the house in Malibu if youse want the 950SDX.
>
>Howsomever, there is a beach bunny and her girlfriend that said they
>would just die if I sold the Malibu house on the beach, so they come
>with the house and the motorhome and the radio.
>
>If dat am OK, then weese got a deal!
>
>Oh yeah, does the VIC-20 got a DC power supply with it?
>
>By the by, if you hear of anyone who has a Kenwood TS-50 attached to a
>Mercedes 450SLC - I would like to trade a Radio Shack 202 for

it!!!!!!!
>
>73 de Chuck

5194. Re: Do it for the log.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <484m6o$21a@alterdial.UU.NET>
Source record: 109705
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.rad

bmicales@facstaff.wisc.edu (Bruce Micales) wrote:

>In the first instance, I am clearly stating as to why I want your name..I do
>keep a log of my contacts. Also this information can be used for sending QSL
>cards. All of this is quickly said by asking for your name for the log.
>However, I guess I could say "I would like to know your name because I am a
>nice guy,, I am keeping a log, and I might send you a QSL card". Hmmmm, seems
>a bit to much.

You prove my point that hams could give a damn about YOU they want your
name for the LOG so they can get an impersonal QSL card. Frequently I
hear hams on repeaters ask for a name FOR THE LOG, and not even a log for hams
there. Explain?

>Hams are very personable otherwise you would not have FM voice, AM voice, SSB
>voice, or even ATV.
>Bruce Micales

Be serious.
On voice what PERSONAL things do they say?

#===============#===#
Burt Fisher	Teacher of video, broadcasting and electronics
Amateur call	South Dennis, Ma. (Cape Cod)
K1OIK	The less you say, the more people will remember
#===============#===#
| k1oik@ccsnet.com fisher@meol.mass.edu |
#===#

5195. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: grizzarv@indirect.com
Message-ID: <485q5e$34s@globe.indirect.com>
Source record: 109706
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

InterSource (asource@ix.netcom.com) wrote:
: In <4825eh$k1h@alterdial.UU.NET> Burt Fisher <k1oik@ccsnet.com> writes:
: >From: KH2KQ@KA6EYH.#NOCAL.CA.USA.NOAM
: >To : K1OIK@KQ1K.MA.USA.NA
[chomp]

Folks, can we trim those followup-to lines? This has nothing to do with pyrotechnics or rocketry. Or puzzles. Or skiing. Or - but you *do* have the idea, right?

5196. cancel <485q5e$34s@globe.indirect.com>

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: grizzarv@indirect.com
Message-ID: <485q8s$34s@globe.indirect.com>
Source record: 109707
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.rad

```
io.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine
Control: cancel <485q5e$34s@globe.indirect.com>
X-Newsreader: TIN [version 1.2 PL2]
X-Newsreader: TIN [version 1.2 PL2]
Distribution:

Article cancelled from within tin [v1.2 PL2]
```

5197. Re: The test.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: "Thomas W. Castle" <afn17891@freenet.ufl.edu>
Message-ID: <Pine.A32.3.91.951112233523.44084B-100000@freenet3.freenet.ufl.edu>
Source record: 109708
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.rad

Gee Burp... I see your going to be a pain in the ass in several news groups.... I don't know <or care> if your problem is caused RF, Magnetic fields or your just a plain foamer & drooler...

Why don't you try some of the other news groups for some help? //www/ Dr. Kavor.@ death.com, Birth contol retro-active, or one of the www// sites for "Do it yourself Frontal lobotomy, Electro-shock therapy or just wait for your new Lithuim tablets to come in....

If your that bored with life an have nothing better to do than complain; maybe we can get you on the "Uni-B" X-mas mailing list...

Don't go away mad just go away....

KD4QHH a.k.a. Tom

5198. Re: Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <484lpg$21a@alterdial.UU.NET>
Source record: 109709
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

ve7zvz@dowco.com (Scott Leaf) wrote:
>In article <4835cg$ks1@alterdial.UU.NET>, Burt Fisher <k1oik@ccsnet.com>
>-> 7. What does a ham consider a seven course meal?
>-> A hot dog and a six pack of beer.
>
>Not only are they not funny they are not even original, your going to have
>to find better material Burt! :)

They are half original.
I guess since the jokes are based on truisms they are not that funny.

```
#================#=========================================================#
| Burt Fisher | Teacher of video, broadcasting and electronics |
| Amateur call | South Dennis, Ma. (Cape Cod) |
| K1OIK | The less you say, the more people will remember |
#================#=========================================================#
| k1oik@ccsnet.com fisher@meol.mass.edu |
#=============================================================================#
```

5199. Re: Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <484lsa$21a@alterdial.UU.NET>
Source record: 109710
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

rawiley@blue.weeg.uiowa.edu (R. Wiley) wrote:
>.
>
>I think they can be fixed, see below;
>
>>-> 7. What does Burt Fisher consider a seven course meal?
>>-> A hot dog and a six pack of beer.
>
>
>Yeah, I know Burt gets off on seeing his name
>posted, but I couldn't resist.
>
>
>NE0R

I must admit you nailed me good.

```
#================#=========================================================#
| Burt Fisher | Teacher of video, broadcasting and electronics |
| Amateur call | South Dennis, Ma. (Cape Cod) |
| K1OIK | The less you say, the more people will remember |
#================#=========================================================#
| k1oik@ccsnet.com fisher@meol.mass.edu |
#=================================================================#
```

5200. Re: Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: time@tir.com
Message-ID: <484oqi$2r1@ramp2.lisp.com>
Source record: 109711
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Burt, why dont you just go away someplace else. Your the only one who
enjoys your "so called" wit. We all think your a jerk. You must lead
an awfully sheltered dull life if this is all you can find to do for
fun...

Burt Fisher <k1oik@ccsnet.com> wrote:

>ve7zvz@dowco.com (Scott Leaf) wrote:
>>In article <4835cg$ks1@alterdial.UU.NET>, Burt Fisher <k1oik@ccsnet.com>
>>-> 7. What does a ham consider a seven course meal?
>>-> A hot dog and a six pack of beer.
>>
>>Not only are they not funny they are not even original, your going to have
>>to find better material Burt! :)

>They are half original.
>I guess since the jokes are based on truisms they are not that funny.

>#================#==#
>| Burt Fisher | Teacher of video, broadcasting and electronics |
>| Amateur call | South Dennis, Ma. (Cape Cod) |
>| K1OIK | The less you say, the more people will remember |
>#================#==#
>| k1oik@ccsnet.com fisher@meol.mass.edu |
>#===#

5201. Re: Do it for the log.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: donk@a.crl.com
Message-ID: <30a6439c.3935195@165.113.1.21>
Source record: 109712
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

Burt Fisher <k1oik@ccsnet.com> wrote:

>To: Multiple recipients of list HAM-L <HAM-L@TREARN.BITNET>

And countless others, it turns out :-)

>How many times have you heards folks say that they wanted the other
>guy's name, QTH, etc. for the log? My log couldn't care less about
>that information. Whenever I ask, it's because I want to know.

Hey, guys, why was this posted in puzzles, running, skiing, and half a dozen other groups? Ham related I can understand, but PLEASE look at the cross-posted groups!

BTW, I picked this up in rec.running, but I always wanted the name also--and of course I wrote it IN the log (where else, back in the old pre-computer days?) 73. N6IM

Don Kirkman donk@a.crl.com
Cerritos, CA
If I had a life I'd be having a mid-life crisis

5202. Re: Rules of ham DUMB.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: tubegod@cml.com
Message-ID: <ragnaroek1995Nov12.150534.4295@news2.compulink.com>
Source record: 109713
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

Burt Fisher (k1oik@ccsnet.com) wrote:
: Ham operator Jokes:

Hi Burt! I really miss your *perspective* on amateur radio over there on
the RIME network.

: 1. What is the thinnest book in the world?
: What hams know about women.

I heard "Italian War Heroes" myself.

: 2. How does a ham take a bubble bath?
: He eats beans for dinner.

Yeah, I heard "How does a redneck take a......"

: 3. What's a ham's idea of foreplay?
: A half hour of contesting.

I heard "Brace yourself Martha"

: 4. How can you tell if a ham is sexually excited?
: If he's still breathing.

This one is very old......

: 5. How many hams does it take to change a roll of toilet paper?
: We don't know...it has never happened.

The version I head was "Men" and not just hams.

: 6. What's a ham's idea of helping with the housework?
: Lifting his leg so you can vacuum.

Once again, I had heard "men"

: 7. What does a ham consider a seven course meal?
: A hot dog and a six pack of beer.

Once again, I had heard "men".

Burt, you're gonna have to do a little better than this!

Cheers!

Andy

```
-------------------------------------------------------------------------
: ComputerLink Online (416)233-5410 104 lines, SLIP, 9600 - 28,800 bps :
-------------------------------------------------------------------------
```

5203. Still Need Sinadder info/manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: stelpony@ix.netcom.com
Message-ID: <485tjb$bg@ixnews5.ix.netcom.com>
Source record: 109714
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

Hi fellow hams:

Still looking for info on Sinadder Model #S-101. Also willing to trade a goodie from the qrp junque box for good data. OR willing to pay costs for repro's.

Tnx,

John, N5INZ

5204. Re: THE Burt

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <485uds$na4@ixnews2.ix.netcom.com>
Source record: 109715
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Burt Fisher <k1oik@ccsnet.com> writes:

> Frequently I hear hams say, THE name HERE is_____.
>How often do you say when you meet someone (assuming your name
>is Charlie), THE name HERE is Charlie? You never do that right? After
>to do so is so impersonal and asinine that you would not want
>to seem like a fool-then why do it on the air? Just because you
>are a ham is no excuse not to be personal. Of course you could
>really sound like THE jerk of the year by saying, THE first
>personal here is Charlie (at least if you are not personal-you are
>using the word-albeit it in an extremely impersonal way).
>Also why say "here", is your name any different when you are "there?"
>
>73 from we here (not there) at K1OIK where THE name are Burt.
>---------------------------------46492684123405--

Burt:

Did it ever occour to you that meeting someone in person is differnt
than meeting them on the air? In my 15 brief years as a ham and SWL I
have never heard a conversation, amateur or commercial that resembled
one I would have with someone face to face.

I dont remember ever telling anyone I was talking to face to face that
their voice was just above the noise level.

Furthermore I dont expect my radio contact to use perfect grammar or
say and do the things I do in order to enjoy communicating with him.

By the way Burt, whats this got to do with building and experimenting
this is rec.radio.amateur.homebrew isnt it?

Regards,

Tim Hynde ka8ddz

5205. Re: Rules of ham DUMB.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: randolw@ix.netcom.com
Message-ID: <483p6s$kk4@ixnews5.ix.netcom.com>
Source record: 109716
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In <4835cg$ks1@alterdial.UU.NET> Burt Fisher <k1oik@ccsnet.com> writes:

>
>Ham operator Jokes:
>
>1. What is the thinnest book in the world?
> What hams know about women.
>
>2. How does a ham take a bubble bath?
> He eats beans for dinner.
>
>3. What's a ham's idea of foreplay?
> A half hour of contesting.
>
>4. How can you tell if a ham is sexually excited?
> If he's still breathing.
>
>5. How many hams does it take to change a roll of toilet paper?
> We don't know...it has never happened.
>
>6. What's a ham's idea of helping with the housework?
> Lifting his leg so you can vacuum.
>
>7. What does a ham consider a seven course meal?
> A hot dog and a six pack of beer.

What kinda beer? Can or bottle?

5206. Request for help w/portable satcom

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: csp@clark.net
Message-ID: <485bpj$qu@clarknet.clark.net>
Source record: 109717

[Article reposted from rec.radio.amateur.space]
[Author was]
[Posted on 12 Nov 1995 17:39:29 GMT]

I am planning a hiking and backpacking trip and would like to try portable packet ops via satellite. I am familiar with packet but have never done any sat work. Is it feasbile to do satellite packet in the field with a handheld and "portable" antenna? Any suggestions/advice would be much appreciated. Thanks.

Craig Peterson, N3DCT
csp@clark.net

5207. THE biggest THE ham THE p

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.6074.546@acenet.com>
Source record: 109718

From: brian.carling@acenet.com

Bert - this crap is off-topic for rec.radio.amateur.homebrew
Please take it elsewhere!

BF> Frequently I hear hams say, THE name HERE is_____.
BF>How often do you say when you meet someone (assuming your name
BF>is Charlie), THE name HERE is Charlie? You never do that right? After
BF>to do so is so impersonal and asinine that you would not want
BF>to seem like a fool-then why do it on the air? Just because you
BF>are a ham is no excuse not to be personal. Of course you could
BF>really sound like THE jerk of the year by saying, THE first
BF>personal here is Charlie (at least if you are not personal-you are
BF>using the word-albeit it in an extremely impersonal way).
BF>Also why say "here", is your name any different when you are "there?"

Who really gives a *&#@?

&#65533; SLMR 2.1a &#65533; Is your computer too FAST? Type 'WIN' at the DOS prompt!

5208. Re: 1750 Meter Band Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951112120456.11148C-100000@biggulp.callamer.com>
Source record: 109719

Dick, there are many many hams operating in the 1750 meter band, not that they HAVE to be hams but they are as radio experimenters. You got good advice to examine the LOWDOWN magazine. There is many beacons in your area but usually none of them can be heard by simply jambing a piece of wire into the antenna input of an all band transceiver. It takes careful effort to sort out the noise from the signals that are there. Everyone is allowed one watt input and a fifty foot antenna rather than the thirty foot antenna first mentioned to you earlier. 73 Cliff Buttschardt W6HDO

On Fri, 10 Nov 1995, Richard Wilder wrote:

> Joel Govostes (jwg6@cornell.edu) wrote:
>
> : Are there any hams on the newsgroup who are active on 1750 meters? I'd
> : like some basic info. on equipment and station design and also a list of
> : beacons I might hear here in central NY. Thanks N1AEP
>
> I am not on 1750m but suggest you join the Longwave Club of America,
> 45 Wildflower Rd, Levittown, PA 19057. $18.00 per year. They publish
> a monthly news letter that contains the kind of information that you
> need. Also, you will find announcements of publications and BBS that
> can help you. Check part 15 of the FCC rules. I believe unlicensed
> folks are allowed 1 Watt into a short antenna about 30 feet; not sure
> of specifics.
>
> My current interest in LF is that I am a consultant to the ARRL and am
> searching below 500 kHz for a piece of spectrum for a new amateur band.
> The 1750m meter band (160-190 kHz) is being considered but it is too
> early to tell if that will be my recommendation to the ARRL board.
>
> I did operate LF in 1947 and 1948 before I was licensed in the Amateur
> Radio Service. I had a lot of fun -- think you will too.
>
> 73, Dick Wilder, K3DI wilder@clark.net
>
>

5209. Re: PLL/VCO homebrew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: murray.mcgregor@stonebow.otago.ac.nz
Message-ID: <4861cs$j14@celebrian.otago.ac.nz>
Source record: 109720

In article <8037253364803@humnet.humberc.on.ca>
hduff@humnet.humberc.on.ca writes:

>
>
> > > >The radio remains intact...I just inject the VCO signal further up the
> > > >line.
> > >
> > > >Hmmm... the '157 I have here is running at 26 Mhz !!
> > >
> > > The '157 is spec'ed at 15 MHz for sine wave and 22 MHz for 5V P-P
> > > square, running from a 5V supply. Your circuit may not continue
> > > to operate correctly when you install it in the radio and it gets
> > > warmed up, etc. It is does work for you, great.
> > >
> > > >Maybe this is pushing it to its limit.
>
>
> >
> > <SNIP!>
> >
> > Coming in late to this thread - have you considered a 1 chip solution?
> > Specifically one of the Philips series of PLL Frequency Synthesizer
> > chips for use in AM/FM radios. RF inputs of 512Khz-30Mhz or
> > 30Mhz-150Mhz.
> >
> > SAA 1075, TSA 6057, TSA 6060 or for <30Mhz, TDA 8735
> >
> > For myself, I'd like to be able to source small quantities of ONE of
> > the above!
> > Or find a similar product from any other manufacturer.
> >
> > Cheers, Murray
>
>
> Hi Murray... Thanks for your comments.
> One chip solution eh !?!? What do you mean by this ? Do you mean it has
> a built-in VCO, requires no external programming chips ect... :)
> or do you mean that no external prescalar is required ?
>
> My latest scheme is to use the Motorola MC145170p. This one is rated
> for 160 MHz, serially tuned. I got a few samples from Motorola and
> should have no trouble getting them in small quantities from a local
> dealer. It's avalaible in DIP or surface mount package.

> Minimal change in my firmware to change from the '157 to the 170 for
> programming it. Obtaining Phillips parts around here is not easy...I
> guess you work with whatever is available !
>
>
> Regards! Hugh Duff VA3TO
>
Oops! I seem to have put my foot in my mouth here! Apologies to any I have upset or misled. The Philips chips I mentioned are no less '1-chip' than the Motorola units referred to by Hugh. At the time of my first comments, I didn't realise that the '157 was more than a counter. It seems that one of the Motorola MC145 series may be a good choice for me as I have had good reports from several people and there may be fewer supply problems than with Philips.

Cheers, Murray

5210. Help with Shack Grounding techniques?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: herbr@netcom.com
Message-ID: <herbrDHyDyz.2Mr@netcom.com>
Source record: 109721

Subject: Help with Shack Grounding techniques?
Newsgroups: rec.radio.amateur.misc
Organization: NETCOM On-line Communication Services (408 261-4700 guest)
Summary:
Keywords:

I recently read an article regarding ways to ground the equipment in the ham shack. This article suggested using something called "Aluminum Flashing available at any home improvement store"

Well, I didn't know what "aluminum flashing was, so I went to the home improvement store. Seems that there are several things they refer to as aluminum flashing.

Some were long flat bars of aluminum in 8 foor lengths with widths from 1/2 inch to 1 inches or so.

Others were shaped in a L configuration with a width on each side of 1.5 inches or so.

Then, they showed me these flat sheets of 3 foot by 4 foot metal, that they said was also called flashing.

The sheets look interesting, since that would seem to provide a large surface area to use to tie the individual pieces of equipment to. It could be pleaced under the rigs, or on the back side of the rig tabel, but I don't know if that is the "best way".

I am just looking for a good technique to ground all of the HF equipment and accessories in the shack. By the way, the shack is on the second floor.

If you are familiar with "flashing" and or have any suggestions on the best way to ground the equipment, I would appreciate your comments. I live in any environment where I have to be extremely sensitive the RFI / EMI and I want to make sure I do everything on my part.

Thanks and 73's/

Herb - KG6OK

--
herbr@netcom.com

5211. Mixers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-12 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <816221577.AA04209@hamlink.mn.org>
Source record: 109722

Hi gang,
Well my two cents.... While I follow and find it hard to argue with the thoughts expressed regarding square waves driving Mini-Ckts mixers, my experience argues against it. I have found in the many front ends I have built from HF thru SHF, that a *clean* sinewave LO gives better results. Using square waves, even ones from a current source, has produced *many* harmonics and spurs in the IF that can be a real pain to get rid of. A well filtered LO on the other hand makes for a more quiet mixer. I realize that the diodes will reek havoc with my sine wave, and make lots of spurs....Like I said I find it hard to explain, but I now use clean LOs in my designs.
Ideas?

73 Bob WB0POQ

5212. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: stevesam@visi.com
Message-ID: <4866hj$hq@mixer.visi.com>
Source record: 109575
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

asource@ix.netcom.com (InterSource) wrote:

<snip>
>>73 de Chuck

Please remove rec.pyrotechnics from this thread.
Me

5213. Re: Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <4867e4$l55@alterdial.UU.NET>
Source record: 109576
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

time@tir.com (Tim English) wrote:
>Burt, why dont you just go away someplace else. Your the only one who
>enjoys your "so called" wit. We all think your a jerk. You must lead
>an awfully sheltered dull life if this is all you can find to do for

Then why do I get frequent messages that appreciate my comments?

#================#===#
Burt Fisher	Teacher of video, broadcasting and electronics
Amateur call	South Dennis, Ma. (Cape Cod)
K1OIK	The less you say, the more people will remember
#================#===#
| k1oik@ccsnet.com fisher@meol.mass.edu |
#===#

5214. Re: THE Burt

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <48682v$l55@alterdial.UU.NET>
Source record: 109577
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

timhynde@ix.netcom.com (Tim Hynde ka8ddz/qrp Rochester, MI) wrote:

>Did it ever occour to you that meeting someone in person is differnt
>than meeting them on the air? In my 15 brief years as a ham and SWL I
>have never heard a conversation, amateur or commercial that resembled
>one I would have with someone face to face.

>Tim Hynde ka8ddz

You mean in person you are supposed to sound like a person but on
the air sounding like an ass is OK? All my conversations are spoken
as much as they would be in person as possible.

```
#================#=========================================================#
| Burt Fisher | Teacher of video, broadcasting and electronics |
| Amateur call | South Dennis, Ma. (Cape Cod) |
| K1OIK | The less you say, the more people will remember |
#================#=========================================================#
| k1oik@ccsnet.com fisher@meol.mass.edu |
#=====================================================================#
```

5215. Re: Do it for the log.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: time@tir.com
Message-ID: <4867nc$q2u@ramp2.lisp.com>
Source record: 109578
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

donk@a.crl.com (Don Kirkman) wrote:

>Burt Fisher <k1oik@ccsnet.com> wrote:

>>To: Multiple recipients of list HAM-L <HAM-L@TREARN.BITNET>

>And countless others, it turns out :-)

>>How many times have you heards folks say that they wanted the other
>>guy's name, QTH, etc. for the log? My log couldn't care less about
>>that information. Whenever I ask, it's because I want to know.

>Hey, guys, why was this posted in puzzles, running, skiing, and half a
>dozen other groups? Ham related I can understand, but PLEASE look at
>the cross-posted groups!

>BTW, I picked this up in rec.running, but I always wanted the name
>also--and of course I wrote it IN the log (where else, back in the old
>pre-computer days?) 73. N6IM

>Don Kirkman donk@a.crl.com
>Cerritos, CA
>If I had a life I'd be having a mid-life crisis

Gee, why dont you ask our good buddy Burt Fisher !

Tim (time@tir.com)

5216. Re: THE Burt

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: chef_don@ix.netcom.com
Message-ID: <486en3$b5f@ixnews5.ix.netcom.com>
Source record: 109579
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In <48682v$l55@alterdial.UU.NET> Burt Fisher <k1oik@ccsnet.com> writes:

>
>
>timhynde@ix.netcom.com (Tim Hynde ka8ddz/qrp Rochester, MI) wrote:
>
>>Did it ever occour to you that meeting someone in person is differnt
>>than meeting them on the air? In my 15 brief years as a ham and SWL I
>>have never heard a conversation, amateur or commercial that resembled
>>one I would have with someone face to face.
>
>>Tim Hynde ka8ddz
>
>You mean in person you are supposed to sound like a person but on
>the air sounding like an ass is OK? All my conversations are spoken
>as much as they would be in person as possible.
>
>#================#===
#
>| Burt Fisher | Teacher of video, broadcasting and electronics
|
>| Amateur call | South Dennis, Ma. (Cape Cod)
|
>| K1OIK | The less you say, the more people will remember
|
>#================#===
#
>| k1oik@ccsnet.com fisher@meol.mass.edu
|
>#===
#
>
>

on the air he tries to come through as much of a person as possible,
but on the internet he comes through as quite the ASS!

5217. Re: Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: jasonl@cts.com
Message-ID: <486ip6$7me@news2.cts.com>
Source record: 109580
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Well, DAWG! Burt Fisher's jokes not funny?
Y'all must got rocks fer brains! Ah'z just finishin'
readin' some print outs of Burt's jokes while
relaxin' in the bath -- fartin' up a storm.
Makes like a freakin' hot tub.

Ye haw! Let's hear it for Burt's humor!

--
jasonl@cts.com
"I choose to assert my fifth amendment privilege."

5218. Re: Help with Shack Grounding techniques?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <4870ar$kgu@ixnews7.ix.netcom.com>
Source record: 109581

Herb, the flashing that is referred to in these articles is a roofing
product. It is aluminun sheeting just like that used in small cheap
metal project boxes. It is usually available in widths from 4 to 24
inches and lengths from 10 to 30 feet. You will find it in rolls in
the roofing section of your building materials stores...

In <herbrDHyDyz.2Mr@netcom.com> herbr@netcom.com (Herb Rosenberg)
writes:
>
>Subject: Help with Shack Grounding techniques?
>Newsgroups: rec.radio.amateur.misc
>Organization: NETCOM On-line Communication Services (408 261-4700
guest)
>Summary:
>Keywords:
>
>I recently read an article regarding ways to ground the equipment in
the
>ham shack. This article suggested using something called "Aluminum
>Flashing available at any home improvement store"
>
>Well, I didn't know what "aluminum flashing was, so I went to the home

>improvement store. Seems that there are several things they refer to
as
>aluminum flashing.
>
>Some were long flat bars of aluminum in 8 foor lengths with widths
from
>1/2 inch to 1 inches or so.
>
>Others were shaped in a L configuration with a width on each side of
1.5
>inches or so.
>
>Then, they showed me these flat sheets of 3 foot by 4 foot metal, that

>they said was also called flashing.
>
>The sheets look interesting, since that would seem to provide a large
>surface area to use to tie the individual pieces of equipment to. It
>could be pleaced under the rigs, or on the back side of the rig tabel,

>but I don't know if that is the "best way".
>

>I am just looking for a good technique to ground all of the HF
equipment
>and accessories in the shack. By the way, the shack is on the second
floor.
>
>If you are familiar with "flashing" and or have any suggestions on the

>best way to ground the equipment, I would appreciate your comments. I

>live in any environment where I have to be extremely sensitive the RFI
/
>EMI and I want to make sure I do everything on my part.
>
>Thanks and 73's/
>
>Herb - KG6OK
>
>
>
>--
>herbr@netcom.com

--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

5219. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: jimc@mdsroc.com
Message-ID: <487hjv$19c@mdsroc.com>
Source record: 109582
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

Oh, I see, the self-righteous calling the self-righteous self-righteous.

I've only been an amateur radio operator for 18 years and I would have to agree with some of the observations. But amateur radio is not the people who participate, but the act of participating. Yes there are some bad apples, but in most activities which concentrate a group of individuals with a specific activity, such as talking to each other on the radio, this is bound to happen. Unfortunately, we are not all as perfect as we should or could be, but I didn't get into amateur radio to join some perfect elite group, I got in because I found being able to communicate over thousands of miles, with a make shift antenna and a relatively inexpensive radio, pretty cool. Other people probably got in for other reasons. Sadly, I think a vast majority of amateur radio operators don't even know what the FCC part 97 reason for amateur radio's existence is.

Don't let the bad apples spoil the excitement that can be found in amateur radio, there is something there for everyone (wives/girlfriends too).

5220. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: spug@intlog.demon.co.uk
Message-ID: <816282897.27302@intlog.demon.co.uk>
Source record: 109583
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

jimc@mdsroc.com (Jim Clarke) wrote:

>Oh, I see, the self-righteous calling the self-righteous self-righteous.

>I've only been an amateur radio operator for 18 years and I would have to
<>SNIP><
>Don't let the bad apples spoil the excitement that can be found in amateur
>radio, there is something there for everyone (wives/girlfriends too).

Rec.puzzles.crosswords DOES NOT CARE. Please return to a ham radio newsgroup,
or even better go back to your bloody radio and talk to people who do.

Bloody but unbowed=
==========Spug (Sparrow) London.==========

5221. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: whirlwind@fangz.com
Message-ID: <487uub$jod@news.dx.net>
Source record: 109584
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

Speaking of idiots, this wound up in a very inappropritate newsgroup. I've taken the liberty of leaving that newsgroup out of further discussion.

--
~~~~~~
Barry K. Swank, Jr. Rochester, NY
Whirlwind@fangz.com

Sig under construction!
~~~~~~

5222. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: crazyone@city-net.com
Message-ID: <crazyone-1311952305460001@async9.city-net.com>
Source record: 109585
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

In article <488ff6$srk@i-2000.com>, dougrand@i-2000.com (Doug Randall) wrote:

> Burt Fisher <k1oik@ccsnet.com> wrote:
>
> >I said: "I have a VIC 20 I want to trade for a IC-781" (how long do we
>
>
> >Howsomever, there is a beach bunny and her girlfriend that said they
> >would just die if I sold the Malibu house on the beach, so they come
> >with the house and the motorhome and the radio.
>
> >By the by, if you hear of anyone who has a Kenwood TS-50 attached to a
> >Mercedes 450SLC - I would like to trade a Radio Shack 202 for it!!!!!!!
> >
> >73 de Chuck
> Hello Chuck,
>
> I gotta Mercedes 350SL and it comes with a Alinco DR600. Been
> thinking that I might want to trade for those two beach bunnies if you
> don't want them any more...
>
> 73's Doug
>
> KN2Y

Some of us would really appreicate it if you would take rec.roller-coaster
out of your follow ups. Is that too much to ask? It's questionable what
this has to do with anything, but it certainly has nothing to do with
roller coasters.

Thank you.

CrazyOne <---

<===>
crazyone@city-net.com | "I say what it occurs to me to say when I
Greg Pacek | think I hear people say things. More I
Pittsburgh, PA, USA | cannot say." --the ruler of the Universe
<===>
**** New update!! 31 October 1995 ****
Check out the Creative Craziness home page, Outside the Asylum
---> http://www.city-net.com/~crazyone <---

5223. Replies to Burt Fisher are Spamming the Net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <489a3b$l31@crash.microserve.net>
Source record: 109586
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

To all readers:

Please check the "Post To:" or "Newsgroups:" listing in your
newsreader before responding to Burt Fisher. He is spamming many
groups with his posts and your followups are doing the same.

Thanks,

Jack

5224. Re: THE Burt

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: ka1kjz@ix.netcom.com
Message-ID: <487put$pf2@ixnews2.ix.netcom.com>
Source record: 109587
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <486en3$b5f@ixnews5.ix.netcom.com>,
chef_don@ix.netcom.com (Donald R. Sanchez) wrote:

_____ LOTS OF STUFF NUKED _____

>
>on the air he tries to come through as much of a person as possible,
>but on the internet he comes through as quite the ASS!

Here's an original idea here....

IGNORE THE ASS... KILL FILES ARE OUR FRIENDS

I added Burt to my killfile, and WHOA.. the number of messages my newsreader
thinks it has is about half what it was.

Now... if there is only a way of filtering out responses.

--
****
The opinions contained herein are mine and mine alone, so there!
For only I am capable of spewing forth such absurdities and my
boss / internet provider / own mother will laugh heartily at any
attempt to bring them into this and disavow any knowlege of me.
Then we'll have a beer and have a good laugh at your expense.
****

5225. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: stevesam@visi.com
Message-ID: <487urp$arl@mixer.visi.com>
Source record: 109588
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

beeb@ix.netcom.com wrote:

>Burt Fisher <k1oik@ccsnet.com> wrote:

>(snip)

>What the hell does this have to do with rollercoasters?

>Please remove rec.roller-coaster from this thread.

<inappropriate groups cut from subject line>

Rec.pyrotechnics too...and everything that isn't radio related.
Me

5226. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: Chris White <chris_white@mail.utexas.edu>
Message-ID: <487vm3$9n4@geraldo.cc.utexas.edu>
Source record: 109589
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

Please stop posting this crap to rec.scuba, rec.scouting, rec. ....

I've removed the bogus cross-posts from the Post To: header above. Please give
us a break: Please Please Please look at those headers when you post, ok?
--
Chris White e-mail: chris_white@mail.utexas.edu
\\// Live long and prosper.

5227. Re: THE Burt

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: STOP@CROSS-POSTING.COM
Message-ID: <DHzopq.Ky2@eskimo.com>
Source record: 109590
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Burt Fisher <k1oik@ccsnet.com> wrote:

>timhynde@ix.netcom.com (Tim Hynde ka8ddz/qrp Rochester, MI) wrote:

>>Did it ever occour to you that meeting someone in person is differnt
>>than meeting them on the air? In my 15 brief years as a ham and SWL I
>>have never heard a conversation, amateur or commercial that resembled
>>one I would have with someone face to face.

>>Tim Hynde ka8ddz

>You mean in person you are supposed to sound like a person but on
>the air sounding like an ass is OK? All my conversations are spoken
>as much as they would be in person as possible.

>#===============#===#
>| Burt Fisher | Teacher of video, broadcasting and electronics |
>| Amateur call | South Dennis, Ma. (Cape Cod) |
>| K1OIK | The less you say, the more people will remember |
>#===============#===#
>| k1oik@ccsnet.com fisher@meol.mass.edu |
>#===#

COME ON BURT !!!!!!!!!!!!!

>rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur..space,
>rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,
>rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

BURT,
Annoying, slandering, mean-spirited are all easy attributes
and you excel in every field. You occasionally kinda sorta
show some intelligence. Why don't you quit taking the LAZY
route of cross-posting, and instead narrow it to the respective
group.
If seeing the responses generated by your remarks fascinates
you, I'm sure somewhere in the halls of M.U. is a psychology
professor that may be able to help you.
Of course, practicing what you preach would be nice too !!!

>| Burt Fisher | The less you say, the more people will remember |

regards,
founding member of the Stamp Out Cross-Posters Society SOCS

5228. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: stevesam@visi.com
Message-ID: <488amm$f88@mixer.visi.com>
Source record: 109591
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

spug@intlog.demon.co.uk (Sparrow) wrote:

>jimc@mdsroc.com (Jim Clarke) wrote:

<snip>
>Rec.puzzles.crosswords DOES NOT CARE. Please return to a ham radio newsgroup,
>or even better go back to your bloody radio and talk to people who do.
>
>Bloody but unbowed=
>==============Spug (Sparrow) London.==========================

<inappropriate groups cut>

PLEASE PLEASE PLEASE stop this thread.
Re-issue it with a new groups line.
rec.pyrotechnics doesn't care either.
Me

5229. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: stevesam@visi.com
Message-ID: <488apa$f88@mixer.visi.com>
Source record: 109592
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

whirlwind@fangz.com () wrote:

>Speaking of idiots, this wound up in a very inappropritate newsgroup. I've
>taken the liberty of leaving that newsgroup out of further discussion.

<sig cut>
<inappropriate groups cut>

Why not use your judgement and remove ALL inappropriate groups like I
did?
Me

5230. Re: Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: Andrew C Robertson <drewbob@mit.edu>
Message-ID: <488eh3$qfo@senator-bedfellow.MIT.EDU>
Source record: 109593
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

rawiley@blue.weeg.uiowa.edu (R. Wiley) wrote:
>
> I think they can be fixed, see below;

No, these are still not funny. They need new punchlines. Regard:

>>-> Burt Fisher Jokes:
>>->
>>-> 1. What is the thinnest book in the world?
"A Boy's First Book of Subtlety" by Burt Fisher
>>->
>>-> 2. How does Burt Fisher take a bubble bath?
He gets into a 55 gallon fish tank with some piranhas
>>->
>>-> 3. What's Burt Fisher's idea of foreplay?
Posting usenet articles until his wife falls asleep
>>->
>>-> 4. How can you tell if Burt Fisher is sexually excited?
We don't know...it has never happened
>>->
>>-> 5. Can Burt Fisher change a roll of toilet paper?
He prefers to use old newspapers spread out on the floor
>>->
>>-> 6. What's Burt Fisher idea of helping with the housework?
Fleeing
>>->
>>-> 7. What does Burt Fisher consider a seven course meal?
Any one-course meal plus six doses of ipecac

drewbob aa1hx MP NTAP

5231. re: spamming the net - was Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: Steve.Breland@rmh.edu
Message-ID: <488fb2$ehk@news1.sunbelt.net>
Source record: 109594
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

Burt Fisher <k1oik@ccsnet.com> wrote:

>I said: "I have a VIC 20 I want to trade for a IC-781" (how long do we
>have read thesre messages where some ham wants to trade his junk for
>something woth something).
>
Burt,
How's about trimming the non-radio groups from your posting
Newsgroups?
Thanks,

-Steve
email: Steve.Breland@rmh.edu

5232. Re: THE Burt

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <488jbf$c53@alterdial.UU.NET>
Source record: 109595
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc, rec.radio.amateur.antenna

ka1kjz@ix.netcom.com (Ronald C. Barnes) wrote:

>
> IGNORE THE ASS... KILL FILES ARE OUR FRIENDS

Ignore?
Like you did?

>
>I added Burt to my killfile, and WHOA.. the number of messages my newsreader
>thinks it has is about half what it was.
>
>Now... if there is only a way of filtering out responses.

And now you are bored to death?

```
#================#=========================================================#
| Burt Fisher | Teacher of video, broadcasting and electronics |
| Amateur call | South Dennis, Ma. (Cape Cod) |
| K1OIK | The less you say, the more people will remember |
#================#=========================================================#
| k1oik@ccsnet.com fisher@meol.mass.edu |
#=====================================================================#
```

5233. Re: THE Burt

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: rfm@urth.eng.sun.com
Message-ID: <RFM.95Nov13174719@urth.eng.sun.com>
Source record: 109596
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <DHzopq.Ky2@eskimo.com> STOP @CROSS-POSTING.COM writes:

BURT,
Annoying, slandering, mean-spirited are all easy attributes
and you excel in every field. You occasionally kinda sorta
show some intelligence. Why don't you quit taking the LAZY
route of cross-posting, and instead narrow it to the respective
group.

Geez, don't give him a clue! I've got a killfile that zaps all postings to more than 5 newsgroups, since anything that widely crossposted is always a waste of time. I had idly wondered why all the Burt followups had dropped off my radar, but was mainly just happy that they had. (I happened to trip over your posting while experimenting with a different newsreader configuration.) Burt, *please* keep on crossposting, it really helps me out.

(BTW, I also kill every post with a subject in ALL CAPITAL LETTERS. They're also uniformly worthless. Funny how these things work.)

Rich

--
Rich McAllister (rfm@eng.sun.com)

5234. Re: THE biggest THE ham THE problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: "Thomas W. Castle" <afn17891@freenet.ufl.edu>
Message-ID: <Pine.A32.3.91.951112221821.7099B-100000@freenet2.freenet.ufl.edu>
Source record: 109597
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

You just go to show that "foamers & droolers", do have a place
in this world. Even an idiot like you can find your way into
Ham radio, an computers. Now if only you had something worth
while to say or do..?
If nothing else you are fun <?> to watch <???>. You at least
give us something to laugh at...

BTW> If life gets too much for you to handle, there is a site on
the www// that provides information on the: Do it yourself -
Frontal lobotomy <using 38 - 357 - 45 or what have you>,
Do it yourself Electro Shock therapy <just requires 2 pieces
of number 6 wire an access to a 220v electrical panel.> or
the ever favorite Birth-Control Retro=active classes.

Now you can see how boring it is reading useless crap...
Do yourself a favor, find a new or different hobby...
Unless your 10-13yrs old & like flaming & whinning...

C/U De Tom a.k.a. KD4QHH

5235. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: stevesam@visi.com
Message-ID: <488709$dlv@mixer.visi.com>
Source record: 109598
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

jimc@mdsroc.com (Jim Clarke) wrote:

>Oh, I see, the self-righteous calling the self-righteous self-righteous.

<snip>

>Don't let the bad apples spoil the excitement that can be found in amateur
>radio, there is something there for everyone (wives/girlfriends too).

<inapproprate groups snipped>

Please don't continue posting this to inappropriate groups.
Me

5236. Re: Ramsey FX440

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: mlapolt@netaxis.com
Message-ID: <486h1g$rr1@henry.netaxis.com>
Source record: 109599

>This will never be a great radio, but you can mod it to make
>it an acceptable radio. Consider it a learning experience.
>
>Gary

Thank you VERY much. This is some of the best advice i've gotten with my nasty Ramsey problem.

You were right about the mic amp, my mistake that one, put in an electrolytic backwards. As far as, and you used the term 'microphonics' being not familiar with the term I'm going to assume that is refering to the 'mechanical noise' I mentioned, the only oscillator xtal in the radion is solid as a rock. The noise is definately coming from the VCO.

The version of the kit that I have inhibit transmit when A: the ptt is down (obviously) and B: the PLL is unlocked.

I like the tuning aid idea, when I get ready to do final tuning I'm going to try that, as well as bearing in mind the comments you made abou coil spacing.

I'm not looking for a great radio, but I am looking for a learning experiance. If I can get a decent radio out of it, I can always asign it to packet and be done with it. :)

Mark LaPolt

N1UNE

mlapolt@netaxis.com

5237. DSP for the R2?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDHzoC4.5uF@netcom.com>
Source record: 109600

In some conversation on another list and privately, some of us were musing about the possibility of a DSP for the KK7B R2 receiver design to handle audio quadrature, filtering, and maybe multiple modes.

My limited knowledge tells me it would have to be more advanced than the usual 8- or 12-bit processors in the garden-variety outboard DSP audio filters, maybe more akin to that described in the QST review of the Watkins-Johnson receiver, or the boxes Rohde described in his articles.

I'll do it if someone pays for my course work and a sabbatical from my real job ;-) . Seriously, is anybody able to take on something like this?

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <

5238. Re: OSCILLATORS USING MMIC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <48818b$kj8@hpscit.sc.hp.com>
Source record: 109601

In article <48078j$82@newsbf02.news.aol.com>, Lrware <lrware@aol.com> wrote:
>In: Oscillator Design & Computer Simulation by
>Randall W. Rhea, Prentice Hall, ISBN 0-13-642513-5
>He talks about using MMIC's in general and the MAR-3 as an example
>for SAW oscillators. pg. 181.
>This is a fairly high level book, but does include DOS based modeling
>programs. I've used the "STAR" program included, and found it to be a
>very good model of oscillator and related networks. It's not very easy to
>use because it demands good input data, as S-Parameters or you have,
>G.I.G.O.
>A MAR-3 model is also included.
>Suggest you try this only if you like working in the 100-3000MHZ range.
>
>- Larry Ware
>lrware@aol.com

There were some papers published about 5 years ago by Mike Driscoll at the IEEE Frequency Control Symposium about oscillators using MMIC gain blocks. Mike got some fairly good results, although they were not earthshaking. Independently of Mike, I had experimented about the same time using transistors with shunt negative feedback to build a 640 MHz. SAW oscillator for the HP 5071 cesium clock. (See my 1992 Freq. Control paper for details on the clock architecture.) The shunt feedback on the transistor was an attempt to make a "homemade" MMIC that would operate at low voltage and current (that's why I didn't use a real MMIC). Anyway, for that application, it was an outstanding idea. The shunt feedback changes the phase shift of the transistor from 270 degrees back to 180 degrees and greatly lowers the input and output impedance to about 10 ohms. This is another reason I didn't use commercial MMIC's, because they are designed to give 50 ohms in and out. In most oscillator designs, you want the impedance as low as possible, not 50 ohms (after all, you're not going to be driving 50 ohm lines anyway, so there is nothing significant about 50 ohms). The negative feedback was one of the reasons we were able to get over 1 kHz. of tuning range with a varactor. (Several SAW experts declared this amount of pulling "impossible".) The negative feedback also improved temperature stability to the point where is was no longer significantly affected by the transistor (which was an MRF9411). Try it, you'll like it.

Rick Karlquist N6RK
rkarlqu@scd.hp.com
rkarlqu@scd.hp.com

5239. Re: Spec Analyzer + Noise Gen = Tracking Generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4881gl$kor@hpscit.sc.hp.com>
Source record: 109602

In article <4804kd$jc9@hg.oro.net>, Jim Weir <rst-engr@oro.net> wrote:
>john.ackermann@daytonOH.ncr.com (John Ackermann) wrote:
>
>>Sorry if this is a bit long, but in addition to posing a question this might
>>be useful info for other folks.
>
>>If you can't have a network analyzer for tuning cavities, the next best thing
>>is a spectrum analyzer with a tracking generator. Of course, such things
>>aren't cheap.
>
>>I'd always wondered if a noise generator could serve
>[snip in consideration of bandwidth]
>
>Hey, now THAT's a clever idea. But I've never seen a noise generator
>that would put out enough poop to be seen on a spectrum analyzer with
>any decent dynamic range left. How much poo did the noise generator

Someone had mentioned that this technique didn't work with notch
filters. The reason it doesn't is that the wideband noise overloads
the mixer in the spectrum analyzer and fills in the notch. If your
spectrum analyzer has a really good dynamic range, you might be
able to adjust the attenuator just right and get away with it, if you
don't need to see down more than 40 dB or so. Otherwise, use a wider
bandpass filter as a "roughing" filter in cascade with the notch filter
to avoid overload.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5240. Re: OSCILLATORS USING MMIC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <487usg$sif@newshost.lanl.gov>
Source record: 109603

Heh, can't resist throwing in my 2 cents worth. In my
experience the term "Unconditionally Stable" is a misnomer and
easily misunderstood. Invariably when you read the fine print
there are "conditions" attached to the "unconditionally stable"
claims. Whether with op amps or mmics such as the MAR-1, I
have found that they yes, oscillate actually rather EASILY
unless careful attention is paid to layout, input/output
impedances, etc. Whether they can oscillate at a particular
frequency of choice sounds a bit chancy according to my
esteemed colleague Mr. Coffman... I've never INTENTIONALLY used
one for an oscillator but have lots of experience trying to
tame mmic circuits acting as oscillators but designed as amps
:)
--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5241. Re: Ramsey FX440

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <48803k$sif@newshost.lanl.gov>
Source record: 109604

I appreciate your comments on the FX-440. I had very similar
luck with the original FTR-146, i.e. having to distort the
coils massively to get optimized sensitivity out of the
receiver, etc, plus the audio/squelch can get irritating to
listen to since it goes in and out with a loud "pop" etc.
But the radio is FUN (to me) to use! Being able to dipswitch
in any old frequency and have it respond.... it gives ya all
kinds of ideas about controlling it externally with a PC or
other CPU...
And, I've been interested in the broad band coverage of the
FX440 for some time, just never got around to sending in the
bucks for the kit, and have been put off recently by all the
bitter experiences posted here. Your post reconfirms my
opinion that Ramsey radios are largely quite good in the
"maximum bang for the buck" category. No, they aren't as slick
as a good used commercially made radio, but they are better
than anything I could reasonably homebrew and design in a
decent amount of time. Plus, I like the Ramsey manual
philosophy. Building a Ramsey step-by-step IS an
educational experience, having built several Heathkits
and KnightKits (giving away my age here) in days of yore
I know the only education I got there was in how to
solder, not in how each stage actually worked etc.
Having marketed kits myself I am aware of the widely varying
(or non-existent) kit-building ability of the average Joe Ham.
It is difficult to buy parts alone for the price of the kits
marketed by Ramsey. And it CERTAINLY helps to have scopes,
spectrum analyzers, etc, available for such projects.
One way to tune up a suspect transmitter without a spectrum
analyser is to tune it up first for max power as stated in the
instructions and then re-do the transmitter alignment with a
narrow filter between the transmitter and the power meter
circuit. You'll invariably find much less power coming through
the filter. A simple stripline filter will do.

--
********** Jim Devenport WB5AOX **************
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5242. Re: Ramsey FX440

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4880ct$sif@newshost.lanl.gov>
Source record: 109605

I built the first Ramsey synthesized radio (FTR-146) and it
suffers from many of the problems listed, but I think it is a
fun radio to use, it's one of the smallest mobiles I own (I
built a custom PC board case for it that very snugly encloses
the radio). I just think its fun to use a radio I built with
my own pinkies, though it sees service mostly as a packet radio
nowadays as you state for a "worst case" use for it.
--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5243. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: 'AB7HI' Stephen Lee <slee@u.washington.edu>
Message-ID: <Pine.A32.3.91j.951113110246.70186A-100000@homer06.u.washington.edu>
Source record: 109606

There's an electronics supply house in Kent, Washington which has
about fifteen of the Signetics NE602 mixer IC's. They do sell
onesy-twosy...for a price...in this case, $5.02 apiece.
They are:
Supertronix, Inc
18650 68th Avenue So.
Kent, WA
Phone: (206) 251-8484
FAX: (206) 251-5402

I've been buying from Supertronix since 1984 having been quite satisfied
with my purchases. They do offer quantity discounts when they have the
product in quantity. In the case of the NE-602, they only have fifteen.
Good luck one and all!

Stephen Lee, AB7HI
slee@u.washington.edu

5244. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: smackay@news.epix.net
Message-ID: <4888ht$lnh@guava.epix.net>
Source record: 109607

I seem to recall the NE604 is a souped up '602. Think pinouts the same.
Also have seen '602s in Nuts and Volts ads..surplus houses.
73
Scott
W7GSM

Alan Wong (wong@PROBLEM_WITH_INEWS_DOMAIN_FILE) wrote:
: Jim Devenport (jdevenport@lanl.gov) wrote:
: : I just wasted an hour calling my usual sources (Jameco,
: Digi-Key, etc) as well as multiple searches through the

: I did the same yesterday, but sad to say, it was a bit more then an hour.
: The closest answer I got all day was not until early '96. My question
: is, can any other part by sub'ed for the NE602? I've looked through
: the cross ref guides with no luck, but I'm hoping that by some chance
: I'll find one here.

: jh. - n9rbi
:

5245. Re: Ramsey FX440

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: henniger@cisco.com
Message-ID: <henniger.816299567@cisco.com>
Source record: 109608

In <481akt$pgi@henry.netaxis.com> mlapolt@netaxis.com (Mark LaPolt) writes:

>>
>> The phone number is 1(716)924-4560 and have a good description of
>>the problem.
>>
>>
>> Mark Wyman
>> WOWEE@MSN.COM

> I'd be VERY suprised if there were NOT people who got them to work.
>Unfortunately, I can't seem to find one. At least not one who did not have a
>significant amount of trouble with the radio. I've got the project on the back
>burner for now, but hope to get back into it in the coming week. I'll keep the
>tech support # on hand for last resort, but I want to try to solve this one
>meself.

> Tnx and 73's
> Mark LaPolt N1UNE
> mlapolt@netaxis.com

I too have had a reasonable amount of trouble with the FX-440. It seems
that they have a sawtooth output from the synthesizer that is used
after averaging to keep the transmitter on (if the PLL's not locked, you
probably don't want to be transmitting..) unfortunately the layout is
such that this sawtooth causes lots of noise in the (audio frequency
sawtooth) transmit audio path. Sent to Ramsey, but they couldn't get
rid of the noise. The noise precludes even 1200 baud packet.
I finally disabled the output from the Synthesizer, to effectively
enable the transmitter always. Now I only have to deal with the
weak mic audio and hit-or-miss PLL lock problems.

Theoretically, the design will work but...

Mick

5246. Re: Needed: Small Quantity Parts Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: jgoecks <jgoecks@pacifier.com>
Message-ID: <488gsp$d3i@news.pacifier.com>
Source record: 109609

noel@li.com (Noel Anderson) wrote:
>
> I need a mail order small quantity electronic parts source (resistors,
> capacitors, etc).....I'm building a home brew QRP rig and can get what
> I need at the local radio Shack.....Noel Anderson NI1Q
> Connecticut......Thanks
>
Mouser 1-800-346-6873
Digi-Key 1-800-344-4539
are both good sources for small quantity parts.

Jim Goecks

5247. NE602 Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1995Nov13.221319.19410@schbbs.mot.com>
Source record: 109610

A local mail order house here in Phoenix has these in stock.

NE602: $2.50 each.

Given a possible shortage, I just picked up 8 this afternoon
as I use these alot in my homebrew projects.

The outfit is called:

DC Electronics
P.O. Box 3203
Scottsdale, Az 85271-3203

Phone number: 1-800-423-0070 and 1-800-467-7736

They are a hobbist mail order house and as such will accept
small orders.

Minimum shipping and handling is $4.00......

- Dan Tayloe, WB0NVB

5248. Pin Diode Switching ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: jackwy@clark.net
Message-ID: <488jb5$k1l@clarknet.clark.net>
Source record: 109611

I am looking at using pin diodes to replace the mechanical
switches in my cable tv switching box. Does anyone have any
recommendations for the diodes to use? Also do you have information
on whether or not they will handle the bandwidth of the cable signal
(61 channels)? Any info appreciated.

Jack WB3ICL

5249. DC rx verses *.*

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <488jq0$et7@ixnews6.ix.netcom.com>
Source record: 109612

Can someone explain the difference in sensitivity when dealing with a DC reciever v.s. a superhet or any other type of conversion reciever?

I understand the benifits of an I.F, and selectivity. But where does sensitivity come into play. It seems to me the front end is where it matters and not what you do with the signal afterwards.

Why do DC recievers get such a bum rap?

5250. Re: spamming the net - was Re: The idiot h

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: adercole@mezzrtm.lasc.lockheed.com
Message-ID: <488lkj$jkt@butch.lmsc.lockheed.com>
Source record: 109613

Burt,
I had a mint VIC-20 still in the box with all of the orginal packing material
cassette drive, modem, and I threw it in the trash. Its worthless.

5251. Re: Needed: Small Quantity Parts Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30A806D2.900@jpaw.com>
Source record: 109614

Noel Anderson wrote:
>
> I need a mail order small quantity electronic parts source
(resistors,
> capacitors, etc).....I'm building a home brew QRP rig and can get
what
> I need at the local radio Shack.....Noel Anderson NI1Q
> Connecticut......Thanks

One good source is DigiKey: 1-800-344-4539.
URL: http://www.digikey.com

There are others, but I've had good luck with DigiKey.

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5252. QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-13 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.816305392.14211.jwicklun@mycroftxxx.halcyon.com>
Source record: 109615

Will wonders never cease.....There have been a couple of threads
regarding the publication of QEX (and where its gone). Just for
info, I just got the SEpt issue.

73

5253. Re: re: spamming the net - was Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <488pvh$47h@news.azstarnet.com>
Source record: 109616
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

Steve.Breland@rmh.edu (Steve Breland) wrote:
>Burt Fisher <k1oik@ccsnet.com> wrote:
>
>Burt,
>How's about trimming the non-radio groups from your posting
>Newsgroups?
>Thanks,
>
Burt,

How about trimming the radio groups from your postings too?

Spammer, jammer, what's the difference. Same mentality.

5254. Re: Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: ve7zvz@dowco.com
Message-ID: <ve7zvz-1311951740330001@206.12.26.38>
Source record: 109617
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <4867e4$l55@alterdial.UU.NET>, Burt Fisher <k1oik@ccsnet.com> wrote:

-> time@tir.com (Tim English) wrote:
-> >Burt, why dont you just go away someplace else. Your the only one who
-> >enjoys your "so called" wit. We all think your a jerk. You must lead
-> >an awfully sheltered dull life if this is all you can find to do for
->
-> Then why do I get frequent messages that appreciate my comments?
->
->
-> #================#===#
-> | Burt Fisher | Teacher of video, broadcasting and electronics |
-> | Very Amateur | South Dennis, Ma. (Cape Cod) |
-> | K1DORK | The less you say, the more people will remember |
-> #================#===#
-> | k1oik@ccsnet.com The studpidest ham in the USA fisher@meol.mass.edu |
-> #===#

They must be from your poor students sucking up for a better grade!

--
Scott Leaf VE7ZVZ
ve7zvz@dowco.com
Port Coquitlam, British Columbia, Canada
Mountain DX Club VA7SM - "To boldy VHF where no ham has VHFed before"

5255. sensitivity of direct conversion rcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <488mfo$rr4@flood.weeg.uiowa.edu>
Source record: 109618

The 1995 and 1996 ARRL Handbook, Ch 17 has a discussion of direct conversion sensitivity.

5256. Re: QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <488q9h$47h@news.azstarnet.com>
Source record: 109619

Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
>
>Will wonders never cease.....There have been a couple of threads
>regarding the publication of QEX (and where its gone). Just for
>info, I just got the SEpt issue.

Me too.

Now we're only two months behind. I wonder if I can renew my
subscription two or three months late?

Wes -- N7WS

5257. re PA5 HF 5 Watt amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: victorj@fast.net
Message-ID: <488pqu$1de@nn.fast.net>
Source record: 109620

re PA5-HF 5 watt amp.
This is in the 2ND edition of W1FB's QRP Notebook. According to the test, this can be a multiband amp by
band swicthing the harmonic filter. The problem is that the values for R16 and C26 change for each band
as noted on page 131. Is there a optimum value for the components that will be satisfactory for all bands.
Any and all help appreciated.

thanks
Vic

5258. Re: QST Nov '95: A Small High-Performance CW Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: fifield@lan.nsc.com
Message-ID: <9511131938.AA56625@davef>
Source record: 109621

People, I just got an email reply from Bill Kelsey at Kanga (Who supply the kits for all the R2/T2/miniR2/LM2 etc.etc projects * 419-423-4604 *). He has been in contact with Rick KK7B, the designer, and has the following insight for us:

> >In the VFO/TX schematic on pages 42/43 I have noticed a few things:
> >
> >1) I don't see how the CW offset transistor can be an NPN device with
> >its emitter connected to +12V. I reckon they have transposed the
> >emitter and collector terminals. Anyone care to comment?
> >
>
> I think it should be a 2N3906 PNP instead of the 2N3904 (how I would
> have done it). - deletia -

* Correct. The part should be a 2N3906 PNP transistor with its emitter connected to +12V.

>
> >2) The VFO inductor L1 has a tap, but there doesn't appear to be
> >any information on the number of turns up the tap should be. Anyone
> >know what it should be?
>
> Typically, tapping 1/3 the way up usually works. (8 turns) Tap up
> higher if you need more feedback--closer to the ground for less.

* Correct. The tap should be at 6 turns up from ground.

>
> >
> >3) The quadrature generation circuit consisting of L2A/B and
> >associated components gives us no information as to the phasing of
> >the inductor windings.
>
> I'd put the phasing dots next to either of the 100 pF capacitors--but
> not both!--Zack KH6CP/1

* Correct...you know your stuff Zack! One capacitor goes between the wires at one end of the inductor, and the other capacitor between the wires at the other ends of the windings.

There are some other errors/ommisions that I/Bill noticed:

4) Details for L9 in the collector of the 2N3866 o/p tranny were missed off. This should be 29 turns of 28AWG on a T37-2 core.

5) The 390pF capacitor at the collector of the 2N3866 should be 220pF.

Anyone else making one of these?

73 de KE6ZBZ (ex G8INR)

Dave Fifield
fifield@lan.nsc.com

5259. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: ki7zd@chinook.halcyon.com
Message-ID: <489chl$ah6@news1.halcyon.com>
Source record: 109622
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.

My wife is 33 years old.
My wife is sexy.
My wife thinks Im sexy (and a few other hams too)
My wife is beautiful.
My wife (and her friends) think I am beautiful.
My wife loves sex, with me, and I love it with her.

My wife is a ham!
My wife thinks I'm one too!

Drop it already. har har!

---------------------------------------\/----------------------------------
OO

>>who does this Burt think he is? A am a ham, have been since I was ten.
>>And thats before I had my first bra! And before I got my first modeling
>>job. Even before I had my first sex (with a ham btw). Grow up you creep!
>>My boyfriend is NOT a ham, and even if he was, I would find him just as
>>attractive! Hey, Idea, how many "hams" have posed for playboy? Hummm,
>>maybe I'll be the first! Anyone know?
>>face it burt fisher, you hate women, you hate men, you hate yourself!

>>Ciar
>>>xxxxxx <-callsign removed because this burt guy might bother me, and his
>>antenna probly isn't big enough for my tower's anyway!

>>~~~~~ The body is a work of art, you get out of it what you put in to it!
>>~~~~~ So If I dont swallow a baby, I wont get pregnant right?

>Burt Fisher wrote:

>What would a female find the least bit exciting about hams?

>

>#===============#===#
>| Burt Fisher | Teacher of abuse, badmouthing and divorce |
>| Amateur call | South Dennis, Ma. (Cape Cod) |
>| K1OInK | The more you say, the less people will forget |
>#===============#===#
>| k1oik@ccsnet.com fisher@hole.ass.bum |
>#===#

--
/-/-/ ~~~~~~

| Amateur Radio Station Inet: ki7zd@halcyon.com
| KI7ZD
| WWA CN87 73's _._ .. __... __.. _.. "If RST > 519, Reduce Power!"

5260. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: stevesam@visi.com
Message-ID: <48ajd5$3pc@mixer.visi.com>
Source record: 109623
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

crazyone@city-net.com (CrazyOne - Greg Pacek) wrote:

>In article <488ff6$srk@i-2000.com>, dougrand@i-2000.com (Doug Randall) wrote:

<snip>
<inappropriate groups cut>

PLEASE check your subject lines people!
REC.PYROTECHNICS DOESN'T CARE!
Me

5261. Re: Grounding a home made copper Jpole

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov14.172422.6090@ke4zv.atl.ga.us>
Source record: 109624
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <Pine.A32.3.91.951114103202.34755A-100000@storm.atms.purdue.edu> BRETSKI <bap@storm.atms.purdue.edu> writes:
>
>I have a copper Jpole up on a mast. I would like to ground it.
>How would I do this?

Assuming you're using a metal mast, and it's clamped to the mast, just ground the mast. #8 copper to an eight foot ground rod. Use approved grounding clamps on both ends. If you're using a non-conducting mast, then place the ground clamp at the bottom of the J in the J-pole and wire to the ground rod as above.

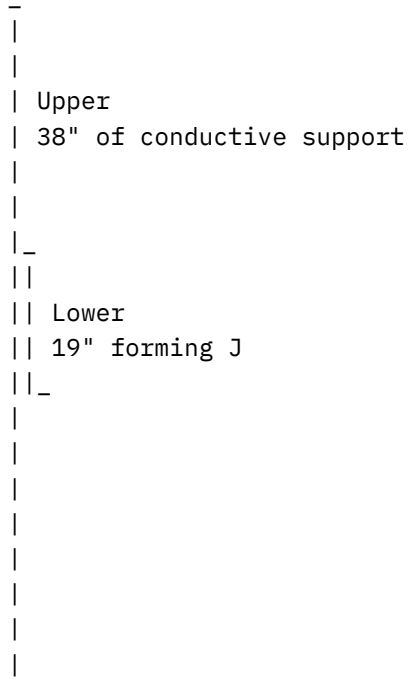
Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5262. Re: Grounding a home made copper Jpole

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <48audl$16c@newshost.lanl.gov>
Source record: 109625
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Normally the j pole is grounded at the base or lowermost
portion of the "J". My recent Jpoles are built as part of an
existing grounded structure, with the main pole or support
forming the main part of the J and the 19" 2 meter stub
clamped to the side at the appropriate distance from the top to
make the top part of the grounded structure radiate at 146 (or
whatever freq).



********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5263. Combining 2 Amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: bobg4ujs@netcentral.co.UK
Message-ID: <199511141108.LAA01392@net1.netcentral.co.uk>
Source record: 109626

Combining the Output of 2 amplifiers

Has any one got any experience (silly question really) of combining
the output of 2 (similar) amplifiers at HF?

Ideally I want to construct something that would work form Top band
through to Ten.

Any ideas please.

73 de Bob G4UJS

PacketCluster: G4UJS > GB7MDX
AX25 BBS: G4UJS @ GB7SAM.#28.GBR.EU
Email: bobg4ujs@netcentral.co.uk
Post Office: Green Lane House, Whixall, Shropshire, SY13 2PT, UK.
Telephone - Home: 01948 880392
- Office: 01270 613225
- Mobile: 0585 476336

5264. Re: Combining 2 Amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <48ad5d$ndu@info4.rus.uni-stuttgart.de>
Source record: 109627

> Has any one got any experience (silly question really) of combining
> the output of 2 (similar) amplifiers at HF?

Bob,

You cannot combine two *similar* amplifiers, they have to be essentially
identical. If the signal delay time of both is well matched they can
be combined with broad band transformers. This is done commercially
very often, e.g. in VHF.

73, Moritz DL5UH

5265. Re: Combining 2 Amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov14.172711.6175@ke4zv.atl.ga.us>
Source record: 109628

In article <48ad5d$ndu@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>> Has any one got any experience (silly question really) of combining
>> the output of 2 (similar) amplifiers at HF?
>
>You cannot combine two *similar* amplifiers, they have to be essentially
>identical. If the signal delay time of both is well matched they can
>be combined with broad band transformers. This is done commercially
>very often, e.g. in VHF.

Well, it's *easier* to combine two identical amps, but you can combine
similar amps. You just need a line stretcher and a gain leveling pad in
one input leg to make the output phases and amplitudes balance.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5266. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: dave@diusys.cms.udel.edu
Message-ID: <48arus$326@news.udel.edu>
Source record: 109629

The RF Parts catalog lists an NE602. They are in California and
can be reached at 800 737-2787.

73, dave wa3u

5267. Re: QST Nov '95: A Small High-Performance CW Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: fifield@lan.nsc.com
Message-ID: <9511141143.AA41218@davef>
Source record: 109630

I forgot another change:

The TX key transistor (2N3906 at the top right of page 42) has it's collector
and emitter reversed.

5268. Re: Ramsey FX440

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <48ativ$l84@IRIS.igc.net>
Source record: 109631

In article <48a4h2$s5l@mixer.visi.com>, Ed Marciniak <mts@visi.com> wrote:
>I haven't had a chance to look at the schematic and board for one yet but I
>have one question about this kit:
>
>Could I use a circulator to get this radio to run full duplex?

No. The radio is inherently a half-duplex design.

5269. Re: Ramsey FX440

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <48as5k$si8@newshost.lanl.gov>
Source record: 109632

A circulator might well cost more than the radio itself. I doubt you can easily make the FX440 run full duplex without adding some separate audio stages, part of the audio is switched between transmit and receive. The selectivity isn't good enough to run good full duplex either. I'd suggest Hamtronics separate transmit and receive modules instead, that's what I use in my homebrew 224.94 MHZ remote base/repeater, very happy with them though they do cost quite a bit more. At 440 MHZ with 5 MHZ separation between transmit and receive you can very easily run separate TX and RX antennas, or used duplexers can be had fairly reasonably priced compared to 146 MHZ units, but you still need good clean transmitters and selective receivers with high dynamic range performance to run full duplex.

--

********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5270. Re: Combining 2 Amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <48b14i$av6@newsbf02.news.aol.com>
Source record: 109633

In article <48ad5d$ndu@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>> Has any one got any experience (silly question really) of combining
>> the output of 2 (similar) amplifiers at HF?
>
>You cannot combine two *similar* amplifiers, they have to be essentially
>identical. If the signal delay time of both is well matched they can
>be combined with broad band transformers. This is done commercially
>very often, e.g. in VHF.

The combined amplifiers generally have to be as identical as humanly possible. The main problems are gain, phase delay and linearity, and several other less important problems can creep in also.

For example, if gain and phase are matched with external circuitry, a simple thing like diverging gain or phase as supply voltage changes can throw the whole thing out of wack. If the gain or phase varies differently in each amplifier as drive power is changed, the balance will again suffer if the drive power is not held constant.

Another problem occurs if amplifiers are combined AFTER filtering. Filters can shift phase at different rates as frequency, temperature, and/or load impedance change. Combining should never be done after hi-Q or multi-pole filters.

My opinion is "it depends on you and the application". If the requirements are not too tight, the equipment is reasonably close in operating parameters, and you have a good idea of what you're doing, it will work OK. Otherwise, good luck!

73,
Tom

5271. Re: Spec Analyzer + Noise Gen = Tracking Generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: john.ackermann@daytonOH.ncr.com
Message-ID: <john.ackermann.412.000FBAA1@daytonOH.ncr.com>
Source record: 109634

In article <4881gl$kor@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist) writes:

>In article <4804kd$jc9@hg.oro.net>, Jim Weir <rst-engr@oro.net> wrote:
>>>I'd always wondered if a noise generator could serve
>>[snip in consideration of bandwidth]
>>
>>Hey, now THAT's a clever idea. But I've never seen a noise generator
>>that would put out enough poop to be seen on a spectrum analyzer with
>>any decent dynamic range left. How much poo did the noise generator

I missed Jim's post, but here's a chance to answer his question. The noise generator I got from Advantage seems to have <plenty> of output... I can very easily run it off the top of the screen with a "normal" gain setting on the analyzer (unfortunately, my analyzer doesn't have absolute amplitude calibration, so no accurate output level reading :-( ).

>Someone had mentioned that this technique didn't work with notch
>filters. The reason it doesn't is that the wideband noise overloads
>the mixer in the spectrum analyzer and fills in the notch. If your
>spectrum analyzer has a really good dynamic range, you might be
>able to adjust the attenuator just right and get away with it, if you
>don't need to see down more than 40 dB or so. Otherwise, use a wider
>bandpass filter as a "roughing" filter in cascade with the notch filter
>to avoid overload.

Rick, thanks for that idea. I'll try a bandpass filter as you suggested; I've had no luck seeing notches with any other technique I've tried.

73,
John AG9V
john.ackermann@daytonOH.attgis.com

5272. Re: Combining 2 Amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30A92A0F.28F5@jpaw.com>
Source record: 109635

Bob Harrison (G4UJS) wrote:
>
> Combining the Output of 2 amplifiers
> ------------------------------------
>
> Has any one got any experience (silly question really) of
combining
> the output of 2 (similar) amplifiers at HF?
>
> Ideally I want to construct something that would work form Top band
> through to Ten.
>
> Any ideas please.
>
> 73 de Bob G4UJS
>
>

--
> PacketCluster: G4UJS > GB7MDX
> AX25 BBS: G4UJS @ GB7SAM.#28.GBR.EU
> Email: bobg4ujs@netcentral.co.uk
> Post Office: Green Lane House, Whixall, Shropshire, SY13
2PT, UK.
> Telephone - Home: 01948 880392
> - Office: 01270 613225
> - Mobile: 0585 476336
>

--

It's not so silly as you might think. At VHF and UHF solid state amplifers are paralled using hybrid combiners with great success. For the HF bands, it is probably more economical to get a bigger tube or to parallel several tubes. (I have carried the tube paralleling to something of an extreme, using 12 planar triodes to get 360 KW pulsed, 1% duty factor at 425 MHz.) The other problem with combining HF amplifiers is tuning them so that the rf has the right phase at each amplifier output to be properly combined. If you have some special reason for wanting to do this, I could suggest how to proceed.

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com

JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5273. Re: Spec Analyzer + Noise Gen = Tracking Generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: Allen Wallace <allen@dtint.dtint.com>
Message-ID: <48ap97$3fd@itchy.itsnet.com>
Source record: 109636

In article <481a8h$d3t@solaris.cc.vt.edu> Mike Keitz, mkeitz@bev.net writes:
>"white" too. I don't remember exactly but I think a power meter connected
>to the output measured somewhere in the 100 mW range (be sure your spectrum
>analyzer is OK for that much input when you're checking the wideband noise
>without the filter in line).

I would very like like to contruct a noise generator for my spectrum analyzer. However, I have several problems:

1. my spectrum analyzer has a noise floor of about -80dbm. I presume that I can insert a preamp to makeup for a weaker noise source?

2. I can generate noise with with a noise diode, or with a 1N23 diode. I don't understand ENR (Excess Noise Ratio) and how to predict how much power will fall into a given bandwidth. I read the QST artical last year, and I didn't understand it.

3. If I start with a Noise Com NC302 noise diode (ENR is about 30) and amplify it with multiple MAR-3 MMIC devices, how many MMIC devices can I cascade before the +10 dbm compression occurs ? What happens if I exceed the compression point? Also, keep in mind question #1.

4. My spectrum analyzer has an IF of 2050 MHz. Any signal at that frequency overrides all other displayed frequencies. I need a sharp band reject filter! Since I belive that this might be impractical, I'd settle for a low pass filter. It would be nice that it be have a flat response just until about 2 GHz, and then roll off sharply. However, I's again settle for a filter which was flat until 1300 Mhz and then roll off -80 db at 2000 Mhz.

Thanks,
Allen Wallace N7CGH

5274. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <48asfv$jk@newshost.lanl.gov>
Source record: 109637

Believe it or not I just looked at the relatively new DigiKey
web page and found they sell the NE602 for $2.35 or so in
single lot quantities.
Looks like you can order from them online:
http://www.digikey.com/

Look for digikey parts in:
http://www.digikey.com/PartSearch.html
--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5275. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <fa4_9511150230@mba.mba.org>
Source record: 109638

Alan Wong (and his email address wasn't in the post)
added to the thread by asking if there were any replacements
for the NE602.

I guess it depends on what you mean by replacement. Long before
the NE602 came along, there was the MC1496 double-balanced
mixer. It came out about 1970. It was used in the amateur
realm for many years, the only real disadvantage of it was
that it required quite a few external resistors to get it
up and running. ON the other hand, all those resistors meant
that you could adjust things to your liking.

Similar devices came along, made a brief appearance, then
disappeared. Presumably they did exist, but finding where'
to get them in the small quantities needed by the amateur
was the big problem. Texas Instruments had one, and I
seem to recall seeing an Intersil data sheet for something.

Then the NE602 came along, and suddenly it was used everywhere.
Also, it came with the descriptor "gilbert-cell mixer". From
what I've gathered, it is the same type of circuit used in
the venerable MC1496, but the 1496 was never given such a fancy
title.

Of course, one thing in favour of the NE602 is the built in
oscillator. It can be useful in some cases, while I suppose
in others it is a libiality.

The external parts count of the NE602 is much smaller than
the MC1496. On the other hand, I hear that it's dynamic
range is not all that great. Reminds me of a recent thread
in sci.electronics. SOmebody had built an FM BCB receiver
using a 602 in the first mixer, and it was overloading.
Clearly, the device had been chosen because it was what
is being used in all kinds of published circuits. Popular
doesn't always make it the right choice. I've never seen
the data sheet for the NE602, but I do recall reading somewhere
that it had been intended as a second mixer, after some sort
of IF filter, where the need for large dynamic range is not
needed as much.

So finding a device with as few external components as
the 602 might be difficult. Finding one with an internal
oscillator might be difficult too. But if you want a
transistor based double-balanced mixer/modulator using
the "gilbert-cell" configuration, it's bound to show up

in other places.

I recall an article in 73 where the mixer in a Signetics
TDA-7000 (have I got the right number? It's the FM bcb
receiver in an IC) as the product detector in a direct
conversion receiver. The author mentioned that it had
better dynamic range than the 602.

There is the MC1496. You'll have to look up a circuit,
and treat it as a black box replacement for the 602,
but it always used to be a good choice. I am assuming
it's still being made.

Maybe look into those FM receiver IC's intended for
NBFM. They have mixers to drop to the IF frequencies,
I think some have to mixers, and they just might
use the same type of mixer. Check the data sheets.

I've also come across a number of IC's in bcb receivers,
for the front ends. They might be worth looking into
to see if they use suitable mixer circuits. Of course,
where to get them new is another question.

Also, the data sheet for the MC1590, which is a metal-cased
MC1350p IF amplifier, has a circuit for using it as a mixer.
From what I recall it does work out as a double-balanced
mixer, similar to the circuit of the MC1496. The bad part
is that there is amplification after the "mixer" part of the
IC. How much, I don't know since I haven't studied the
circuit much. ON the other hand, it just might be suitalbe
for simple applications.

Hope this is some help.

Michael VE2BVW
--
| Return Address: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

5276. Re: ** HELP with mic preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <48b9il$mgn@usenet.continental.com>
Source record: 109639

What is really needed here is a source follower circuit using the same MPF-102 transistor. I believe this is the circuit as described in the ARRL handbook. The source of the FET should be connected to the +8VDC phantom supply via a 100 Ohm resistor (not 10K as indicated in his earlier posting). Both sides of this resistor are then bypassed to ground with 0.01 MFD capacitors. I prefer metal film types for this, but the garden variety 100VDC disks should be fine.

Now, the drain is connected to ground via a resistor (Rs). The exact value of which is determined by the reciprocal of the FET's transconductance value. This is usually found on the FET's packaging as the "Gm" value. Typical values for Gm are from 3000 to 5500 uS. Therefore, the Rs value will be approximately 180 ohms to 330 ohms. My two FET interfaces use 330 ohms resitors for Rs. The audio is then fed to the transceiver via a coupling capacitor (>10 MFD.) from the junction of the drain and Rs.

It may be necessary to add the R.F. choke you described in series with 100 ohm resistor that connects to the FET's source. Additionally, it doesn't hurt to include one on the input to the FET's gate and at the sudio output.

Of course the microphone element still connects directly to the FET's gate. Some mic preamp circuits show a 100K ohm resistor from the gate to ground. I caution people with D104 or similar crystal-cartridge microphones to use a much higher value. Presently, I am using a 10 megohm resistor for this, and oftentimes it's not needed at all. The crystal element can be thought of as an A.C. generator in series with a capacitor. The capacitance of a typical crystal element may not be much more than 2000 pF - 3000 pF. Even the slightest loading of the FET's input will cause low frequency rolloff.

This combination of crystal element and FET source follower preamp results in an incredibly nice sound for communications audio.

-Paul, N9AZ

5277. Re: ** HELP with mic preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-14 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <48b9tg$mgn@usenet.continental.com>
Source record: 109640

Please see my reply to Gary Coffman. I believe this will answer your questions. The bottom line though is that if you're using the FET as a source-follower (Taking the audio off the FET's drain through a coupling capacitor), then your 10K ohm P.S. current limiting resistor should be in the area of 100 ohms, not 10K ohms. Follow the posting I had written to Gary.

I've built too many of these circuits that work flawlessly and without any stray R.F. problems. In addition to my R.F. choke recommendation, you should also try bonding the interface box with circuit gound.

-Paul, N9AZ

5278. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDI2Cr3.KFK@netcom.com>
Source record: 109641
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

In article <48be57$e6p@ornews.intel.com> dmwelch@ornews.intel.com (Don Welch) writes:
>jimc@mdsroc.com (Jim Clarke) writes:
>
>>I've only been an amateur radio operator for 18 years and I would have to

5279. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <48beel$ek9@alterdial.UU.NET>
Source record: 109642
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.

>>>who does this Burt think he is? A am a ham, have been since I was ten.
>>>And thats before I had my first bra! And before I got my first modeling
>>>job. Even before I had my first sex (with a ham btw). Grow up you creep!

What a doll you must be. Having sex with an old fat white ham.
Is your last name Barker? Certainly not Fox?

>>>My boyfriend is NOT a ham, and even if he was, I would find him just as
>>>attractive! Hey, Idea, how many "hams" have posed for playboy? Hummm,
>>>maybe I'll be the first! Anyone know?
>>>face it burt fisher, you hate women, you hate men, you hate yourself!

I am not into dogs or pigs.

>>>Ciar
>>>>xxxxxx <-callsign removed because this burt guy might bother me, and his
>>>antenna probly isn't big enough for my tower's anyway!

Come look at my erection (tower of course).

>
>>#================#===#
>>| Burt Fisher | Teacher of abuse, badmouthing and divorce |
>>| Amateur call | South Dennis, Ma. (Cape Cod) |
>>| K1OInK | The more you say, the less people will forget |
>>#================#===#
>>| k1oik@ccsnet.com fisher@hole.ass.bum |
>>#===#

5280. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: ki7zd@chinook.halcyon.com
Message-ID: <48bvc6$9sd@news1.halcyon.com>
Source record: 109643
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.

PEOPLE!!!

IGNORE THIS CRAP!!!

JUST LIKE ANYONE ELSE IN THE WORLD WITH A POOR ATTITUDE, IF YOU IGNORE THEM
THEY WILL GO AWAY!

(But I have to admit, the new burt signature is a roll!!) ahhaha

I dont many hams over 40 years old, so, I guys Im not a ham then.. Most
hams I know are all under 40, some under 20. And about 30% of them are women.
Its the 90's, and women enjoy hobbies of this sort also. More power to
the lady trying out for playboy, good luck to you. I used to date a model
that worked for "Hef".
You'll have fun im sure..

See ya all later...
ki7zd
Rock Musician, Lawyer, Author, artist, Ham, and above all, a father!

Burt Fisher <k1oik@ccsnet.com> writes:

>>>>who does this Burt think he is? A am a ham, have been since I was ten.
>>>>And thats before I had my first bra! And before I got my first modeling
>>>>job. Even before I had my first sex (with a ham btw). Grow up you creep!

>What a doll you must be. Having sex with an old fat white ham.
>Is your last name Barker? Certainly not Fox?

I dont a 19 year old woman cares too much for fat old men!

>>>>My boyfriend is NOT a ham, and even if he was, I would find him just as
>>>>attractive! Hey, Idea, how many "hams" have posed for playboy? Hummm,
>>>>maybe I'll be the first! Anyone know?
>>>>face it burt fisher, you hate women, you hate men, you hate yourself!

>I am not into dogs or pigs.

Calling yourself a pig now.. Good.....

>>>>Ciar
Love this name!

>>>>>xxxxxx <-callsign removed because this burt guy might bother me, and his
>>>>antenna probly isn't big enough for my tower's anyway!

>Come look at my erection (tower of course).

>>
>>>#================#==#
>>>| Burt Fisher | Teacher of abuse, badmouthing and divorce |
>>>| Amateur call | South Dennis, Ma. (Cape Cod) |
>>>| K1OInK | The more you say, the less people will forget |
>>>#================#==#
>>>| k1oik@ccsnet.com fisher@hole.ass.bum |
>>>#===#

H ahha ha hahahahah WHO DID THIS? this is funny....

Humm dont worry folks, this will soon stop..

--
/-/-/ ~~~~~~
| Amateur Radio Station Inet: ki7zd@halcyon.com
| KI7ZD
| WWA CN87 73's _._ .. __... __.. _.. "If RST > 519, Reduce Power!"

5281. Small Relays Useful at UHF for 40W Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: moyers@cti-pet.com
Message-ID: <moyers.6.0000078A@cti-pet.com>
Source record: 109644

I am looking for an inexpensive, readily available relay (12 V coil) that has been found to be useful in UHF T/R switching applications. I am designing a 40W dual-band (2m/70cm) class C amp for mobile use and need four SPDT relays.

I thought I had struck pay dirt with some miniature relays that Radio Shack sells. Come to find out, upon opening one of these little 10A-rated devices, the commutator is electrically in contact with the "frame". Thus signal is all over the frame and contacts the pole of the magnet. Thus there is considerable cap. to the coil. Ok at 60hz but NOT A GOOD RELAY for VHF or UHF!

Has anyone had experience in this area?

Clif
WA4BKY
(moyers@cti-pet.com)

5282. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: emb5@psu.edu
Message-ID: <emb5.32.30AA3A76@psu.edu>
Source record: 109645
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.rad

In article <48be57$e6p@ornews.intel.com> dmwelch@ornews.intel.com (Don Welch) writes:

>Speaking of HAM radios, could this group help me out? Every time I go and
>dive with my radio set, the fuse blows. What's the trick here?

maybe your submarine forgot to do it's 5 minute stop or left the screen doors
open.

5283. Re: Burt Fisher Spamming the Net

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <48cvuv$22f@crchh327.rich.bnr.ca>
Source record: 109646
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

In article <4899ms$l31@crash.microserve.net>, jackl@pinetree.microserve.com (WB3U) writes:
|>
|> rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.
|> antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec
|> radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.polic
|> y,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.sca
|> nner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running
|> ,rec.scouting,rec.scuba,rec.skiing.alpine
|>
|> Burt,
|>
|> Why are you spamming all these groups? Many of them have nothing
|> to do with Amateur Radio.
|>
|> If you must post this antagonistic nonsense, please restrain yourself.
|> There are plenty of people to bother on R.R.A.Policy and R.R.A.Misc.
|>
|> Jack WB3U

All those who are upset with Burt's spamming, please inform the SYSOP of the
system from which he posts.

--
==

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 991-4769 email: cnc23a@bnr.ca Ham: N4ZBB Packet: n4zbb@n1gmv.nc
DX PacketCluster (tm) Node : W4DW

All opinions are my own and do not necessarily reflect the views of
my employer or co-workers, family, friends, congress, or president.

5284. Re: Rules of ham DUMB.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: damelio@roush.racing.com
Message-ID: <48drhd$734@progress.progress.com>
Source record: 109647
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Burt Fisher (k1oik@ccsnet.com) wrote:
: Ham operator Jokes:

Hey, I've got one,

where does an idiot cross-post to when discussing ham radio?

(I'll let you figure this one out Burt)

--

5285. Measuring Filter Group Delay?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: john.ackermann@daytonOH.ncr.com
Message-ID: <john.ackermann.414.000A0AA1@daytonOH.ncr.com>
Source record: 109648

I'm working on some radio mods for (sort of) high speed packet and want to characterize the IF channel performance, and particularly what the bandpass response does to data.

Any suggestions on how to measure the group delay of an IF channel? I've heard of a method using a high-deviation modulated FM signal as input, and looking at the output on a spectrum analyzer, but I don't know the details (or whether that would really work).

Thanks...

John Ackermann AG9V
john.ackermann@daytonOH.attgis.com

5286. Re: Crystal CW Rig - Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <48d49e$mee@maureen.teleport.com>
Source record: 109649

> ejacksch@bnr.ca (Eric Jacksch) writes:

> I'm still looking for schematics for a very simple, single freqency
> crystal controlled 8m cw transmitter and/or receiver. I have found
> lots of fancy, tunable units, etc...what I need is a very stable,
> one frequency unit. It's for telemetry - low power is fine!

> Email to ejacksch@bnr.ca would be greatly appreciated.

See _Solid State Design For the Radio Amateur_, Fig. 17, p. 26, the "universal QRP transmitter". The book is available from the ARRL and has lots of other schematics and info. There are also several that fit the bill in ARRL's _QRP Classics_.

73,
Roy Lewallen, W7EL

5287. Re: QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: jbaltz@konichiwa.cc.columbia.edu
Message-ID: <48d26p$ko2@apakabar.cc.columbia.edu>
Source record: 109650

In article <NEWTNews.816305392.14211.jwicklun@mycroftxxx.halcyon.com>,
Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
>Will wonders never cease.....There have been a couple of threads
>regarding the publication of QEX (and where its gone). Just for

For the record, most of those threads are probably my fault.

>info, I just got the SEpt issue.

I got my Sept QEX issue yesterday, only about 6 weeks late. Now I'm waiting
for my Oct. issue...

//jbaltz
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

5288. Re: Combining 2 Amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <48d612$ku@newsbf02.news.aol.com>
Source record: 109651

There are combiners available for high HF

Contact

EFJ Devices.
111 Ensley ave
Old Hickory, TN 37138

Carl

5289. Re: Help with Shack Grounding techniques?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: rossi@VFL.Paramax.COM
Message-ID: <1995Nov15.175040.11878@VFL.Paramax.COM>
Source record: 109652

In article <1995Nov15.162433.11884@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>In article <herbrDHyDyz.2Mr@netcom.com> herbr@netcom.com (Herb Rosenberg) writes:
>>I recently read an article regarding ways to ground the equipment in the
>>ham shack. This article suggested using something called "Aluminum
>>Flashing available at any home improvement store"
>
>What you want is roofing flashing. It comes in a 5 inch width on long
>rolls. You really don't want to use aluminum, however. You want copper
>flashing. Aluminum is too difficult to make good electrical connections,
>that pesky insulating oxide coating you know.

Go to a *real* roofing supply house for *copper* flashing. Home centers
like Rickel/Channel/Home Depot/etc. generally DO NOT carry copper flashing.

The trick is to find a supplier that will sell it buy the foot. Some will
only want to see you a 100' roll which will cost a small fortune.

One supplier near me sold copper flashing by the foot in 20 and 24 inch widths.
Then I cut the 24" stuff into 3 inch strips for my grounding installation.
It was a bit more work but my net cost for 3 inch copper strap was only
about $0.75/foot.

Copper ain't cheap! :-)

... and make sure you use either stainless steel or brass hardware to
bond all of this copper together.. Do not use galvanized hardware.

Pete Rossi - WA3NNA
rossi@vfl.paramax.com
Loral Defense Systems-Eagan (formerly Unisys Government Systems Group)
Valley Forge Engineering Center - Paoli, Pennsylvania

5290. Re: NE4040 NOVICE BAND???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <48dd9r$l2q@mksrv1.dseg.ti.com>
Source record: 109653

I built a NE4040 recently (NN1G now calls it the "SW-1"). I'll check in the instruction manual and see what it says. I imagine it would be an easy trick to move it into the novice band. Let me research it and see what I can find. Also... I know NN1G has an e-mail address. Let me see if I can dig that up also (does anyone have this handy?)

73 / 72,
Dean KC5NG

5291. Re: Measuring Filter Group Delay?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <48dco9$chh@crl.crl.com>
Source record: 109654

John Ackermann (john.ackermann@daytonOH.ncr.com) wrote:
: I'm working on some radio mods for (sort of) high speed packet and want to
: characterize the IF channel performance, and particularly what the bandpass
: response does to data.

: Any suggestions on how to measure the group delay of an IF channel? I've
: heard of a method using a high-deviation modulated FM signal as input, and
: looking at the output on a spectrum analyzer, but I don't know the details (or
: whether that would really work).

The most straightforward way is to just measure it with a network analyzer.
Most VNA's are quite capable of measuring group delay.

If a network analyzer is unavailable, you must find some other way to
measure phase, as group delay is just -(d[theta]/d[omega]), or minus the
phase slope when plotted with respect to angular frequency.

You could, for example, take a number of data points using a vector
voltmeter. Use the input of the circuit for your phase reference, and then
take data at closely spaced increments throughout the passband. After
you have the data, go back and calculate d[theta]/d[omega] between each
of the points. This is how a network analyzer does the job anyhow. The
instrument measures phase, and software computes the group delay before
plotting.

If your IF is below 13 MHz, you could use an HP3575A phase gain meter in
place of a vector voltmeter. The process is the same.

Have fun,

--

Don Miller My opinions are my own!
dmiller@crl.com

5292. Re: QRP KEYER CKT???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <48ddgl$l2q@mksrv1.dseg.ti.com>
Source record: 109655

<snip>
I DONT WANT TO USE THE CURTIS CHIP AND DOESNT NEED TO BE FANCY.
<snip>

Why not the Curtis chip? You can build a very, very tiny keyer using the 8044 chip, and it will work quite well. The power drain of this chip is so small that you don't even need an on/off switch to keep it from draining your batteries! It's also highly RF-resistant if you build the circuit like they suggest. I've included Curtis keyers in a number of homebuilt and kit-built QRP rigs, as well as several HF transceivers (Heath, Ten-Tec, Kenwood TS-430S, etc). I've built them on pieces of 0.1" solder-grid board that were 1" x 1.25". You can't get any smaller than that!
73 de KC5NG

5293. Re: Pin Diode Switching ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <48dfj4$9g@mack.rt66.com>
Source record: 109656

jackwy@clark.net (John Frank) wrote:

> I am looking at using pin diodes to replace the mechanical
>switches in my cable tv switching box.

Why bother with expensive, hard to find PIN diodes? at VHF, 1N914s would work fine, since you aren't transmitting, you can keep them forward biased, and you don't need any carrier lifetime to keep a reversed biased diode on. put 2 or three in series with spreading resistors of 10Meg or so if isolation is a problem..also reverse bias the bejeezus out of them in the off state. Using a "T" configuration is the best bet..2 reverse biased devices in series, with a forward biased shunt to ground in between.

Also take care with layout, you won't have too much trouble getting more stray capacitance than a 12V reverse biased '914s.

PIN diodes are required only at low frequencys (HF), and high signal levels. The large signal cancels the forward bias of the ON devices, and the carrier lifetime must be long enough to ride out a half-cycle of the lowest transmitted frequency. The amount of signal at cable subscriber drop is practically nil, as it simulates what an antenna would pick up in over-the-air TV , so you should easilly be able to keep most any diode forward biased. in this application.

You could adapt any of the schemes used to diode switch, for example, IF filters, to tthis application. The old handbook PIN switch circuit would be okay if you modified it to put "OFF" devices under higher reverse bias, to aid isolation.

BUT: for all the trouble you'd go to...you know a relay works really well! I don't know of anyone running QSK on thier cable system :-)

Buy 2 relays, and tape the second one inside the box, in case the first one ever fails..this will be cheaper than diode switching circuit!

-73-
KO0B

5294. Re: DSP for the R2?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: hbs@crl.com
Message-ID: <48dis0$999@crl5.crl.com>
Source record: 109657

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: Well, 12 bits will sort of work, giving you a dynamic range of about
:
: ... etc. ...
:
: Of course the R2 requires the audio quadrature to achieve single
: signal capability, so that means your DSP has to have sufficient
: dynamic range to deal with a strong signal on the image channel.
: Hence, I'd recomend a minimum sample size of 16 bits. I have used
: the Analog Devices kit with the R2. It uses a 16 bit CODEC.

Gary,

This peaked my interest.

Which Analog Devices kit did you use? The EZKIT Lite?

How did you interface the I and Q outputs of the R2 to the A/D?

And finally, what did you use in the Analog Devices to achieve the 90
degree phase shift? An allpass filter, a Hilbert Transform?

Thanks,

Smitty, NA5K

Henry Smith hbs@crl.com
--
Henry Smith (hbs@crl.com)

5295. Re:R2D2 a DSP R2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9510158164.AA816482551@mails.imed.com>
Source record: 109658

Greetings:

I have not yet worked on an actual circuit, but here is the idea for doing a quadrature in a DSP. I just got the TMS320C26 kit for $99 here at work. One of the applications is a 32 sample FFT algorithm. For those who have done Fourier work, the result is two arrays. One is a cosine and the other is a sine array (real and imaginary). To rotate the original signal by 90 degrees, each cosine term is replaced with the corresponding sine term and the sine term is the negative of the original cosine term. We now have a DFT which is 90 degrees out of phase with the original DFT for all frequencies. To get back to a time domain signal, we do an inverse FFT and voila! we have an in phase and quadrature signal.

The part I haven't had time to simulate is whether a 32 point FFT/inverse FFT will provide a quality phase shift. The idea would be to do the DSP work on samples 1 through 32. The output sample is the first sample of the result. Next we do the DSP work on samples 2 through 33 and output the first sample result. In other words we are always 32 samples back of real time. This has the effect of doing a running average.

Well that is the proposal. Does anyone see any holes in this idea?

Ray Mack
WD5IFS
mack@mails.imed.com

5296. Re: DC rx verses *.*

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <DI36A4.56@eskimo.com>
Source record: 109659

In article <488jq0$et7@ixnews6.ix.netcom.com>,
timhynde@ix.netcom.com (Tim Hynde ka8ddz/qrp Rochester, MI) wrote:
>
>Can someone explain the difference in sensitivity when dealing with a
>DC reciever v.s. a superhet or any other type of conversion reciever?
>
>I understand the benifits of an I.F, and selectivity. But where does
>sensitivity come into play. It seems to me the front end is where it
>matters and not what you do with the signal afterwards.
>
>Why do DC recievers get such a bum rap?

One reason is that they demodulate signals and noise on both sides of the
local oscillator frequency. This creates an automatic 3 dB of extra noise
which is detrimental for CW or SSB reception. On weak signals, 3 dB is often
the difference between copying them and not. There are some exotic phasing
techniques which can overcome this, but if you're going to go that far, you
might as well just make a superhet.

73, Bill W7LZP
wrt@eskimo.com

5297. Re: Combining 2 Amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <48e06l$6qc@newsbf02.news.aol.com>
Source record: 109660

In article <48d612$ku@newsbf02.news.aol.com>, the2x4@aol.com (The2X4)
writes:

>
>There are combiners available for high HF
>
>Contact
>
>EFJ Devices.
>111 Ensley ave
>Old Hickory, TN 37138
>
>

Combining two tunable HF amps would be a disaster waiting to happen! !

73 Tom

5298. TenTec kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: Dale Goodman <dxgoodm@bsrn2430.pacbell.com>
Message-ID: <Pine.SUN.3.90.951115165912.23235A-100000@snowwhite>
Source record: 109661

Has anyone built or know about the TenTec 2 meter kit. I was told it was comming back into production this winter. It looks to have a lot more features than the Ramsey...Any comments? Dale KD4CVR

5299. Re: ** HELP with mic preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <48dr9a$5h7@newsbf02.news.aol.com>
Source record: 109662

In article <48b9il$mgn@usenet.continental.com>, Paul Christensen
<paulc@jax.se.continental.com> writes:

>
>This combination of crystal element and FET source follower preamp
>results in an incredibly nice sound for communications audio.
>
>-Paul, N9AZ

I use a D-104 to drive an Icom 751A. It works great, and gets excellent audio reports. I use a single J-310 FET source follower to do the impedance matching. It has nearly nearly identical output voltage and current as the stock hand mic. I think there's a total of five components in the entire circuit! The gate resistor is a 2.2 meg ohm, the source 470 ohm, the supply 9 volts through an automatic turn-off transistor switch (battery saver).

Paul hit the nail on the head, a 100k resistor on the gate is much too low for good response. After a sprinkle of FB-73-801 beads and a few bypass caps I can apply RF directly to the micropone case without RF feedback!

73 Tom

5300. QSKing a Heath SB1000 (AL80A)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: Ken Florence <kenf@enter.net>
Message-ID: <30AADC36.7919@enter.net>
Source record: 109663

HELP! I'd like to QSK this amp. It is a clone of the ameritron
AL80A. I don't want to spend 200 - 300 bucks for their kit.
Anyone got some plans that can point me in the direction I need
to go. Surely I should be able to do this with a vacum relay and
some parts (right??!!). Thanks.
--
Ken Florence KA3PLS
kenf@enter.net

5301. 811A VS 572B Triodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <48e56t$qpd@crash.microserve.net>
Source record: 109664

The HF amplifier I use, a Gonset GSB-201, originally came from the factory with (4) 811A tubes. Gonset later made another version of this same amplifier, called the GSB-201 MkII, that used (4) 572B's.

I've been told by one person that the power supply in both versions is the same, which would mean that regardless of the tube, the amplifier was designed with 1,500 V on the plates.

Given the fact that maximum rated plate current is nearly identical for both tube types, changing to 572B's wouldn't appear to have a major impact on the CW/PEP capability of the amplifier. However, the 811A's are limited in terms of full duty cycle power, and that's what I would like to improve. Total rated plate dissipation with the 811A's is 260 watts. Even (3) 572B's would provide 480 watts dissipation, more than sufficient to run 1,000-1,200 watts continuous key down.

The power transformer in this amplifier is at least as large as in the Heath SB-220 I had about fifteen years ago, so I'm reasonably confident the power supply can handle this. The factory input ratings for this amp (with 811A's) were:

1,500 W PEP (SSB), 1,000 W (CW) and 400 W (AM)

Other than the AM rating, there is no mention of full duty cycle power capability. From using the amp however, I know that the 811A's show plate color quickly at 1KW input.

My question is whether anyone knows if the 572B's will be relatively inefficient with 1,500 V on the plates? Marketing being what it is, the fact that Gonset may have used them at this voltage isn't quite sufficient to convince me that the efficiency will be acceptable. The ARRL Handbook shows about 75% efficiency at 1,650 V, but that's in Class C.

The other possibility for adapting to the 572B's would be to remove the filter choke from the power supply and to add additional filter capacitance. My calculations indicate that the change to a capacitor-input supply would provide a plate voltage of approximately 2,350 V. However, other changes would have to be made as well, including new power supply diodes, tank circuit adjustments, and perhaps a larger plate tune capacitor. Further, this would preempt the possibility of using 811A's in the future. I'm very reluctant to make these changes if they're not absolutely necessary in order to use the 572B's. The ability to use either tube type by merely plugging them in is a distinct advantage. Again, I'm looking for improved duty cycle, not

additional peak power.

Any comments will be appreciated. I'd especially like to hear from anyone who owns or has used the MKII version of this amplifier.

73,

Jack WB3U

5302. Re: Spec Analyzer + Noise Gen = Tracking Generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DI3Bur.3Jn@hpqmoea.sqf.hp.com>
Source record: 109665

Richard Karlquist (rkarlqu@scd.hp.com) wrote:

: Someone had mentioned that this technique didn't work with notch
: filters. The reason it doesn't is that the wideband noise overloads
: the mixer in the spectrum analyzer and fills in the notch. If your
: spectrum analyzer has a really good dynamic range, you might be
: able to adjust the attenuator just right and get away with it, if you
: don't need to see down more than 40 dB or so. Otherwise, use a wider
: bandpass filter as a "roughing" filter in cascade with the notch filter
: to avoid overload.

Yes, you get bitten badly in the dynamic range department when trying
to use broadband noise as a stimulus.

The bandwidth of your noise source, or thing under test (whichever is narrower) sets the total power hitting the first mixer of the analyser. This, as Rick says, is why notch filters are a problem. All you can do is crank in some front-end attenuation. To see the shape of your filter under test, you have to use a narrow enough IF filter setting to be able to resolve the skirt of the filter under test (and this is usually worse still for notch filters...) The net result is that your analyser has to be set up in a way that is very unfavourable for percieved noise floor, so you don't get to see very far down the slope of your filter before you hit analyser limitations. Take some of the RF attenuation out and you get mixer overload spreading noise around, filling up the stop band again.

The EMC tests in Europe require spectrum analysers to be able to correctly measure a test signal designed to resemble the broadband stuff from an arcing contact. The standard test source is a capacitor discharged by a vibrating relay contact, the PRF is about 1 kHz, the noise is a 1kHz comb pretty flat to 1 GHz and the pulse amplitude can be adjusted up to several tens of volts. Think of connecting a mini spark transmitter to your pride and joy receiver... The result is a devilish specification that is properly justified by real-world interference measurements, but forces the use of a tracking preselector in order for the necessary measurement dynamic range to be met with 120kHz and 9 kHz resolution bandwidths. This is simply the same problem...

Cheers
David GM4ZNX

5303. Looking for advice: Small Relays Useful at UHF for 40W Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: moyers@cti-pet.com
Message-ID: <moyers.7.001755FB@cti-pet.com>
Source record: 109666

I am looking for an inexpensive, readily available relay (12 V coil) that has been found to be useful in UHF T/R switching applications. I am designing a 40W dual-band (2m/70cm) class C amp for mobile use and need four SPDT relays.

I thought I had struck pay dirt with some miniature relays that Radio Shack sells. Come to find out, upon opening one of these little 10A-rated devices, the commutator is electrically in contact with the "frame". Thus signal is all over the frame and contacts the pole of the magnet. Thus there is considerable cap. to the coil. Ok at 60hz but NOT A GOOD RELAY for VHF or UHF!

Has anyone had experience in this area?

Clif
WA4BKY

5304. Re: Help with Shack Grounding techniques?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov15.162433.11884@ke4zv.atl.ga.us>
Source record: 109667

In article <herbrDHyDyz.2Mr@netcom.com> herbr@netcom.com (Herb Rosenberg) writes:
>I recently read an article regarding ways to ground the equipment in the
>ham shack. This article suggested using something called "Aluminum
>Flashing available at any home improvement store"

What you want is roofing flashing. It comes in a 5 inch width on long
rolls. You really don't want to use aluminum, however. You want copper
flashing. Aluminum is too difficult to make good electrical connections,
that pesky insulating oxide coating you know.

>The sheets look interesting, since that would seem to provide a large
>surface area to use to tie the individual pieces of equipment to. It
>could be pleaced under the rigs, or on the back side of the rig tabel,
>but I don't know if that is the "best way".

It isn't. You want all your equipment grounding conductors to tie
to a *single point*.

>If you are familiar with "flashing" and or have any suggestions on the
>best way to ground the equipment, I would appreciate your comments. I
>live in any environment where I have to be extremely sensitive the RFI /
>EMI and I want to make sure I do everything on my part.

Don't look to grounding to cure RFI/EMi problems. That's just a bandaid
that attempts to suppress a symptom (and often makes it worse not better).
What you want to do in such cases is to solve the source of the problem,
not just try to treat the symptom.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5305. Re: DSP for the R2?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov15.163439.12035@ke4zv.atl.ga.us>
Source record: 109668

In article <rohrwerkDHzoC4.5uF@netcom.com> rohrwerk@netcom.com (John Seboldt) writes:
>In some conversation on another list and privately, some of us were
>musing about the possibility of a DSP for the KK7B R2 receiver design to
>handle audio quadrature, filtering, and maybe multiple modes.
>
>My limited knowledge tells me it would have to be more advanced than the
>usual 8- or 12-bit processors in the garden-variety outboard DSP audio
>filters, maybe more akin to that described in the QST review of the
>Watkins-Johnson receiver, or the boxes Rohde described in his articles.

Well, 12 bits will sort of work, giving you a dynamic range of about
85 db. But you really want more bits. 16 works well if you use AGC,
and 32 bits gives you 160 db, which is more than enough without AGC.
You can use the DSP to generate an AGC signal when the ADC approaches
its limit. Used artfully, even the 45 db range of an 8 bit system
can be useable if the receiver offers single signal capability.

Of course the R2 requires the audio quadrature to achieve single
signal capability, so that means your DSP has to have sufficient
dynamic range to deal with a strong signal on the image channel.
Hence, I'd recomend a minimum sample size of 16 bits. I have used
the Analog Devices kit with the R2. It uses a 16 bit CODEC.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5306. crt pinouts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: jholly@cup.hp.com
Message-ID: <48d40q$osp@hpax.cup.hp.com>
Source record: 109669
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

I have a 1DP1 tube and would like to get information on the pin out
and filiment requirements for this tube. Any one have any info?

Thanks, Jim, WA6SDM
jholly@cup.hp.com

5307. Schematic to VLF/VLF rcvr - McGreevy BBB-4 model

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: spmcgrvy@ix.netcom.com
Message-ID: <48d4e6$jvk@ixnews5.ix.netcom.com>
Source record: 109670
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.space,rec.radio.amateur.homebrew

There is a related 3-part article to this posting, entitled VLF STORY.
originally posted to rec.radio.shortwave 59300-59302.

(Re-post note: By this time, those probably have
been archived and are no longer available on the rec.radio.shortwave
USENET group for reading. If you want the 3-part article reposted,
please e-mail me. I will re-post the article if enough folks request
it!
Also, note the WWW URL toward the end of this posting for WAV file
availibility. I noticed I misspelled the WWW URL, so here it is--
correct at last: http://www-pw.physics.uiowa.edu/mcgreevy/
This URL will be repeated at the end of this posting.

==========

Use a fixed-width font such as courier 10cpi or "line Printer"
if viewing in graphical editor/word-processor,
or use Windows Notepad or a DOS text editor such as edit.com.

Thanks to everyone's nice comments! Due to many requests, here is
the schematic to the McGreevy BBB-4 ELF/VLF "whistler" receiver:

REVISED 20 AUG 1995, WITH LINE-NUMBERS INSERTED IN SCHEMATIC AREA
AND ALSO DUE TO A PART BEING LEFT OUT!
==========
S. P. McGreevy BBB-4 Naturally-Occurring V.L.F. Phenomena E-field
Receiver ("Whistler Receiver") For Broadband 0.2 to 11 kHz Reception
of naturally-occurring radio phenomena.

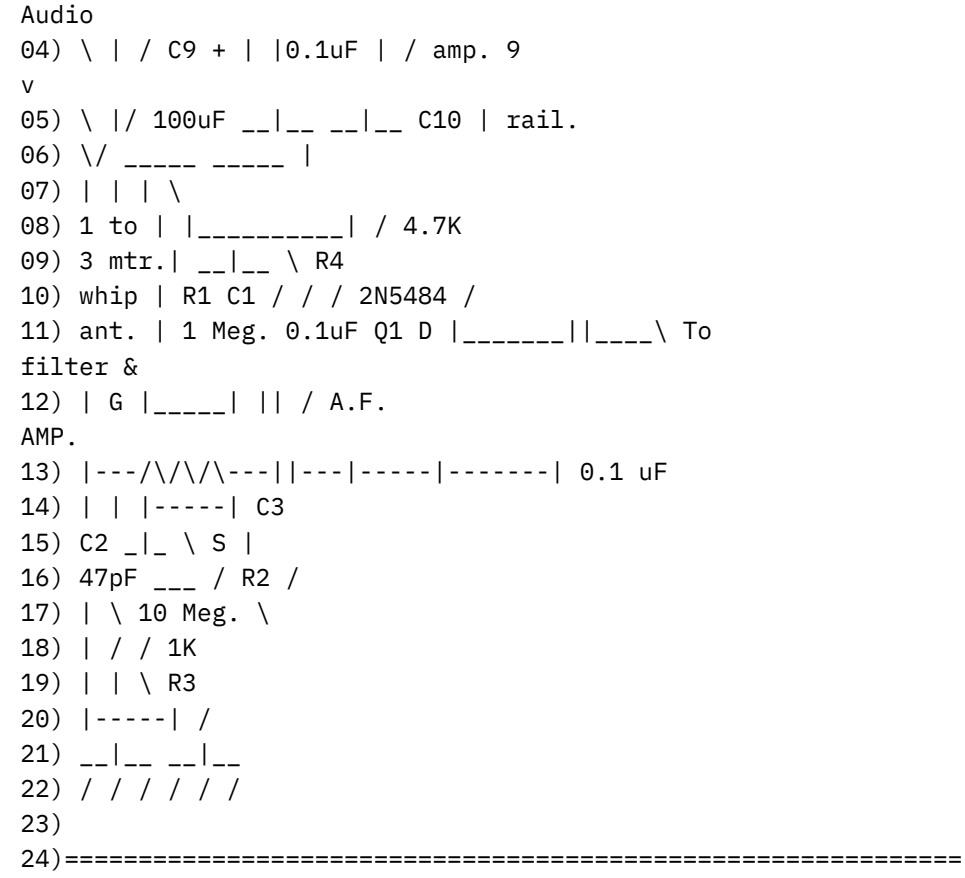
(Originally copyright 1993 S. P. McGreevy). spmcgrvy@ix.netcom.com

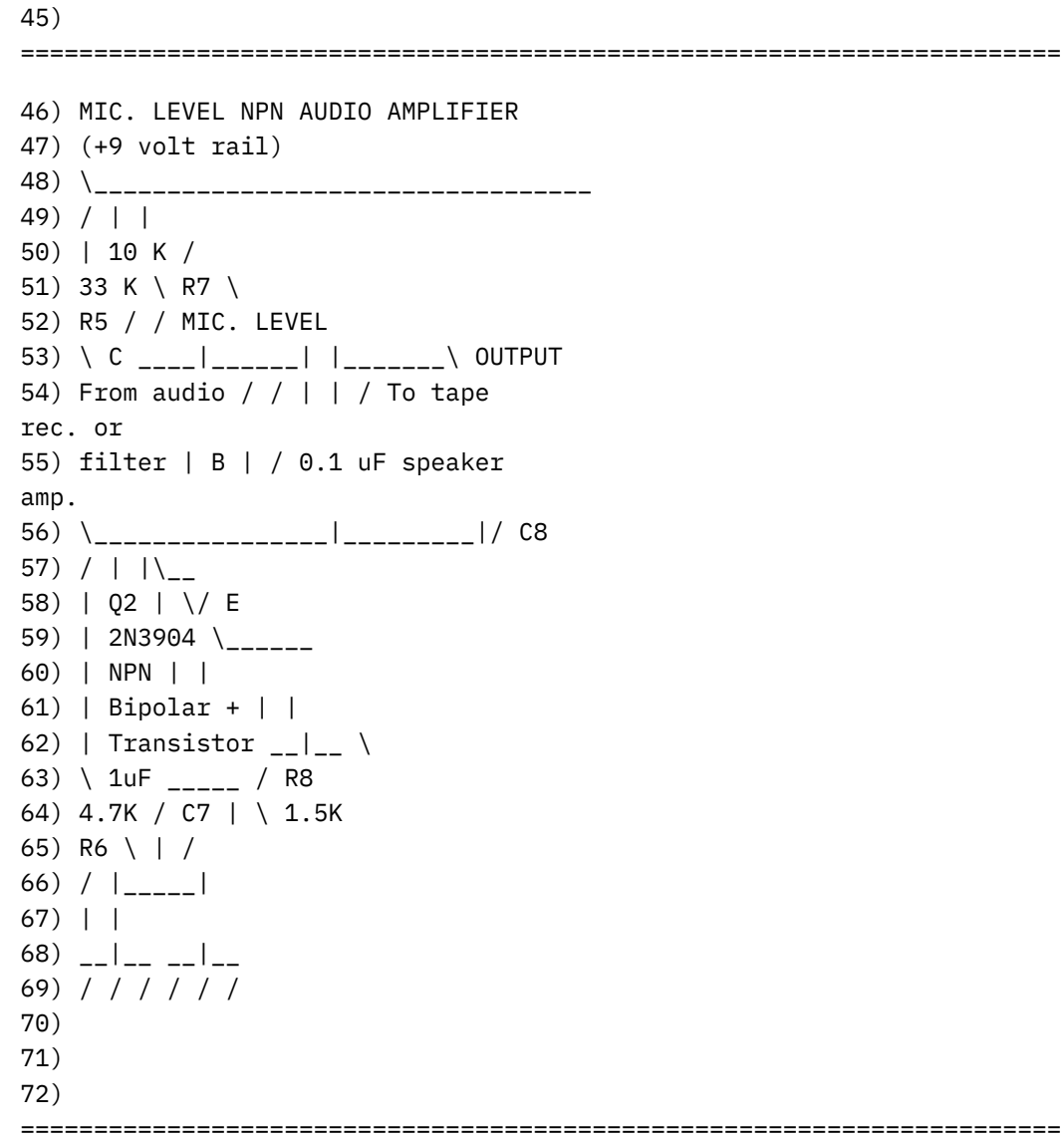
Snail: 45 Elda Drive, San Rafael, CA 94903-3723, U.S.A.

REVISED ASCII SCHEMATIC OF McGREEVY BBB-4 ELF/VLF RECEIVER w/LINE #'S:
(Sorry about the yucky ascii text "graphics" -- I'm not too good
at doing schematics using text characters, but I wanted this to
be fully compatible with the text-only nature of USENET, etc.

NOTE: I've added line numbers to aid with "fixing" any scrambled lines:
These numbers are at the BEGINNING of each line in schematic (01 to
72).
==========

```
01) __________ o +9 Volts
02) \ | / |
03) \ | / ____________________|_____________\ To
```


Audio
04) \ | / C9 + | |0.1uF | / amp. 9
v
05) \ |/ 100uF __|__ __|__ C10 | rail.
06) \/ _____ _____ |
07) | | | \
08) 1 to | |__________| / 4.7K
09) 3 mtr.| __|__ \ R4
10) whip | R1 C1 / / / 2N5484 /
11) ant. | 1 Meg. 0.1uF Q1 D |_______||____\ To
filter &
12) | G |_____| || / A.F.
AMP.
13) |---/\/\/\---||---|-----|-------| 0.1 uF
14) | | |-----| C3
15) C2 _|_ \ S |
16) 47pF ___ / R2 /
17) | \ 10 Meg. \
18) | / / 1K
19) | | \ R3
20) |-----| /
21) __|__ __|__
22) / / / / / /
23)
24)==========
25) AUDIO FILTER
26) * (^^^ = coil
windings)
27) From FET drain coupling L1 (xfmr pri.) or 180-200 mH choke
28) cap. ==========
29) _____ _________|^^^^^^|^^^^^^ To input
of
30) / | |_____| |____\ bi-polar
31) | | | | / audio
amp.
32) | .047 uF | 0.1 uF
33) __|__ C4 .047 uF | C6
34) _____ C5 __|__
35) | _____
36) | |
37) | |
38) __|__ __|__
39) / / / / / /
40)
41)
42) * L1 is a 1 KCT pri. to 8 ohm sec. audio xfmr. using one end of
primary
43) winding and the center-tap as a series inductor equalling approx
160 mH.
44)



The "BBB-4" is a broadband 0.2 to 11 kHz V.L.F. receiver with a passband peak at approximately 2 kHz, and is designed to receive naturally-occurring V.L.F. phenomena (such as "whistlers") that occur as electromagnetic (radio) waves at audio-frequencies. This receiver was designed to be hand-held, and its output patched to a microphone-level input such as a tape-recorder or speaker-amplifier (such as the one available at Radio Shack ("Mini Audio Amplifier/Speaker" cat. # 277-1008).

Dissatisfied with more complicated and cumbersome multi-turn loop receiver schemes, I opted to design a whistler receiver which was simple to build and use, but was as sensitive and low-noise as possible while being highly-immune to broadcast station overload.

The BBB-4 V.L.F. receiver circuit ("BBB-4" standing for a fourth version of my "Bare-Bones-Basic" designs) is remarkably sensitive and works very well with short whip antennas between 30-60 inches in length,
since it operates on the same principle as high-impedance "active antennas"
designed for other frequency ranges (such as long, medium or shortwaves).
The BBB-4, due to its F.E.T. "front-end" being a high-performance J-FET,
has an input impedance of about 10 megohms, which is why the short whip

antenna--more correctly called an "electrical-field probe"--works fantastically
for being such a tiny fraction of the received-frequencies' wavelengths in
size (the ultimate isotropic antenna).

R1 and C2 act as a roll-off to frequencies above about 20 kHz, efficiently eliminating potential receiver overload/intermod from Loran-C
(100 kHz), strong AM-BCB signals or SWBC signals, and frequencies up into the VHF ranges. R2 sets the gate impedance for the J-FET. R4 and R3
set the optimum bias on the FET for maximum dynamic range and minimum susceptibility to overload and intermod. C3 and C6 slightly helps roll-off
low-frequencies such as powerline "hum." The "pi-filter" consisting of C4,
L1 and C5 roll-off frequencies beginning at about 7 kHz, so there are not
excessive levels of 10.2 - 13.6 kHz "Omega" signals or higher frequency
signals, which can create problems with the recording system connected to
the output of the receiver. R5 to R8 , Q2 and C7 form a fairly low-noise
Class-A audio amplifier which boosts the output from Q1 to a level plenty for
all microphone-level recorder inputs and even some more "sensitive" line-
level inputs. Bypassing R3 (1K) with a 2.2 uF cap will boost FET gain somewhat, esp. the higher frequencies--depending on your location and listening conditions, this may or may not be desireable.

The circuit can be built on perfboard such as IC-LSI boards or even wired point-to-point, as layout is not very critical. However, the parts'
values ARE critical for optimum passband shape and sensitivity. L1, the
inductor, can either be a 160-200 mH choke or the Radio-Shack 1K to 8 ohm audio

transformer available at Radio-Shack (cat. # 273-1380). Use the black and
green or black and blue wires (the center-tap and one end of the primary
winding). The audio transformer was used since it is easily available at
Radio Shack stores. In fact, ALL the parts with the exception of the 2N5484
FET are available at Radio Shack. Very good performance (but slightly
reduced gain) can also be had if a 2N3819 J-FET, available at Radio Shack,
is used. If so, R3 must be 220 ohm and R4 must be 1K, because the 2N3819
needs different biasing than the 2N5484. Also, if you use the Radio Shack
2N3819 FET, you might wish to reduce C4 and C5 to .033 mF, since there
will be less high audio-frequency output from the 2N3819. Keep C4 and C5
047 mF if you live in Hawaii or within 300 miles of La Moure, ND (south-
eastern North Dakota) due to the Omega-navigation transmitters (frequency
stepping from 10.2 to 13.6 kHz) being located there. Capacitors C4 and C5
work with L1 to reduce Omega to tolerable levels. Solder the J-FET into the
circuit LAST, and take measures to protect the FET from static electricity.

The total cost for parts (not including an enclosure) for the BBB-4 are in the
neighborhood of $15-20 U.S. A rugged telescoping-whip antenna is the GROVE
ENTERPRISES "ANT-8" 7-46-inch telescoping whip with a BNC
connector. This is available for $16.95 from Grove Enterprises, P.O. Box 98,
Brasstown, NC 28902-0098, U.S.A. (Order Line 1 (800) 438-8155. They
send out a free catalog.

Another telescoping whip antenna of like design is
available from C. CRANE RADIO CO. in Fortuna, CA in Fortuna,
California (800) 522-TUNE (522-8863). E-field-probe receivers of this type
need to be operated at locations away from trees, buildings, or other
obstacles by about 100 feet/30 meters. This is because received
signal levels (due to E-field attenuation) will be poor if the receiver is
operated too near (or under) such obstructions.

The greatest nemesis to monitoring and recording naturally occurring
VLF phenomena are electric a.c. powerlines, which emit annoying hum at

50/60 Hertz and also harmonics beyond 3 kHz. The only cure for this "hum"
problem it to locate monitoring sites well away from a.c. powerlines. Locations at least 1/2 mile/1 km or so away from a.c. powerlines will begin
to be acceptable, though the farther you can get from powerlines, the better.

Hilly or mountainous terrain (with open areas free of trees) offer larger areas
away from powerlines, though large fields and meadows where the powerlines are shielded by trees, etc. may be surprisingly hum-free. Remote
locations such as deep into desert and wilderness regions offer the most
rewarding locations, both aesthetically and electrically, to listen, and you may
be able to get over 10 miles from the nearest powerline. If so, you can make
the receiver's antenna several meters in length (keeping it vertical) for
maximum sensitivity. Longer vertical antennas or horizontal wires may either overload the receiver, or in the case of long/low wires, will create a
mismatch which will actually reduce output. Experiment here.

NOTE: A 100 mH choke across C5 (th secone .47 cap in the audio filter will greatly reduce the below 1 kHz frequencies, including pesky power-line hum. This may enable you to listen far closer to AC power-lines including even some backyard locations!

Grounding is non-critical. High-impedance FET receivers of this type need only minimal grounding to work well_even just the body of the listener
holding the metal enclosure of the receiver will be adequate in most cases. If
recording, it is best to stick a 8-10 inch ground rod into the soil to reduce the
possibility of feedback with some tape recorders. Also, a small ground-rod
(8-10 inches long) will cut noise from body or foot movements (due to capacitive interaction with the ground). If you ground the receiver to objects
such as fences, beware that certain grounds may couple a.c. powerline noise
to the receiver, which is why I recommend a simple Earth ground.

Better quality tape recorders, with adjustable input level controls, are
desirable, as "cheapie" portable recorders with auto-level control will often

have annoying variations in record level due to lightning-sferics. And, these
cheap recorders also put noise of their own onto the tape. A shielded 600 ohm
patch-cord will suffice between the output of the BBB-4 and microphone
input of a tape recorder.

The most common naturally occurring V.L.F. emissions to be heard
are the myriad "crackling and popping" sounds of lightning-stroke
electromagnetic impulses from lightning storms within a couple thousand-
mile radius of the listener. Since there are nearly 100 lightning storms in
progress anywhere on the Earth at any given time, and that millions of
lightning strokes happen daily, there is never a moment when these lightning
"sferics" will not be heard. However, the density and strength of lightning
sferics can vary day-to-day and hour-to-hour. Mid-winter offers the lowest
density of sferics, and summer evenings can be full of a dense barrage of
strong sferics.

The other most common (and most awesome) sounds are "whistlers"_eerie
descending tones caused when the lightning electromagnetic energy gets
"ducted" along Earth's magnetic lines-of-force (magnetosphere) to the
opposite polar hemisphere, then gets rebounded back to the vicinity of the
originating lightning stroke impulse. However, there doesn't have to be
lightning within sight or even a few hundred miles of your listening
location_lightning from storms up to thousands of miles away, particularly if
more to the north of your location, can generate large whistlers which are
heard continent-wide. On the other hand, it's quite spectacular to watch
distant lightning storms generate whistlers in the receiver's output_you hear
the huge "crack" of the lightning impulse sferic, then, if the conditions to
support whistlers are occurring, a whistler may follow from 1 to 2 seconds
after the lightning stroke.

Optimum times to listen for natural V.L.F. phenomena, such as
whistlers, are between sunset and sunrise, with the midnight to sunrise period
generally being the best. Statistically, the greatest activity to be heard is

around dawn and sunrise (4-7 a.m. local time)_sferics tend to be fairly low as
compared to the sunset period.

Dawn Chorus can occur during magnetic-
storms, and will peak anywhere from an hour before sunrise to 2 hours past
sunrise. Whistlers can occur at anytime, but the period of minimum
frequency is midday. Sometimes, activity can also occur just after sunset,
but sferics will be fiercer. Lightning sferics will be most fierce during
summer afternoons and minimum (generally) an hour or so after sunrise until
thunderstorm activity picks up later on. Winter can present delightfully low
lightning sferics_other activity will be more "in the clear."

Tweeks, the "ringing/pinging" sounds of sferics caused by the Earth-
surface/ionosphere "waveguide," will be best from an hour after sunset to 2-3
a.m. local time, gradually tapering off toward sunrise. Their number and
intensity of "pinginess" can vary from night to night_some nights they can
sound rather "pale," but other nights they can ring in a variety of beautiful
mixtures and pitches. Whistlers, which may or may not be heard on some

days or even weeks, can range in sound from quite pure notes to very diffuse
"breathy" sounds. They can swoop in frequency from very high to low, or
abruptly cut-off as they descend in pitch.

Don't be discouraged if you listen for several hours, or several sessions on
different days, without hearing whistlers or other natural radio phenomena.
When you DO hear them, it will make up for the "dry" times, as there is

nothing like "live" listening!

Listeners located north between 40-55 degrees north or south latitude
are in the optimum latitudes for monitoring natural V.L.F. phenomena. If
you can see visible Aurora (Northern/Southern Lights) from your location,
you are at a great location for natural V.L.F phenomena monitoring!
Latitudes between 20-30 degrees north and south will hear less, but at times,
still loud phenomena. I've heard whistlers just fine in

Hawaii_presumably
those whistlers were louder farther north, but still, they were heard!

DO NOT operate this receiver (or any other) when nearby lightning
threatens! Take appropriate lightning precautions when lightning is
occurring nearby (within 5-10 miles). Nearby lightning will cause
excessively loud sferics in the receiver's output, and whistlers will
not be
louder just because lightning is close-by. Reserve listening for fair
weather
periods_most often, the best and loudest natural V.L.F. phenomena will
happen during clear weather, since lightning can be quite distant, as
mentioned above, and still spawn loud whistlers.

If you would like to purchase a ready-made receiver which is
fashioned like a "Walkman-style" whistler receiver, e-mail me for
details. I don't want to "advertise" here.

The Longwave Club of America also has other designs of ELF/VLF
"whistler"
receivers, and has a BBS run by member John Davis. The LWCA BBS is at
(706) 672-0360 with speeds up to 9600 (8,N,1). Download the
ALLFILES.TXT or ALLFILES.ZIP for listing of files avail on this BBS.

A WWW URL of natural radio WAV files (most 8 bit/11 kHz sampling
compatible with Windows "speaker.drv" as well as 8-bit sound cards,
plus a
few 16-bit files for 16-bit sound cards are available for downloading
at:

http://www-pw.physics.uiowa.edu/mcgreevy/

Special thanks to Larry Granroth a the U. of Iowa for doing this for
me!

Coordinated monitoring of naturally occurring V.L.F. phenomena
among individuals and groups has a strong potential to uncover new and
previously unknown characteristics of these phenomena, particularly if
those
monitoring simultaneously are located hundreds and thousands of miles
apart. Research and understanding of V.L.F. phenomena has been
hindered
by a lack of listeners, which is something a few research groups, both
amateur and professional, are attempting to alleviate.

I hope you enjoy this rcvr. and are interested in monitoring and
studying naturally occurring VLF radio phenomena for yourself. It is
quite
fascinating, especially when one ponders the fact that Earth's natural
radio
emissions have been "sounding-off" way before we Humans came into
existence and started making radio waves of our own! Happy Listening!

Stephen P. McGreevy
Originally released November 1993, updated November 1995

Additional Tips:

1) A 100-200 mH inductor connected across C5 the will act as a high-pass filter, nicely attenuating 60-360 Hz powerline emissions (hum).

2) If you want less gain from the Q2 stage (and slightly lower noise), reduce R8
to 4.7K.

3) Listen to WWV-shortwave (2.5, 5, 10, 15, 20 MHz) for geo-magnetic indices at 18 min. past each hour (WWVH-Hawaii at :45). A K-index at or above 3 indicates enhanced conditions for natural phenomena,
especially chorus.

73,

Stephen P. McGreevy, N6NKS

5308. Re: Need Help - Parallel!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-15 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <48drcs$q4b@crash.microserve.net>
Source record: 109671

thom@newshost.li.net (Thom) wrote:

>Can anyone tell me a simple method to use in the case where a
>specific resistance is needed in a circuit and a value larger than
>that is available.

The formula for the equivalent resistance of two parallel resistors
is their product divided by their sum.

Sorry, I work mostly with spreadsheets so I don't have a Basic formula
for determining one resistor based on the other resistor and the
equivalent resistance.

In the example you cited, placing a 1,000 ohm resistor in parallel
with the 100 ohm yields 90.9 ohms.

73,

Jack WB3U

5309. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: carl@aoainc.com
Message-ID: <48ffar$75p@gaia.aoainc.com>
Source record: 109524
Cross-posted to: rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

In article <816282897.27302@intlog.demon.co.uk> spug@intlog.demon.co.uk (Sparrow) writes:
>jimc@mdsroc.com (Jim Clarke) wrote:
>>Oh, I see, the self-righteous calling the self-righteous self-righteous.
x
WIll you dingbats please kill this shit off?
It has little relevance to ham-radio, and no relevance at all to
any other newsgroup.
Kill it off !!!!!

--
Carl Witthoft @ Adaptive Optics Associates
carl@aoainc.com 54 CambridgePark Drive, Cambridge,MA 02140 617-864-0201
" Axis-navigo, ergo sum."

5310. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: Kevin Kelleher <kevink>
Message-ID: <48fiat$rhf@tristram.edc.org>
Source record: 109525
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine,rec.org.mensa.flame.flame.flame

After reading the original "sexy hams" message, I see that the hams in
question where not anatomical, but radio hams. Sorry. I just assumed
that in a rec.running, hams were the... well you know.

5311. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: tsavo@ix.netcom.com
Message-ID: <48evnk$i5i@ixnews5.ix.netcom.com>
Source record: 109526
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

[No readable article body recovered]

5312. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: billhar@spaceworks.com
Message-ID: <48eooe$pd9@mars.spaceworks.com>
Source record: 109527
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

>>I've only been an amateur radio operator for 18 years and I would have to
(snip)
>>Don't let the bad apples spoil the excitement that can be found in amateur
>>radio, there is something there for everyone (wives/girlfriends too).

>Speaking of HAM radios, could this group help me out? Every time I go and
>dive with my radio set, the fuse blows. What's the trick here?

Next time you dive make sure there is water in the pool.

Bill - K5MIL

5313. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <48fo6h$fk8@news1.inlink.com>
Source record: 109528
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

If I fix a HAM & CHEESE on Jewish Rye, is it KOSHER, or must I use
Kosher Pickles to get the effect?

5314. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: "Sarah Godfrey"
Message-ID: <48g0lj$pss@news.missouri.edu>
Source record: 109529
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.ra

What is all this???

5315. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: Kevin Kelleher <kevink>
Message-ID: <48fhq6$r0k@tristram.edc.org>
Source record: 109530
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

Please add rec.org.mensa.flame.flame.flame to this thread.

And let me say that I love running behind a woman with sexy hams.

5316. Re: Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DI4zr1.B4w@hpqmoea.sqf.hp.com>
Source record: 109531
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Burt Fisher (k1oik@ccsnet.com) wrote:

: Then why do I get frequent messages that appreciate my comments?

Is this the first contact with non-human sapient entities ?

Or is someone going to suggest that any message that likes Burt's
humour..... No, who would be so cruel ?

Cheers,
David

5317. Standard 568A recovery?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: mfogarty@netcom.com
Message-ID: <mfogartyDI4LrB.DrC@netcom.com>
Source record: 109532
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.scanner

A new tribander is out from Standard: the 568A. It receives a surprising array of frequencies, including 800-1300MHz. Does anyone know of mods for recovering the interesting parts of the 800 realm? I've checked Oakland and can't get through to AD4HL's BBS (at 615-537-6051).

Does anyone have one of these radios? What do you think?

I'd also like to get a general feeling for what people think about the Standard brand.

In the market,
Mike

5318. Re: NDN: Ham-Homebrew Digest V95 #384

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30AAF7E4.4B0C@jpaw.com>
Source record: 109533

How do I subscribe to the Ham-Homebrew list?

de K9GXC, Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5319. Re: NE4040 NOVICE BAND???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <48fjn0$c5s@mksrv1.dseg.ti.com>
Source record: 109534

I checked the NE-4040 manual and schematics last night. It should be
no problem at all to set it up for the Novice band. You'll probably
have to remove a few turns from one of the toroids (manual says how).

If you run into problems, NN1G's e-mail address: bensondj@aol.com

73 and good luck!
Dean KC5NG

5320. Re:Where is QEX?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9510168165.AA816543346@mails.imed.com>
Source record: 109535

I understand that Jon Bloom (the editor) and his wife both work for ARRL in publications. They had a baby this summer (their first) and this has interrupted the schedule for QEX.

I received my September issue Monday.

Honest, Jon and his crew (if there is anyone besides him) are working furiously to get the magazine back on schedule. Jon tells me that we will get ALL of the issues, albeit a little late. I talked to Zack Lau at Microwave update, so I know that articles for each of the issues are to Jon. All Jon needs to do is get the magazines edited and put together.

My request to y'all is to give Jon until the first of the year at least before you get too upset.

I thank you and I'm sure Jon appreciates any understanding on this.

Ray Mack
WD5IFS
mack@mails.imed.com

5321. Re: QEX again...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov16.154632.18360@ke4zv.atl.ga.us>
Source record: 109536
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <48eq5i$4ua@news.siemens.at> Forthuber Gerald <forg@cent.gud.siemens.co.at> writes:
>I got my QEX/September issue yesterday, but to Austria it takes a little
>longer than delivery within the US.

Apparently not because I got my copy yesterday too, and I'm only
300 miles from the plant where it is printed.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5322. Re: DSP for the R2?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov16.160817.18509@ke4zv.atl.ga.us>
Source record: 109537

In article <48dis0$999@crl5.crl.com> hbs@crl.com (Henry B. Smith) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: Of course the R2 requires the audio quadrature to achieve single
>: signal capability, so that means your DSP has to have sufficient
>: dynamic range to deal with a strong signal on the image channel.
>: Hence, I'd recomend a minimum sample size of 16 bits. I have used
>: the Analog Devices kit with the R2. It uses a 16 bit CODEC.
>
>This peaked my interest.
>
>Which Analog Devices kit did you use? The EZKIT Lite?

Yes.

>How did you interface the I and Q outputs of the R2 to the A/D?

The I and Q outputs are available at the emitters of Q3 and Q6.
Some sort of gain rider is helpful to stay in the center of the
CODEC's range. I used a stereo Volumax I happened to have laying
around, but there are single chip solutions too which can be
driven by a fed back signal from the DSP if you want to experiment
with adaptive AGC.

>And finally, what did you use in the Analog Devices to achieve the 90
>degree phase shift? An allpass filter, a Hilbert Transform?

Right, a Hilbert transform gives you the required 90 degree phase
shift to generate the single signal output. You can then implement
any filters you may wish to apply to the resulting signal. Or, you
can use the quadrature inputs directly to a DSP QPSK demodulator for
data.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5323. Re: T-R Switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: ka9egw@aol.com
Message-ID: <48fos4$gar@newsbf02.news.aol.com>
Source record: 109538

Anything you get, please e-mail a copy to KA9EGW@aol.com, as I'm putting a Heath Apache on the air w/a R390 and am in a similar predicament. I'm researching how it can be done w/PIN diodes if at all and will let you know what I find.

73, Brian, ka9egw@aol.com

5324. Re: Looking for advice: Small Relays Useful at UHF for 40W Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <48frbu$mlv@newshost.lanl.gov>
Source record: 109539

I've had good luck using surplus SPDT magnetic reed relays with
a coaxial sleeve of RG58 shield braid surrounding it and a
homebrew solenoid coil wound around the outside. I never used
it at 440 but did use them extensively at 146 MHZ in amps and
transverters for the VHF RF switching. Never looked at them
with more than a Bird for loss/SWR data but they certainly
worked much better than frame relays!
Motorola makes a commercial version of these relays used in the
Micor/Mocom 70 transceivers and USED to retail for around 20
bucks apiece. You might enquire at your nearby 2-way repair
shops, especially Motorola shops, if they have bad relays they
can give you they can be fixed easily by replacing the bad
internal reed switch (there are 2 inside) with a spst reed
robbable from the small Radio Shack reed relays. A single
rivet holds the relay housing together which is easily
defeated. These relays are used throught the 470 MHZ range in
Motorolas.

--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5325. QST Tech Errors.... Common?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: pete brunelli <pcb@connix.com>
Message-ID: <48fvua$1i4@comet.connix.com>
Source record: 109540

I know that it is prudent to wait an issue or two before diving into
a homebrew design from QST, but the November issue was chock full.
The 20M QRP rig appears to have been a forest of errors and omissions
and the broadband transmitting wire article was pathetic considering the
lack of complexity.

This is not as much flame-bait as an observation by a ham who is trying
to justify renewing my league membership which has lapsed for about a year.
Maybe the additional support will equal better tech editing, but since the
tech editor was "behind the diamond" in the same issue, i doubt it.

Pete Brunelli Amateur Call N1QDQ
Check out http://www.connix.com/~pcb
Home of the Rolling Thunder Contest Club
Mobileering for a Better Tomorrow

5326. FS: Microwave sweep/sig generators - u pick up

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: pete brunelli <pcb@connix.com>
Message-ID: <48g0fd$1i4@comet.connix.com>
Source record: 109541
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

I have a few older sweep/signal generators for sale, but they are pretty big, and shipping them is not an option for me. I am located in Central CT and would consider a short drive to meet a prospective buyer.

2 - Alfred Model 650 Sweep Oscillator
1 model 652 1.7-4.2 gig module
2 model 654 7.0-12.4 gig modules
1 model 657 10-15.5 gig module
1 model 653 3.7-8.3 gig module
1 model 659 26.5-40 gig module.

This gear is in good physical shape, but is as-is. If nothing else, it is a veritable treasure chest of parts. The modules have watkins-johnson reverse wave oscillators and either N connectors or waveguides. The modules are complete with tuning scales for the master unit.

Offers?

Pete Brunelli Amateur Call N1QDQ
Check out http://www.connix.com/~pcb
Home of the Rolling Thunder Contest Club
Mobileering for a Better Tomorrow

5327. Re: Combining 2 Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <48g51l$ika@newsbf02.news.aol.com>
Source record: 109542

Hi there Tom, you seem very sceptical but.....

For a couple of years I ran two Palomar 350 amps into a vertical.
If you aren't familiar with these amps they use 2 6LF6 tubes driving 4
6LF6 tubes.
Yes I worked 11 and 10 meters with them. I had no problem whatsoever with
the splitter-combiner that I made for the system. The only reason I don't
run them still is because of the price of new tubes. I still use the power
combiner but in reverse as a power divider (splitter) to feed those two
stacked Moonraker 4's from a single Palomar 350.

Yeah. I know two means 3db. Undetectable to the human ear. Barely
discernable
on a visual indicator,... and all that.

From that experience I went on to develop a Power combiner for sale to
others
that might need something like that.

One user of the PC1500 used two different amps on his system. (I hear one
of them ."You can't do that!" warnings from the second row.) A transistor
and a tube amp. Each with about the same output. He said everything was
allright. I haven't heard from him since so I suppose the PC1500 is still
going.

I am glad that I was able to accomplish this and many other downright (You
can't do that!) dirty tricks in this amazing realm of RF.

Carl
The2x4
N9EFJ

5328. hints and pointers to PCB layout programs wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: po@login.dknet.dk
Message-ID: <ux5qw8tDAYra083yn@login.dknet.dk>
Source record: 109543

hello homebrewers,

Are there any of you who can recommend PC MS-DOS or MS-WINDOWS
programs for PCB layout and/or schematics?

Forget about the expensive, professional ones - it must be cheap.
Two-layer and netlist support would be nice, though.

Any hints?

Regards,

Peter - oz1qt

5329. Re: Needed: Small Quantity Parts Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: filip@alpha.smi.med.pitt.edu
Message-ID: <48er7n$245@usenet.srv.cis.pitt.edu>
Source record: 109544

In Article '<481433$9b1@news.dgsys.com>', through puissant locution, 'noel@li.com' soliloquized:
>I need a mail order small quantity electronic parts source (resistors,
>capacitors, etc).....I'm building a home brew QRP rig and can get what
>I need at the local radio Shac

Greetings.

A comprehensive list by John Woods, WB7EEL can be found on URL:

http://www.paranoia.com/~filipg/HTML/LINK/F_mail_order.html

(50KB)

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg | Sci.Electronics, RC, Misc FAQs + MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

5330. Re: SAW filer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: mark@reson.com
Message-ID: <48er03$hcl@acme.sb.west.net>
Source record: 109545

dbe@metropolis.nl (D.A.H. Bezemer) wrote:

>Does anyone know a manufactor or source for an SAW filter with a single
>pass-band of about 800 Khz (-3dB). There is no strict centerfreqency needed,
>but somewhere between 24 MHz and 48 MHz would be great (36 MHz preferably).

>73's Dennis Bezemer, PA3DKT

Andersen Laboratories, Inc.
45 Old Iron Ore Road
Bloomfield, CT 06002
U.S.A

+1 203 286 9090 (voice)
+1 203 242 4472 (fax)

==========
Sawtek, Inc.
PO Box 609501
Orlando, FL 32860
U.S.A.

+1 407 886 8860 (voice)
+1 407 886 7061 (fax)

Both companies make custom and also have a variety of stock filters.
My vestigial sideband filters were about U.S. $75 each for moderate
quality units.

-
Mark | KH6HPQ | mark@reson.com | Santa Barbara, CA

5331. Re: QRP KEYER CKT???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-1611951349050001@burdick.interval.com>
Source record: 109546

bwhittem@mailgw.sanders.lockheed.com wrote:

> DOES ANYONE KNOW OF A CHEAP, LOW COST, LOW POWER KEYER THAT CAN BE ADDED
> TO A QRP RIG. I DONT WANT TO USE THE CURTIS CHIP

Hi Barry,

You might consider the Wilderness Radio KC1. This is a keyer AND frequency counter on a single small board (0.8" x 2.5"). You can build it into anything; only draws 4mA.

The keyer has two iambic modes and 50 characters of nonvolatile message buffering. All parameters are entered using the keyer paddle, e.g. weight, QSK delay, messages, etc.

The frequency counter does not use a display. Instead it reports your operating frequency as three digits in Morse code (to 1kHz), by sending audio tones directly to the rig's audio amplifier stage. You use the keyer paddle to program an offset, so it will work with rigs having any mixing scheme. It's especially nice for rigs that don't have a calibrated VFO dial.

The KC1 is $44.50 as a full kit with PC board, controls, and all parts, including a programmed 18-pin microprocessor that does most of the work. I designed the unit for Wilderness Radio, so if you have any technical questions let me know.

Wilderness Radio can be contacted at 415-494-3806. Talk to Bob Dyer, KD6VIO.

73,
Wayne
N6KR

5332. NEC 66LI0100 info?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: pe1obu@pi.net
Message-ID: <NEWTNews.19615.816593235.marco@pi-user.pi.net>
Source record: 109547

Hello,

Any one out there who knows the NE673 ????

Any help is welcome!

Marco

PE1OBU@PI8VNW.#ZH2.NLD.EU
TCP/IP 44.137.32.129

5333. Re: 2000 Ohms headphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <48gb1p$kkp@newsbf02.news.aol.com>
Source record: 109548

>Those airline headphones have a impedance of around 400 OHms per
earpiece.
Connecting them in series will give U 800 Ohm. That might be close
enough for U.

>Or you can use the telephone earpieces from old telephones.

When you say "old", do you mean old as in "discarded", or old as in
"antique"? I was under the impression that impedance for contemporary
standard earpieces was something like 75-100 ohms. I didnt see the earlier
posts, so I presume the original question had to do with high impedance
headphones for, say, a crystal radio or the like.

In that case, using a 8ohm to 1kohm audio transformer in conjuction with
some modern 8 ohm headphones might do the trick. Or, maybe the original
poster should be advised to cobble together a little amp out of a 8 pin
amp chip (Im thinking the LM386), and again use modern headphones or a
little speaker.

PFZouave@aol.com
Pete Friedrichs
*** We don't inherit the earth from our parents, we borrow it from our
children ***

5334. Re: DTMF Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: filip@alpha.smi.med.pitt.edu
Message-ID: <48er2a$23r@usenet.srv.cis.pitt.edu>
Source record: 109549

In Article '<47us6k$4j2@oznet03.ozemail.com.au>', through puissant locution,
'nrodger@shell02.ozemail.com.au' soliloquized:
>If anybody knows anything at all about making a DTMF decoder, with LCD
>display showing decoded tone on it please mail me, nrodger@ozemail.com.au

Greetings. This post gives location of DTMF and LCD faq(s) on WWW.

DTMF FAQ is at URL:

http://www.paranoia.com/~filipg/HTML/LINK/F_DTMF.html

LCD FAQ(s) are at URL:

http://www.paranoia.com/~filipg/HTML/LINK/F_LCD_menu.html

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg | Sci.Electronics, RC, Misc FAQs + MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

5335. NDN: Ham-Homebrew Digest V95 #384

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: Gateway@BayNetworks.COM
Message-ID: <1769070523.16555@BayNetworks.com>
Source record: 109550

Sorry. Your message could not be delivered to:

LESLIE DODD,BL Administration2 (The name was not found at the remote site.
Check that the name has been entered correctly.)

5336. Re: DSP for the R2?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: hbs@crl.com
Message-ID: <48h6rv$boa@crl14.crl.com>
Source record: 109551

Gary,

Thanks for the info.

Now all I need is some time, an R2 and a VFO or DDS.

BTW, I forgot to ask. Anybody got a favorite DDS that they have build up?

Thanks,

Smitty, NA5K
--
Henry Smith (hbs@crl.com)

5337. Re: Need Help - Parallel!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov16.164016.18728@ke4zv.atl.ga.us>
Source record: 109552

In article <48dq7b$8ji@linet02.li.net> thom@newshost.li.net (Thom) writes:
>Hi and thanks in advance for your help.
>
>Can anyone tell me a simple method to use in the case where a specific
>resistance is needed in a circuit and a value larger than that is available.
>
>This, course calls for putting another resitor in paralell with the first.
>I gues my high school day dreaming has come back to huant me because I
>really don't enjoy going through all the mechanics involved in the formula.
>
>For example I'm presently building a keyer which call for a 91K resitor.
>I have a 100K resistor, so how do I (in a simple manor) determine what
>value to put across the 100K? (Now in reality I'll wind going with the
>100K as close enough, but that's cheating).
>
>
>Even a small program written in basic would be help.

Rx=-Rf*Ri/(Rf-Ri)

Where Rx is the resistor value you need to put in parallel
with Ri, your initial value, and Rf is the final desired
resistance. So for your example:

Rx=-91k*100k/(91k-100k)=1.011M

So you need a 1.011 megohm resistor in parallel with the 100k
to give you your 91k final resistance. Just enter the above
formula into a Mathcad worksheet and you'll always have it.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5338. Re: Combining 2 Amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov16.165553.18972@ke4zv.atl.ga.us>
Source record: 109553

In article <48f0op$1rvi@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>>Well, it's *easier* to combine two identical amps, but you can combine
>>similar amps. You just need a line stretcher and a gain leveling pad in
>>one input leg to make the output phases and amplitudes balance.
>
>Sure. You just have to provide a swithcable phasing line for every
>HF band on which you want to operate. For a all band system I would
>call it impractical.

Well, you've got to have switchable LC networks for a multi-band
amp anyway, so you might as well design them to include the desired
phase shift. Or were you thinking about just using broad band amps
and putting up with the spurious and harmonic output?

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5339. Re: Combining 2 Amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <48f0op$1rvi@info4.rus.uni-stuttgart.de>
Source record: 109554

>Well, it's *easier* to combine two identical amps, but you can combine
>similar amps. You just need a line stretcher and a gain leveling pad in
>one input leg to make the output phases and amplitudes balance.

Sure. You just have to provide a swithcable phasing line for every
HF band on which you want to operate. For a all band system I would
call it impractical.

73, Moritz DL5UH

5340. Re: Spec Analyzer + Noise Gen = Tracking Generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: geotek@cent.com
Message-ID: <NEWTNews.816537518.14489.geotek@geotek.netropolis.net>
Source record: 109555

In Article<48ap97$3fd@itchy.itsnet.com>, <allen@dtint.dtint.com> writes:
> I don't understand ENR (Excess Noise Ratio) and how to predict how much
> power will fall into a given bandwidth. I read the QST artical last year,
> and I didn't understand it.
>
The ENR of a noise source is the amount of noise it outputs in excess of the normal amount you would see from a matched termination. A good rule of thumb is at 290 degrees K (17 C or a little lower than room temp) the noise level from a resistive termination would be -174dBm/Hz. I other words if you had a perfect spectrum analyzer with a 1Hz bandwidth you would see a noise floor of -174dBm with the input terminated. A 30 ENR source would give you -144dBm/Hz. If your bandwidth is 1 MHz then the noise energy is (10 log 1E6) + Noise level at 1Hz BW. With your 30 ENR source the noise level would be 60dBHz + -144dBm/Hz = -84dBm. Amplifing the noise source is not a problem, just give yourself about 20dB of head room on compression to keep things linear.
G. M. Carlson

5341. Re: Ramsey FX440

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <48e0d6$cj@IRIS.igc.net>
Source record: 109672

In article <1995Nov10.234839.14354@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>
>Note: my comments apply to both the 2 meter and 70 cm Ramsey kits.

I'm not sure your comment apply to the FX-440...

[deletia]

>You need to spread the receiver input coils *much* more than seems
>reasonable to achieve good sensitivity. The turn to turn spacing
>will wind up between 5 and 10 wire diameters when you have maximum
>sensitivity. Ramsey doesn't like close wound coils (even though
>the manual instructs you to wind them that way).

The manual for the FX-440 doesn't instruct you to wind any coils;
small 15nH pre-wound coils are used throughout the front end.

>I haven't looked at a recent one of these kits, but early on the
>transmitter was not inhibited when the synthesizer was sweeping
>into lock. This can make you very unpopular with others on the
>band. There's a lock indicator on an unused pin of the synthesizer
>chip, and you can use that to qualify B+ to the driver stage through
>a keying transistor. That'll keep it from kerchunking every repeater
>on the band when you go from receive to transmit.

The FX-440 implements a lock detect to disable the transmitter under
conditions of unlock.

5342. SAW filer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-16 00:00:00 UTC
From: dbe@metropolis.nl
Message-ID: <DI3uMM.Ks@news.metropolis.nl>
Source record: 109673

Does anyone know a manufactor or source for an SAW filter with a single pass-band of about 800 Khz (-3dB). There is no strict centerfreqency needed, but somewhere between 24 MHz and 48 MHz would be great (36 MHz preferably).

73's Dennis Bezemer, PA3DKT

5343. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: grizzarv@indirect.com
Message-ID: <48go5l$sia@globe.indirect.com>
Source record: 109556
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb

Sarah Godfrey (c594477@showme.missouri.edu.) wrote:
: What is all this???

Sarah, this is a thread with a hitherto untrimmed followup-to line.

Since this doesn't fit anywhere else in the known ham radio universe, I'm going to arbitrarily set the followups to rec.radio.amateur.misc.

I don't know where it started from.

KG7YY (posting from rec.pyrotechnics)

5344. Modem --> TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: buydens@duke.usask.ca
Message-ID: <48gjqf$7d@tribune.usask.ca>
Source record: 109557

I am about one week away from getting my basic radio operators certificate
so please excuse the "newbie" question:

Are there plans available to convert a modem to a TNC?

I am hoping to acquire a 2m radio in the near future and would like to
try my hand at packet.

--
Brian Buydens There was a young poet named Dan,
Department of Computing Services Whose poetry never would scan.
University of Saskatchewan When told this was so,
email: Brian.Buydens@usask.ca He said, "Yes, I know.

5345. Re: OSCILLATORS USING MMIC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <48gqvk$rco@hpscit.sc.hp.com>
Source record: 109558

In article <487usg$sif@newshost.lanl.gov>,
Jim Devenport <jdevenport@lanl.gov> wrote:
>
>Heh, can't resist throwing in my 2 cents worth. In my
>experience the term "Unconditionally Stable" is a misnomer and
>easily misunderstood. Invariably when you read the fine print
>there are "conditions" attached to the "unconditionally stable"
>claims. Whether with op amps or mmics such as the MAR-1, I
>have found that they yes, oscillate actually rather EASILY
>unless careful attention is paid to layout, input/output
>impedances, etc. Whether they can oscillate at a particular
>frequency of choice sounds a bit chancy according to my
>esteemed colleague Mr. Coffman... I've never INTENTIONALLY used
>one for an oscillator but have lots of experience trying to
>tame mmic circuits acting as oscillators but designed as amps
>:)
>--
>********** Jim Devenport WB5AOX **********
>* PO Box 445, McIntosh NM 87032 *
>* http://nis-www.lanl.gov/~jdport/ *
>**********

We know of a MMIC vendor who admitted that their claims of
"unconditionally stable" were based on computer simulations,
not real tests. Certainly, parasitic ground lead inductance
in the actual application is very critical both w.r.t. stability
and frequency response. It's not really a problem with the
term "unconditionally stable" being a misnomer, it's just
specsmanship as usual--like rating power transistors at "100
watts, at 25 degrees C baseplate temperature" (i.e. an infinite
heat sink of infinite thermal conductivity).

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5346. Get us off "ham" thread, please

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: "Luis B.R." <luispb@unr.edu>
Message-ID: <48ivf6$2pv@umbra.unr.edu>
Source record: 109559
Cross-posted to: rec.puzzles,rec.radio.amateur,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm

asource@ix.netcom.com (InterSource) wrote:
>In <4825eh$k1h@alterdial.UU.NET> Burt Fisher <k1oik@ccsnet.com> writes:
>
>>
>>I said: "I have a VIC 20 I want to trade for a IC-781" (how long do we
>>have read thesre messages where some ham wants to trade his junk for
>>something woth something).
>>
>>
>>From: KH2KQ@KA6EYH.#NOCAL.CA.USA.NOAM
>>To : K1OIK@KQ1K.MA.USA.NA
>
>
>Burt there is a Salvation Army Thrift Store in Thornton Colorado (on
>Washington Blvd.) that as of last week, had a box with 4 Vic 20's for
>sale for $10 --- is that a hint ???? --- surely you were not serious
>about that type of trade or was it a typo.>

{snippage}

Would you PLEASE remove rec.skiing.alpine from your posting header for this thread. We've been trying to remove this thread for a fe=
w days now. We greatly appreciate it. Thank you in advance.

Your friends at rec.skiing.alpine

5347. Even my wife thinks hams are...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <48j44a$5i6@alterdial.UU.NET>
Source record: 109560
Cross-posted to: radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space

I received a call today from a ham who would not identify himself. I repeatedly asked him who he was, even saying to him that if he had an opinion worth anything it is reasonable to expect he state who he was. Still he he refused. I then commented that he was "so typical ham, no guts." My wife then told me to get off the phone and stop wasting time with gutless hams who hide behind their mikes. As I made one more effort to identify the caller, he hung up. He also made a veiled threat that bad things would happen to me, I retorted I might take it more seriously if he were not a gutless ham.

This call is just so typical of hams, brave at a distance.

5348. Re: hints and pointers to PCB layout programs wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: hrsil@flinet.com
Message-ID: <48htq8$s04@news.flinet.com>
Source record: 109561

In article <ux5qw8tDAYra083yn@login.dknet.dk>, po@login.dknet.dk says...
>
>hello homebrewers,
>
>Are there any of you who can recommend PC MS-DOS or MS-WINDOWS
>programs for PCB layout and/or schematics?
>
>Forget about the expensive, professional ones - it must be cheap.
>Two-layer and netlist support would be nice, though.
>
>Any hints?
>
>Regards,
>
>Peter - oz1qt
>
Peter, Ive used a program called Circad that I've downloaded from some
ftp site. the program works eceptionally well and contains lots of ham
related projects already to go (Used the SSTV interface myself).
I use protel for windows at work but still find this quite an adequate
program.
--
Henry Silvia hrsil@flinet.com
{KE4WBW} WPB. FLA

5349. Help me with capacitor supplier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: jhschutt@figmnt.tayloru.edu
Message-ID: <1995Nov17.073508.2508@figmnt.tayloru.edu>
Source record: 109562

Can anyone give me a source of variable coils? I'm seriously considering
building a link-coupled antenna tuner.

THANKS--

____
John Robert Schutt /\ jhschutt@tayloru.edu
Taylor University- Fort Wayne //\\ (219) 456-9061
1025 W. Rudisill Blvd. ///\\\ FAX: (219) 456-2119
Fort Wayne, IN 46807 ||

5350. WWV propogation variability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: EFBRYA@acxiom.COM
Message-ID: <ecb96940@acxiom.com>
Source record: 109563

I am looking at a couple things that would use WWV time service. I need to know about variations in prop delay over a short distance and moderate time periods. If two stations are separated by 300 miles or so what amount will the prop delay change relative to each other? This change is other than the delay due to the differences in distance from the transmiter which can be modeled as a constant. In other words, if the signal is used to drive clockx that have a constant compensation for the prop delay due to distance what is the worst time difference in the two clocks?

EFBryan

5351. Need source of PC mounted Totshu RF relays.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: pieter.ibelings@sciatl.com
Message-ID: <48i3vs$h52@firehose.mindspring.com>
Source record: 109564

I am looking for a source of PC mounted RF relays made by Totshu. If you have any information please e-mail it to me asap. Thanks for the help.

73's

Pieter Ibelings
AC4OP
HK1ZAB

email: wave@mindspring.com

5352. Re: Modem --> TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov17.171343.24467@ke4zv.atl.ga.us>
Source record: 109565

In article <48gjqf$7d@tribune.usask.ca> buydens@duke.usask.ca (Brian Buydens) writes:
>I am about one week away from getting my basic radio operators certificate
>so please excuse the "newbie" question:
>
>Are there plans available to convert a modem to a TNC?
>
>I am hoping to acquire a 2m radio in the near future and would like to
>try my hand at packet.

Does your modem support half duplex Bell 202 signaling? If so, it
can be used for the modem section of your TNC. For the PAD function,
you'll still need to do some building and programming.

Note: most modems made after 1977 do *not* support Bell 202, and
most "smart" modems won't get out of your way and insist on doing
connections the "telco way" instead of the "radio way". In short,
any use you'd find for your telco modem on packet would be mainly
for the salvaged case and power supply.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5353. Re:R2D2 a DSP R2

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: Jim <jdd@cellnet.com>
Message-ID: <48ira6$15a@mirrors.cellnet.com>
Source record: 109566

I beleive what you are describing is one method of performing a Hilbert transform. This is a pretty standard thing, and I'd bet you could come up with some example code for the 'C2x family from the TI BBS/web site. The 90-degree phase shift in the Hilbert transform is perfect, and thus this is a great way to make the baseband inputs to an I/Q signal generator -- i.e. for SSB or whatever.

73s. Jim WU0I

mack@mails.imed.COM wrote:
>Greetings:
>
> I have not yet worked on an actual circuit, but here is the idea for
>doing a quadrature in a DSP. I just got the TMS320C26 kit for $99 here at work.
>One of the applications is a 32 sample FFT algorithm. For those who have done
>Fourier work, the result is two arrays. One is a cosine and the other is a sine
>array (real and imaginary). To rotate the original signal by 90 degrees, each

5354. tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: medlas@mle.ultranet.com
Message-ID: <medlas.3.00184307@mle.ultranet.com>
Source record: 109567

I have a quantity of tubes with the following markings: BBC Brown Boveri T 380-1. What type of tubes are they and what are they commonly used for? Thanks for your help.

Ray Fennessey N1QPT
medlas@ultranet.com

5355. Re: hints and pointers to PCB layout programs wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: garyb@psych.ualberta.ca
Message-ID: <48irf1$6v4@pulp.ucs.ualberta.ca>
Source record: 109568

In article <48gnqn$k55@news.azstarnet.com>,
Wes Stewart <N7WS@azstarnet.com> wrote:
>po@login.dknet.dk (Peter A. Olsen) wrote:
>>hello homebrewers,
>>
>>Are there any of you who can recommend PC MS-DOS or MS-WINDOWS
>>programs for PCB layout and/or schematics?
>
>
>>Forget about the expensive, professional ones - it must be cheap.
>>Two-layer and netlist support would be nice, though.
>
>
>Peter:
>
>Try: http://www.cadvision.com/htmls/apc/nwdef.html#DFWare
>
>I can't really comment on it's usefullness, but it is free!
>
>HTH,
>Wes -- N7WS
>

Also, http://www.apcircuits.com/htmls/apc/apdef2.html has the freeware
release of DOS Easytrax from Protel Technology. Look under DOS Freeware in
the home page. Also some Gerber file viewers there.
Gary

5356. Re: Cleaning Ceramic Switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: James Garland <garland@ohstpy.mps.ohio-state.edu>
Message-ID: <48ipoo$6s9@pacific.mps.ohio-state.edu>
Source record: 109569

I use isopropyl alcohol, which is a safe and reasonably effective solvant that leaves no residue. Buy the 99+% anhydrous version (which you can get at a drug store for about $2.00), and not the 70% rubbing alcohol version. Isopropyl alcohol also makes a good flux remover -- not as good as trichlor or some of the other solvants -- but you'll live longer to enjoy your rig.
Jim W8ZR

5357. Cleaning Ceramic Switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: ashworth@plaza.ds.adp.COM
Message-ID: <9511171759.AA22465@adphdw20>
Source record: 109570

Can someone recommend a "safe" method for cleaning high voltage ceramic switches which have collected years of dust, and the contacts have become tarnished? I don't want to clean them using normal household materials and methods unless I'm certain no film or residue will remain. The application is a tank circuit of an 1.5KW HF amplifier.

Dennis, K7FL
ashworth@hevanet.com

5358. Re: Combining 2 Amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <48hv71$429@newsbf02.news.aol.com>
Source record: 109571

In article <48ad5d$ndu@info4.rus.uni-stuttgart.de>,
moritz@ipers1.e-technik.uni-stuttgart.de () writes:

>Bob,
>
>You cannot combine two *similar* amplifiers, they have to be essentially
>identical. If the signal delay time of both is well matched they can
>be combined with broad band transformers. This is done commercially
>very often, e.g. in VHF.
>
>73, Moritz DL5UH

Moritz is correct!!!!!!!!!!!!! But let me again add that you can NOT combine two HF amplifiers with hi-Q input and output networks with ANY type of practical system. The phase shift varies wildly with tuning, loading, and input circuit adjustments. It will vary with temperature, the gain will vary with drive level, etc.

It is absolutely not a good idea!

73 Tom

5359. Re: Cleaning Ceramic Switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov18.035823.27264@ke4zv.atl.ga.us>
Source record: 109474

In article <48ipoo$6s9@pacific.mps.ohio-state.edu> James Garland
<garland@ohstpy.mps.ohio-state.edu> writes:
>I use isopropyl alcohol, which is a safe and reasonably effective solvant
>that leaves no residue. Buy the 99+% anhydrous version (which you can get
>at a drug store for about $2.00), and not the 70% rubbing alcohol
>version. Isopropyl alcohol also makes a good flux remover -- not as good
>as trichlor or some of the other solvants -- but you'll live longer to
>enjoy your rig.
>Jim W8ZR

Isopropyl alcohol will leave a residue, Ampex forbids its use for cleaning
video heads for that reason. Toluene is recomended, though of course it
attacks plastics, and the EPA hates it, or Freon TF can be used, but the
EPA hates that too. Methanol is somewhat better than isopropyl for not
leaving a residue, and its use may be tolerable, though meth is toxic
and should only be used in a well ventilated area (you could go blind).
Freon TF is the only really safe and effective solvent, but our benighted
leaders think the sky is falling and are making it harder and harder to get.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5360. Re: Cleaning Ceramic Switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <816681393snz@lfheller.demon.co.uk>
Source record: 109475

In article <9511171759.AA22465@adphdw20>
ashworth@plaza.ds.adp.COM "Dennis Ashworth" writes:

> Can someone recommend a "safe" method for cleaning high voltage ceramic
> switches which have collected years of dust, and the contacts have become
> tarnished? I don't want to clean them using normal household materials and
> methods unless I'm certain no film or residue will remain. The application
> is a tank circuit of an 1.5KW HF amplifier.

Many, many years ago someone told me that Tektronix cleaned scopes sent
back for repair by dumping the whole thing into a bath of hot water with
a detergent. I think all the circuitry was built onto ceramic tag strips
then and the switches were ceramic. They probably took out all the
valves, CRT, etc.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

5361. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: Bill Funk <skypilot@starlink.com>
Message-ID: <48l7ic$bqa@pegasus.starlink.com>
Source record: 109476
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

>Speaking of HAM radios, could this group help me out? Every time I go and
>dive with my radio set, the fuse blows. What's the trick here?
>

Ah, yes...
There was a time when having a HAM ticket *meant* something...
When a fuse blows consistantly, it's because there's more current going thru the fuse than the fuse is rated to carry. The fuse, being a safety device, blows to prevent this excess current from flowing, possibly damaging something.
Check to make sure the fuse is the proper rating for the gear. Do *not* replace it with a higher-rated fuse! If it is the correct fuse, then the gear is drawing too much current. This needs to be corrected. Maybe it's a short in the power line, maybe the gear is not a boat anchor. Either extreme, and all points in between should be checked, and corrected.
Good luck.
Bill

5362. Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: aa024@detroit.freenet.org
Message-ID: <48lekf$b9k@detroit.freenet.org>
Source record: 109477
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

If you guys want to spam all the rec radio amateur gorups I couldn't care less
but why the H*ll are these stupid ham debate posts spilling into the
shortwave, scanner and puzzles (among others) groups. Watch the
reply lines guys. One spam is bad enough but when you all reply to all
the groups it is just plain RUDE.

Leave the rest of us in peace -- and if your must spam, do it via e-mail
to the original poster and again, leave the rest of us in peace.

Thanks for letting me rant. 73 //kvz

--
kv zichi, aa024@detroit.freenet.org
(PGP Public Key Available on Request)
"Lasciate ogni speranza, voi ch'entrante" --Dante
Kind of appropriate for the Internet, eh?

5363. Before you respond to Burt

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: hbs@crl.com
Message-ID: <48mh18$g1h@crl5.crl.com>
Source record: 109478
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc

Please, those of you who are responding to the "Burt" posts are not just posting to this newsgroup, you are also posting to:

rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,
rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,
rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,
rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,
rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,
rec.scouting,rec.scuba,rec.skiing.alpine

These newsgroups are included in the "reply to" part of the header of the "Burt" messages.

Some of these newsgroups have nothing to do with ham radio and they are rightfully complaining.

This is not my attempt to be a "newsgroup cop". Some of you simply were not aware of this crossposting issue.

Burt seems to be attempting to show the dark side of hamdom and by using this crossposting technique, He is succeeding.

BTW, I am crossposting this message (hopefully) to the following newgroups:
rec.radio.amateur.digital.misc
rec.radio.amateur.homebrew
rec.radio.amateur.antennas

If you wish to respond to me, do it directly to hbs@crl.com. Dont bother the newsgroups.

--
Henry Smith (hbs@crl.com)

5364. Re: WWVB reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: daveaa1a@aol.com
Message-ID: <48m29d$dlk@newsbf02.news.aol.com>
Source record: 109479
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Hi Wayne
I'm new to internet but use Mini-Circuits for block gain at wwvb freq to
get
accurate 60khz into shack from voltage probe out in the woods with
simple tunes 'j' fet.
Also strip 3.579545 from color burst oscillator on network sync.
Am looking for best multiplier/divider loop to get 'standard' freqs from
this
very accurate source.
Also using the 9960 chain of the Nantucket Loran 'C' which when multiplied
249 times is 2.5mhz with .000256 ppm 'wow'
Am looking to phase lock my 10ghz brick to within about 3hz...
Hope this got there, de daveaa1a@aol.com

5365. Re: DC rx verses *.*

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDI93F7.1vs@netcom.com>
Source record: 109480

ddiamond@TRL.OZ.AU (Drew Diamond) writes:

>However, with a little care, and good design, they can be made to perform
>extra-ordinarily well (see QST Jan '93 for Rick Campbell's High Performance
>single signal receiver- for instance, also his ground-breaking article in
>QST Aug '92 on high performance DC receivers).
...

>resulting in an apparent doubling of the receiver's bandpass.. However, to
>offset this disadvantage to some extent, is the beautiful "feel" or purity of
>sound offered by a well made DC receiver. It's a bit like looking at the sky
>at night, in the country, far away from smog and the city lights- signals
>stand out bright and clear. This is thought to be due to the fewer number of
>tuned circuits and other active devices through which signals (and noise) must
>pass- with their impulse stretching effects.

What a poet -- and exactly how I feel with my R2. My feeling when I
first turned it on on 40 meters at 2 am after finishing it was "surfing
the ether", and I still feel that way every time I turn it on.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
> http://www.lehighedu/lists/qrp-l/k0jd/index.html <

5366. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDI92tu.11x@netcom.com>
Source record: 109481

Jim Devenport <jdevenport@lanl.gov> writes:

>Believe it or not I just looked at the relatively new DigiKey
>web page and found they sell the NE602 for $2.35 or so in
>single lot quantities.
>Looks like you can order from them online:
>http://www.digikey.com/

>Look for digikey parts in:
>http://www.digikey.com/PartSearch.html

This is a great new service! And it confirms that, if you don't see
something in the catalog, ASK THEM! I found this to be the case for the
NE5514 quad op amp -- not in the catalog, but I asked them and they had it.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <

5367. Frequency Calibration, Frequency Netting, 3.58 Mhz and Loran 'C'

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: daveaa1a@aol.com
Message-ID: <48l7an$45l@newsbf02.news.aol.com>
Source record: 109482

Can anyone steer me towards articles using 3.579545 color burst off network
or using Loran 'C' pulses to use as frequency standard and also
multiplyers and programmable dividers to come up with 100khz 1 mhz etc.

I am current stripping Newtork Burst at 3.579545 and find some are better
than others. Also Loran 'C' from here is Chain #9960 which comes out to a
freq. near 10 khz and multiplies 249 times to 2.5 mhz with precesion to 3
hertz at 10ghz.
I get .000256ppm. Will be ultra phase locking my 10ghz brick so as to
make way
for spread spectrum and sync-lock. So far so good. will like to swap
stories
with like minded folks.

Thanks for any help.
daveaa1a@aol.com

5368. laser comms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: daveaa1a@aol.com
Message-ID: <48l8f4$4vj@newsbf02.news.aol.com>
Source record: 109483

Hello,
Anybody out there building laser comms? I'm using 632/680/780 nm for voice, video, data.
Another friend and I have tried a twelve mile path and ended up with many excess db's, like 40 or so. It's cheap, fun, and interesting.
Am using the PIN photo diodes and a killer low noise amp and transmitting on 20 dollar small diodes 5 milliwatt. This stuff is like my first run in with a crystal set 50 years ago.
CQ-laser de daveaa1a@aol.com

73 and tnx

5369. Re: WWVB reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: daveaa1a@aol.com
Message-ID: <48lclg$77d@newsbf02.news.aol.com>
Source record: 109484
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Hi
I just got off a tanker on the west coast which i work on and copied wwvb
20 db over noise on the console receiver at 60khz.
It gets to new england weaker here if i use a voltage probe antenna narrow
band and out in the 'quiet' woods.
Now i'm stripping off 3.579545 from cable t.v. network sync and getting
some good 10-9th numbers.
Also stripping loran 'C' from Nantucket comes out at 9960 plus the zero
for the time in microseconds then into 1 gives a signal just over 10khz
when multiplied
by 249 gives 2.5mhz at .000256 ppm 'wow'
Depending accuracy of loran can see 3 hertz error in my 10ghz transverter.
Can steer you to some good tips towards 'quiet' l.f. antenna and scoop
that
45 degree phase shifted 60 khz carrier from boulder, co. It should be very
useful.
I want to spread spectrum and to c.c.w./data
Soon we will all be 'Gen-Locked' for 29 bux at Radio Shack unit maybe??.
Tnx and 73's from DAVEAA1A@AOL.COM

5370. Re: WWVB reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: daveaa1a@aol.com
Message-ID: <48lehq$7oh@newsbf02.news.aol.com>
Source record: 109485
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Wayne
I did use these MINI-CIRCUIT bnlock gain and tuned ckts for
T.R.F. receiver hook up for vlf WWVB
Also use J-FET preamp out in the 'quiet' woods for receiving.
Havnt made end of TRF run digital stuff yet tho.

It's worth doing I'm sure.

daveaa1a@aol.com

5371. NDN: Ham-Homebrew Digest V95 #389

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: Gateway@BayNetworks.COM
Message-ID: <1769078782.8861556@BayNetworks.com>
Source record: 109486

Sorry. Your message could not be delivered to:

Leslie Dodd,Wellfleet London (The name was not found at the remote site.
Check that the name has been entered correctly.)

5372. Re: Need Help - Parallel!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <48lf1c$7t8@newsbf02.news.aol.com>
Source record: 109487

In article <48dq7b$8ji@linet02.li.net>, thom@newshost.li.net (Thom)
writes:

>
>For example I'm presently building a keyer which call for a 91K resitor.
>I have a 100K resistor, so how do I (in a simple manor) determine what
>value to put across the 100K? (Now in reality I'll wind going with the
>100K as close enough, but that's cheating).
>
>

Hi
Why not pur a 68K and a 22K in series. 90K should work.
You might even get closer by testing the value of several.

As simple as that.

Carl
The2x4

5373. Re: Cleaning Ceramic Switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <48lf3f$7ts@newsbf02.news.aol.com>
Source record: 109488

In article <9511171759.AA22465@adphdw20>, ashworth@plaza.ds.adp.COM (Dennis Ashworth) writes:

>Can someone recommend a "safe" method for cleaning high voltage ceramic
>switches which have collected years of dust, and the contacts have become
>tarnished? I don't want to clean them using normal household materials and
>methods unless I'm certain no film or residue will remain. The application
>is a tank circuit of an 1.5KW HF amplifier.
>
>Dennis, K7FL
>ashworth@hevanet.com

Hi Dennis,

Since I deal with high power RF design and service all day, I thought I'd throw my 2 cents in.

I wouldn't do more than blow the switch out with freon or high pressure air. The tarnish doesn't hurt a thing, leave it alone!!!! It's probably silver oxide, and will wipe away by contact pressure at the contact point all on it's own. It looks worse than it really is.

If the switch is coated with tar or goo from smoking, I'd use alcaholanhydrous alcohol.

Remember if you leave ANY conductive film on the ceramic, you can destroy the switch. This situation has unique requirements. I wouldn't soak it in ANYTHING that might dry and leave a goo, even nice things like Root Beer or Kool-aid.

73 Tom

5374. CW crystal filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <48lh2m$8hc@newsbf02.news.aol.com>
Source record: 109489

I have two CW filters I would like to sell or trade.

1 Yaesu FT-101 3.180 mHz

1 Collins 455 kHz. This crystal filter is about 1" square and 3.5 " long

Trade both filters for a 28.8 fax modem

Trade either for a 14.4 fax modem

Yaesu filter $75
Collins filter $115

73's

Carl N9EFJ
The2x4

5375. FREQUENCY CALIBRATION, STANDARDS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: daveaa1a@aol.com
Message-ID: <48m09r$d2v@newsbf02.news.aol.com>
Source record: 109490

Hi,
Anybody out there into 3.579545 color burst stripping, dividing to 1mhz or
100 khz?
Anybody using Loran 'c' pulses for ultra accurate timing??
Can you steer me towards any of the above?

tnx

de daveaa1a@aol.com

5376. NDN: Ham-Homebrew Digest V95 #388

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: Gateway@BayNetworks.COM
Message-ID: <1769037495.8261945@BayNetworks.com>
Source record: 109491

Sorry. Your message could not be delivered to:

Leslie Dodd,Wellfleet London (The name was not found at the remote site.
Check that the name has been entered correctly.)

5377. Re: WWV propogation variability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov18.032633.26947@ke4zv.atl.ga.us>
Source record: 109492

In article <ecb96940@acxiom.com> EFBRYA@acxiom.COM writes:
>
> I am looking at a couple things that would use WWV time service. I
> need to know about variations in prop delay over a short distance and
> moderate time periods. If two stations are separated by 300 miles or
> so what amount will the prop delay change relative to each other?
> This change is other than the delay due to the differences in distance
> from the transmiter which can be modeled as a constant. In other
> words, if the signal is used to drive clockx that have a constant
> compensation for the prop delay due to distance what is the worst time
> difference in the two clocks?

For skywave, propagation delay can vary several 10s of microseconds
as the layer height changes. The differential difference depends on
the particular path geometries and is a bit harder to characterize.
If you want propagation delays that vary only by 10s of nanoseconds,
you need to look to WWVB's VLF groundwave signals. Except at sunrise
and sunset, propagation delay is very stable at VLF.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5378. Re: link rep. controler

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: Chris Boone <72732.2610@CompuServe.COM>
Message-ID: <48l3uuiot1@mhafc.production.compuserve.com>
Source record: 109493

Check out the Link Com RLC 1...or if you could find an old ITC32 from ACC
lying around it would also do what you need...

BTW Kirk said " I don't believe in THE no win scenario" but
then I dont like to lose!

73
Chris
WB5ITT
--
Senior Telecommunications Technician 72732.2610@CompuServe.com
ENTERGY/Gulf States Utilities 1:106/4267 FIDOnet
ARRL Technical Specialist- South TX WB5ITT - PG-9-5322

5379. Cleaning Ceramic Switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: taylor@tix.timeplex.COM
Message-ID: <9511181552.AA00543@tix.timeplex.com>
Source record: 109494

Another substitute that I have used for anhydrous alcohol is the
stuff they sell in auto parts store as fuel line anti freeze. It
has little water if any and is a suitable sub for the drug store stuff
that can be priced high, only because it's sterile. Get the isopropol
stuff. I guess if it had any water in it anyway, it would'nt be a good
fix for fuel line freeze up. If it had any other bad stuff in it, it would
gum up fuel injectors etc. I've used the stuff with no ill effects when
I need an alcohol cleaning agent. Does anyone have any comments or experience
with using fuel line antifreeze in this manner ?

Seth KC2WE

5380. Re: VLF Voltage Probe?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: daveaa1a@aol.com
Message-ID: <48li15$8pn@newsbf02.news.aol.com>
Source record: 109495

Oh sure,
you can use the famous W1LM and AA1A voltage probe of 1985, it can
hear a fart a thousand miles away.
It available on the .49 repeater.

73
de daveaa1a@aol.com

5381. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: tip@mercury.aichem.arizona.edu
Message-ID: <tip-181195171009@pc176x1.phy.ohiou.edu>
Source record: 109496
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,re

In article <48l7ic$bqa@pegasus.starlink.com>, Bill Funk
<skypilot@starlink.com> wrote:
>
>
> >Speaking of HAM radios, could this group help me out? Every time I go and
> >dive with my radio set, the fuse blows. What's the trick here?
> >
>
> Ah, yes...
> There was a time when having a HAM ticket *meant* something...
> When a fuse blows consistantly, it's because there's more current going
> thru the fuse than the fuse is rated to carry. The fuse, being a safety
> device, blows to prevent this excess current from flowing, possibly
> damaging something.
> Check to make sure the fuse is the proper rating for the gear. Do *not*
> replace it with a higher-rated fuse! If it is the correct fuse, then the
> gear is drawing too much current. This needs to be corrected. Maybe it's a
> short in the power line, maybe the gear is not a boat anchor. Either
> extreme, and all points in between should be checked, and corrected.
> Good luck.
> Bill

What does this have to do with rec.pyrotechnics

If I was smart, I'd have a clever .sig

5382. I need H.P. diodes "CHEAP"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: kk5dr@bga.com
Message-ID: <48jf2d$32b@giga.bga.com>
Source record: 109572

I'm looking for HP5082-2900 screen diodes "cheap"
I.R.C. of FLA. sells them for $6 ea. "not cheap"
Anyone know a "cheap" vendor for these diodes?
Thanks. Matt/KK5DR

5383. Re: Cleaning Ceramic Switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-18 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov18.034511.27175@ke4zv.atl.ga.us>
Source record: 109573

In article <9511171759.AA22465@adphdw20> ashworth@plaza.ds.adp.COM (Dennis Ashworth) writes:
>Can someone recommend a "safe" method for cleaning high voltage ceramic
>switches which have collected years of dust, and the contacts have become
>tarnished? I don't want to clean them using normal household materials and
>methods unless I'm certain no film or residue will remain. The application
>is a tank circuit of an 1.5KW HF amplifier.

Freon TF, trichlor, or carbon tet can be used to wash off the dirt, though the EPA hates all those cleaning agents. Plain hot distilled water can be used too, though it won't remove grease or oil. The addition of a surfactant like tri-sodium phosphate will help, though the EPA doesn't like that either. Lighter fluid can also be used to remove oily residues, though there's an obvious fire hazard. To remove contact tarnish (assuming silver plating) use a weak phosphoric acid mixture (Tarn-X is a commercial brand). Flush the area throughly with hot distilled water after using acids to clean the part.

You can just use Coca Cola Classic(tm) to clean the switch if you flush throughly with hot water afterwards to remove the phosphoric acid and sugar residues. Don't use Diet Coke(tm), it'll leave a difficult to remove residue.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5384. List Of Stamp Applications [951118]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-19 00:00:00 UTC
From: cj@algonet.se
Message-ID: <48lscn$blo@prometheus.algonet.se>
Source record: 109497
Cross-posted to: sci.electronics,comp.robotics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
_____________________________________________ _____
_____________________________________________// L.O.S.A //_____

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
List Of Stamp Applications Date: 951118
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

Contents

1.0 What is BASIC Stamp ?
1.1 What is L.O.S.A all about ?
1.2 How can I contribute to this list ?
1.3 Where could I find L.O.S.A ?
1.4 List of contributions.
1.5 Credits and other things.

1.0 What is BASIC Stamp ?

BASIC Stamps are small single board computers (SBC) that run BASIC programs and are made by Parallax, Inc. in US. At first glance, they may seem fairly minimal - and in fact, they are. But with software that fully utilizes all available hardware, the Stamps give you powerful features - without the cost of hardware. Their low cost and simplicity make the Stamps perfect for many prototyping and control applications. And are suitable for electronics hobbyists as well as electronics professionals in many different areas.

1.1 What is L.O.S.A all about ?

I started to compile L.O.S.A because I know there are lots of great ideas and many problems that are solved with the BASIC Stamp and the main purpose of this list is to get an idea of what other people are using their BASIC Stamps for and maybe get some inspiration or hints.

Remeber it's up to all of us if this list are going to be any good and I'm looking forward to receive a description of your application.

1.2 How can I contribute to this list ?

If you have done something with the BASIC Stamp (big or small) that you are willing to tell others please use the form given below and

write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@algonet.se

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.algonet.se/~cj/losa.html

[--- cut ---]

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------
Title :
Author: Date:

E-mail: (optional)
-------------------------------------------------------------------------
Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
-------------------------------------------------------------------------
Description : (5-50 rows describing your application)

=========================================================================
```

[--- cut ---]

1.3 Where could I find L.O.S.A ?

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

Mews groups:

sci.electronics
comp.robotics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

1.4 List of contributions

==
Title : Logic Rudder [# 001]
==
Date : 950812
Author: Christer Johansson
E-mail: cj@algonet.se

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : LRUDDER.ZIP
URL : Soon to come

Description :

Many of the new and very realistic flight sims available today needs
rudder to let you get full control. This one uses a digital pot from
Xicor (X9104) and 10 other components. Connects to a standard IBM-PC
game port and power is taken from the port.

It uses two micro switches for controlling the rudders left or right
and to indicate when rudders move there is a red LED that lights up
when you press the micro switches and to indicate center there is a
green LED. If you press the both micro swithes the rudder will auto-
maticly return to center position.

There is a trim pot to set the desired step rate from slow to very
fast and the Xicor pot has 99 steps wich gives a fairly resolution.

==
Title : Interfacing MAX186 8 channel 12bit A/D [# 002]
==
Date : 950925
Author: Helmut Fligge
E-mail: h.fligge@asco.nev.sub.de

Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : N/A

Description :

This Program interfaces the Stamp1 to the MAX186 A/D converter. Via
RS232 2400bps the stamp is asked to measure channel numbern. After
conversion the result will be returned to the host computer as an
ascii string (0 .. 4096). Conversion rate is about 4 measures per
second.

==
Title : Scrolling LED Sign [# 003]

```
=========================================================================
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org
-------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: Maybe sometime
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html
-------------------------------------------------------------------------
Description :

Scrolling LED sign, 35 super-bright LEDs in a 5-by-7 matrix in the
prototyping area of a Basic Stamp rev D. A scrolling alphanumeric
message moves one pixel at a time, just like real scrolling LED
signs, except this one only displays one full letter or portion of
two letters at a time as the message moves by.

=========================================================================
Title : Tone Decoder [# 004]
=========================================================================
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org
-------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: Soon
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html
-------------------------------------------------------------------------
Description :

Listens for telephone touchtones, displays phone numbers on LCD
screen and echos them out RS-232 port. Circuitry fits in prototyping
area of rev D Basic Stamp:

Microphone preamplifier, touchtone decoder IC.

=========================================================================
Title : Pager [# 005]
=========================================================================
Date : 950928
Author: Don McKenzie
E-mail: donmck@tbsa.com.au
-------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : PAGER.BAS
URL : ftp://ftp.parallaxinc.com
-------------------------------------------------------------------------
Description :
```

This program for the Basic Stamp is used to monitor 4 hardware signals. If a change takes place, (after testing for a false trigger) then a cheap 2400 baud MODEM is used to dial into a Telecom Alpha-Numeric pager. It leaves a message which consists of a 2 digit I.D. (01 to 99) followed by the 4 signal levels of pins 3 to 0.

Status of the signal levels message: 0=Low, 1=High. EG: "011110" means Unit "01" has pins 3, 2, and 1 high, and pin 0 is low.

A "Ring-In" feature is also included. By ringing the MODEM for a short period, then hanging up, the Stamp will dial your Pager and report the current hardware status of these four signals.

This program uses about half of the available memory, so if the user wishes to add enchancements such as "Multiple Ring-In's" say within a minute, for a command selection, there is plenty of program space left.

==========
Title : HexWalker Mobile Robot [# 006]
==========
Date : 950929
Author: T. R. Thornton
E-mail: mandtsys@ix.netcom.com

Stamp model : BASIC Stamp Rev. D or BS1-IC
Code available: YES
Filename : WALK.BAS
URL : N/A

Description :

HexWalker is a six legged mobile robot that is controlled by a BASIC Stamp or BS1-IC, and driven by three servo motors (similar to Futaba S148). It is the simplest walking machine architecture that can walk forward, backward, and turn left or right.

==========
Title : Robo Bug [# 007]
==========
Date : 951003
Author: David Novick
E-mail: dkn@cimar.me.ufl.edu

Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : http://www.me.ufl.edu/~dkn

Description :

Using two stamps, a robot with six legs (2 degrees of freedom each) was able to walk and turn (at this stage, not very gracefully).

```
=============================================================================
Title : EXPBOT Robot controlled by Stamp [# 008]
=============================================================================
Date : 951009
Author: Marvin Green
E-mail: marvin@agora.rdrop.com
-----------------------------------------------------------------------------
Stamp model : BASIC STamp Rev. D
Code available: YES
Filename : EXPBOT.BAS
URL : E-mail author and he will send it
-----------------------------------------------------------------------------
Description :

This program allows a cool robot to move abound a room in search of
light. Like a moth. Simple program changes can dramatically change
the robots behavior.

=============================================================================

1.5 Credits and other things
----------------------------

Credits should go to all of you who makes this list possible I hope
it suffices to say "Thank you to all who have contributed to L.O.S.A
- we all appreciate it."

Special thanks to all of you at Parallax, Inc. who makes and support
this great products !

If there is anything you think I've missed (or spelled wrong <g>) I
would love to hear from you so we could make this list even better.

You could reach me at the following e-mail address: cj@algonet.se

Stay tuned,

/Christer

-----------------------------------------------------------------------------

Copyright (c) 1995 HTH. All rights reserved. Parallax, BASIC Stamp,
and PBASIC are trademarks of Parallax, Inc. PIC is a registered
trademark of Microchip Technology, Inc. Other brand and product names
are trademarks or registered trademarks of their respective holders.
-----------------------------------------------------------------------------

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
>> L.O.S.A is compiled by Christer Johansson, HTH <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

5385. Re: Even my wife thinks hams are...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-19 00:00:00 UTC
From: "Dennis A. Mason" <damason>
Message-ID: <48mc8e$lli@sanews.uswc.uswest.com>
Source record: 109498
Cross-posted to: radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space

Burt must be a Chicken Bander.

5386. Mods for Icom IC-736

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-19 00:00:00 UTC
From: yingst@knighted.com
Message-ID: <48lstq$17m@crier.knighted.com>
Source record: 109499
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Does anyone have any mods for the ICOM IC-736?

I'm looking for a way to turn the pre-amp back on below 1.6 Mhz.
Icom turns it off even though it the light says it's on.
I would like to listen for some lowfer stations 1750 meter band
(160-190 kc. 1 watt into a 50 ft antenna).

I'm also looking for a way to improve the recieve audio.
The recieve audio sounds flat and distant, lacking highs & lows.
With the notch filter ON the audio sounds a little better,
but it still could use some improvement.

They re-shape the audio through the notch filter,
and it actually has a nicer sound with the notch filter on
(Has more highs & lows).

I had a IC-737 that had the same problem with the audio,
just not sounding quite right.

I am also interested in any other mods for the Icom IC-736.

Please send any replies to yingst@knighted.com

Note: If you post a reply into this newsgroup I probaly wont get it,
my internet provider only holds news for 1 day.

Thank You. Harry N6VUJ

5387. Re: laser comms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-19 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <DI9x4q.2z7@eskimo.com>
Source record: 109500

In article <48l8f4$4vj@newsbf02.news.aol.com>,
daveaa1a@aol.com (DAVEAA1A) wrote:
>Hello,
>Anybody out there building laser comms? I'm using 632/680/780 nm for
>voice, video, data.
>Another friend and I have tried a twelve mile path and ended up with many
>excess db's, like 40 or so. It's cheap, fun, and interesting.
>Am using the PIN photo diodes and a killer low noise amp and transmitting
>on 20 dollar small diodes 5 milliwatt. This stuff is like my first run in
>with a crystal set 50 years ago.

How interesting! Please tell us more, like for instance: Do you use a
telescope or some kind of optics to receive with? Is it useful in daylight or
only at night? What kind of modulation?

You mentioned 40 excess dB. Is this at the 5 mw level? Are you saying you
could reduce the power to 50 microwatts and still have 20 dB excess? Over a
12 mile path? If so, that's pretty impressive...

5388. Photoreceptors for Flying Spot Scanner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-19 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <48m8od$ggn@nntp.Stanford.EDU>
Source record: 109501

What? A flying spot scanner in today's world!

I was thinking of what I should do with a couple of surplus video camera viewfinders (about a 1 inch video monitor) in my junk pile when it occured to me that they might make an interesting flying spot scanner for viewing or transmitting slides on ATV.

In the old days, they used photomultiplier tubes for the receptor element. I have not done much work with solid state photo sensitive devices so I was wondering what might work best. I am looking at cds cells, photovoltaics, photo transistors and diodes etc. I do not have a good understanding of which might be best in terms of response time, linearity etc. and was wondering if anyone had any suggestions. Is there a device I have overlooked?

I was thinking of 3 devices with RGB filters and one of the many RGB encoder chips to do most of the processing. I will get synch from my ATV camera or test generator to form the raster on the CRT. That will make for nice, in phase, switching between video sources.

Thanks in advance.

Steve Muther WF6R

5389. Re: What's circulator good for? was Re: How does "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-19 00:00:00 UTC
From: jpd@ucs.usl.edu
Message-ID: <48o0k8$389@rouge.usl.edu>
Source record: 109502

Perhaps I missed a posting on this point, but I think the circulator
(or isolator) has the best benefit NOT of making the transmitter immune
to SWR variations, but in keeping received RF out of the transmitter.
Imagine a paging transmitter on a tower using 152.48 MHz. Now suppose
a competitor locates their 157.74 transmitter on the same tower.
What do you think the 3-rd order mixing product is? Yep, 147.22 MHz.
Since pagers run rather high power, and often use no cavities, they
help us keep our 2m band occupied :-(.

73,
--
-- James Dugal, N5KNX Internet: jpd@usl.edu
Associate Director Ham packet: n5knx@k5arh.#lft.la.usa.noam
Computing Center US Mail: PO Box 42770 Lafayette, LA 70504
University of Southwestern LA. Tel. 318-482-6417 U.S.A.

5390. "Junkers" wanted..

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-19 00:00:00 UTC
From: "Sandy Blaize", W5TVW <70401.134@CompuServe.COM>
Message-ID: <48o3et$r2s$1@mhadf.production.compuserve.com>
Source record: 109503
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Want a couple of junker ARC-5 or SCR-274N receivers. Want
55-1.6 Mhz model (BC-946), 3-6 Mhz (BC-454). Not interested in
covers, tubes, dynamotors....just want chassis with IF/RF
transformers and coil sets. What have you? Would also like the
BC-453 and 1.5-3.0 Mhz version, although these are getting rare.
Want parts for building projects.
Sandy W5TVW,
Internet:70401.134@compuserve.com

5391. FT-243 crystals wanted...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-19 00:00:00 UTC
From: "Sandy Blaize", W5TVW <70401.134@CompuServe.COM>
Message-ID: <48o3i5$r2s$2@mhadf.production.compuserve.com>
Source record: 109504
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Looking for a small quantity (10-20) of FT-243 crystals in the
3.4-3.6 Mhz range. What have you in the junk box?
73,
Sandy W5TVW

5392. ? Voice-Mailbox ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-19 00:00:00 UTC
From: Stephan@popeye.extern.fh-hannover.de
Message-ID: <5y8dcn8$xcB@popeye.extern.fh-hannover.de>
Source record: 109505
Cross-posted to: rec.radio.amateur.homebrew,comp.robotics.misc,sci.electronics,rec.radio.amateur.misc

Hello all...

Do anybody know how 2 build a voice-mailbox using an external selfmade switching-option and a standard soundcard in your computer ?

I heard from some hams that there are construction-plans and software available...but I do not know where.....

Please help...

dl4oca, Stephan

5393. FS C528 dual band or swap

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: Brian Olliver <Brian@briano.demon.co.uk>
Message-ID: <816834571snz@briano.demon.co.uk>
Source record: 109374

I have a fully working C528 dual band (2m 70cm)
hand held, I desperately need a airband tranceiver
with all the usual bells and whistles, must cover
all of the band.
am willing to do a direct swap
tnx email please
--
Brian Olliver

5394. Timecode stuff...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: kyrrin@wolfenet.com
Message-ID: <kyrrin.791.029E669A@wolfenet.com>
Source record: 109375

Hello, fellow hamateurs...

I acquired an interesting piece of gear today. It is designed to receive a signal from the GOES (sp?) weather satellite, supposedly at 468 MHz, extract the timecode info from the incoming Manchester data, and display it on the plasma readout on the front panel.

I've already spoken to the manufacturer (Kinemetrics/Truetime, Santa Rosa, CA) and they're sending me the manual for the thing. I'd very much like to be able to put it into active service in the shack. For the benefit of anyone who might have seen one of these, or may be familiar with it, it is a model 468-DC.

Here's the kicker; I live in an apartment, and would not be able to do anything outside for an antenna array. My question; how powerful is the signal from the bird? The receiver is built in to the unit; all it needs is an appropriate antenna connection, and I see no reason why it wouldn't lock on.

Is there a halfway decent antenna I can use to try this beastie out without alienating everyone in the complex? Being in Washington state, southeast of Seattle, I think I'm in a good spot to pick up GOES West.

Second question; I built the miniature WWV 10 MHz receiver, featured in an issue of 'Electronics Now' a while back. I'd like to build a circuit to break out the 100 Hz(?) subcarrier, and extract the binary timecode data to feed to one of my other TCG's. Suggestions would be most welcome, as my skills in design are somewhat less than my computer skills. ;-)

Comments or assistance would be much appreciated. Thanks!

73 de WD6EOS...
(kyrrin@wolfenet.com)

5395. Re: WWVB reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951120160022.21813C-100000@biggulp.callamer.com>
Source record: 109376
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Hi Dave. This note a followup to the one commenting on laser coms.
Regarding the phase shift on WWVB, I finally phase locked at four times
60 KHz. This allows measurements to be made continuously as the ID phase
shift then gets washed out by the multiplication! Cliff Buttschardt W6HDO

On 18 Nov 1995, DAVEAA1A wrote:

> Hi
> I just got off a tanker on the west coast which i work on and copied wwvb
> 20 db over noise on the console receiver at 60khz.
> It gets to new england weaker here if i use a voltage probe antenna narrow
> band and out in the 'quiet' woods.
> Now i'm stripping off 3.579545 from cable t.v. network sync and getting
> some good 10-9th numbers.
> Also stripping loran 'C' from Nantucket comes out at 9960 plus the zero
> for the time in microseconds then into 1 gives a signal just over 10khz
> when multiplied
> by 249 gives 2.5mhz at .000256 ppm 'wow'
> Depending accuracy of loran can see 3 hertz error in my 10ghz transverter.
> Can steer you to some good tips towards 'quiet' l.f. antenna and scoop
> that
> 45 degree phase shifted 60 khz carrier from boulder, co. It should be very
> useful.
> I want to spread spectrum and to c.c.w./data
> Soon we will all be 'Gen-Locked' for 29 bux at Radio Shack unit maybe??.
> Tnx and 73's from DAVEAA1A@AOL.COM
>
>

5396. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: tip@mercury.aichem.arizona.edu
Message-ID: <tip-201195154709@pc176x1.phy.ohiou.edu>
Source record: 109377
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,re

In article <48q0d2$nm8@news.cuny.edu>, Bob Crownfield
<Bob_Crownfield@QC.edu> wrote:
>
> Bill Funk <skypilot@starlink.com> wrote:
> >
> >>Speaking of HAM radios, could this group help me out? Every time I go and
> >>dive with my radio set, the fuse blows. What's the trick here?
> >>
> >
> >Ah, yes...
> >There was a time when having a HAM ticket *meant* something...
> >When a fuse blows consistantly, it's because there's more current going
> >thru the fuse than the fuse is rated to carry. The fuse, being a safety
> >device, blows to prevent this excess current from flowing, possibly
> >damaging something.
> >Check to make sure the fuse is the proper rating for the gear. Do *not*
> >replace it with a higher-rated fuse! If it is the correct fuse, then the
> >gear is drawing too much current. This needs to be corrected. Maybe it's a
> >short in the power line, maybe the gear is not a boat anchor. Either
> >extreme, and all points in between should be checked, and corrected.
> >Good luck.
> >Bill
> >
>
> Bill:
> Why are you talking about radios in rec.scuba? How did this ham
> chat get lost in rec.scuba in the first place?

Personally, I think a group of less than laudable people got together and
decided to have fun by posting a series of totally meaningless messages in
a set of totally inappropriate places. Theater of the absurd. Okay guys,
we've seen it; I give it a 3 on difficulty and a 4 on creativity. No
medal, not even honorable mention. So, wrap up the production, go away...
don't call us, we'll call you.

If I was smart, I'd have a clever .sig

5397. Re:Where is QEX?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: jan.anker@ping.be
Message-ID: <jan.anker.123.0000C90B@ping.be>
Source record: 109506

In article <9510168165.AA816543346@mails.imed.com> mack@mails.imed.COM writes:
>From: mack@mails.imed.COM
>Subject: Re:Where is QEX?
>Date: 16 Nov 95 15:20:30 GMT

>I understand that Jon Bloom (the editor) and his wife both work for ARRL in
>publications. They had a baby this summer (their first) and this has
>interrupted the schedule for QEX.

>I received my September issue Monday.

>Honest, Jon and his crew (if there is anyone besides him) are working furiously
>to get the magazine back on schedule. Jon tells me that we will get ALL of the
>issues, albeit a little late. I talked to Zack Lau at Microwave update, so I
>know that articles for each of the issues are to Jon. All Jon needs to do is
>get the magazines edited and put together.

>My request to y'all is to give Jon until the first of the year at least before
>you get too upset.

>I thank you and I'm sure Jon appreciates any understanding on this.

>Ray Mack
>WD5IFS
>mack@mails.imed.com

I like to understand but why I dont get any info about the above. Why not
mention this in the september issue which I just received!

I value(d) qex vy hi and just paid a full year subscription again without
knowing if QEX still was there.
QEX is an ARRL org so we should ARRL for this!

5398. Re: Combining 2 Amplifiers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: rice@snowgum.ucnv.edu.au
Message-ID: <48or3s$ibd@sheoak.bendigo.latrobe.edu.au>
Source record: 109507

Have a look at Motorola application note AN758. This describes a
1.6MHz to 30MHz 1KW amplifier which consists of a 4-way splitter
4 broadband amplifiers and a 4-way combiner.
With 4 identical amplifiers there is no power dissipated in resistors
in the combiner. Any gain and/or phase errors (including complete
failure of a module) cause power to be dissipated in the combiner.

73 de Phil VK3BHR

5399. Re: Frequency Calibration, Frequency Netting, 3.58 Mhz and Loran 'C'

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-191195185751@160.205.101.24>
Source record: 109508

In article <48l7an$45l@newsbf02.news.aol.com>, daveaa1a@aol.com (DAVEAA1A) wrote:
>
> Can anyone steer me towards articles using 3.579545 color burst off
> network
> or using Loran 'C' pulses to use as frequency standard and also
> multiplyers and programmable dividers to come up with 100khz 1 mhz etc.
>
> I am current stripping Newtork Burst at 3.579545 and find some are better
> than others. Also Loran 'C' from here is Chain #9960 which comes out to a
> freq. near 10 khz and multiplies 249 times to 2.5 mhz with precesion to 3
> hertz at 10ghz.
> I get .000256ppm. Will be ultra phase locking my 10ghz brick so as to
> make way
> for spread spectrum and sync-lock. So far so good. will like to swap
> stories
> with like minded folks.
>
> Thanks for any help.
> daveaa1a@aol.com

Dave, your finding that some TV stations "are better than others" as regards color burst frequency accuracy isn't surprising, as most broadcast TV stations these days resync all program material to their local master oscillator, which may not be a rubidium/cesium oscillator and/or may not be maintained to network frequency standards (but are within FCC requirements). IMO without info regarding a particular TV station's master oscillator, you probably can't expect better than 0.1 to 0.01 ppm uncertainty from the color burst signal; relative measurements I've made on some TV stations in my area seem to indicate this as well.

As far as articles pertaining to network color burst generation, I don't have anything specific, but you might want to look in the Journal of the SMPTE (Society of Motion Picture & Television Engineers), particularly in issues dating from 1970 through 1974. I believe it was sometime during this period that the networks began using rubidium oscillators, and I would think that there ought to be an article or two published in the Journal which would be of interest. Hopefully there's a library near you which has the Journal available.

FWIW I own an Arbiter Systems 1011 Frequency Comparator (thanks to Stan Perkins), which was designed in the early '70s to take advantage of the network color burst signals as a reference for calibrating oscillators operating @ the common lab standard frequencies of 100 kHz, 1 MHz, etc. Looking at the manual, it appears to imply that multiplying the color burst

frequency by the fraction 88/63 results in a frequency of 5 MHz, and you might want to try this ratio if you want to experiment further with color burst signals.

TGB

\\ The opinions expressed herein are my own. //

5400. Re: Cleaning Ceramic Switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: z007298b@bcfreenet.seflin.lib.fl.us
Message-ID: <48oupb$pim@bcfreenet.seflin.lib.fl.us>
Source record: 109509

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: In article <9511171759.AA22465@adphdw20> ashworth@plaza.ds.adp.COM (Dennis Ashworth)
writes:
: >Can someone recommend a "safe" method for cleaning high voltage ceramic
: >switches which have collected years of dust, and the contacts have become
: >tarnished? I don't want to clean them using normal household materials and
: >methods unless I'm certain no film or residue will remain. The application
: >is a tank circuit of an 1.5KW HF amplifier.

The best chemical I have found for removing deposits is "Gunk Carb Medic"
carb. and choke cleaner, available at most auto discount stores. I've
used Tri-chloro (very expensive and an EPA no-no), various alcohols and
acetones, but Carb Medic (at 2 bucks a can) seems to work best. Only thing
is it will eat practically ANY plastic (excluding teflons and their
derivatives) or pertroleum based product. It also has quite an odor, so
be sure to use it in a well ventilated area. The stuff is normally
highly flammable, but to my knowledge does not leave a residue, so it
should be safe for your application.

Eliot Fenton
z007298b@bcfreenet.seflin.lib.fl.us
Compuserve: 72633.3247@compuserve.com

5401. Re: frequency standard using GPS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <48pp9m$g10@news2.delphi.com>
Source record: 109510

In article <48ij9i$676@tuegate.tue.nl>, joopv@etprs.seas.ucla.edu () wrote:
>Hi,
>
>I'm in need of a good frequency standard at 10 MHz for my counter.
>
>Does anybody know articles / equipment / diagrams etc to do this with
>a GPS receiver ? Is it usable for this purpose ?

Most are not. Usually there is only a software phaselocked loop with an oscillator in the receiver of at best TCXO accuracy levels. Therefore there is no handy frequency available to tap off a real 10.23MHz signal.

All the satellites are on slightly different frequencies as they reach the receiver due to Doppler shift. Hence the PLL is necessary anyway. So aside from making acquisition faster there is little or no need for a very accurate clock in a GPS receiver even though GPS can be used as a source for a time standard. (And I think there is at least one company making a standard stabilized by a custom GPS receiver.)

If your local TV station uses modern practice and stabilizes their color subcarrier with a rubidium or cesium standard you can get quite accurate results by locally disciplining an oscillator using a phase lock loop to the recovered subcarrier. You divide the subcarrier by 63 and a 5MHz standard by 88 to feed the phase detector for the 5MHz standard. (Erm - at least in the US you can do this. The constants for PAL would be a tad different I suspect. But it should be doable there as well.)

>73 Joop, pe1dna
>
>joopv@etprs.phys.tue.nl
>PE1DNA @ PI8ZAA.#NBO.NLD.EU
>

{^_^} Joanne Dow The Wizardess

5402. Mods for Icom IC-2000H

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: yingst@knighted.com
Message-ID: <48qtub$9uv@crier.knighted.com>
Source record: 109511
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Does anyone have any mods for the ICOM IC-2000H?
I'm looking for a way to turn the AM Detector on above 136 Mhz.
(switch between AM & FM by pressing some buttons)
I would like to listen to some WX Satellites on 137.50 Mhz. AM.

I am also interested in any other mods for the Icom IC-2000H.

Please send any replies to yingst@knighted.com

Note: If you post a reply into this newsgroup I proably wont get it,
my internet provider only holds news for 1 day.

Thank You. Harry N6VUJ

5403. Mods for Icom IC-736

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: yingst@knighted.com
Message-ID: <48qtld$9uv@crier.knighted.com>
Source record: 109512
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Does anyone have any mods for the ICOM IC-736?
I'm looking for a way to turn the pre-amp back on below 1.6 Mhz.
Icom turns it off even though it the light says it's on.
I would like to listen for some lowfer stations 1750 meter band
(160-190 kc. 1 watt into a 50 ft antenna).

I'm also looking for a way to improve the recieve audio.
The recieve audio sounds flat and distant, lacking highs & lows.
With the notch filter ON the audio sounds a little better,
but it still could use some improvement.
They re-shape the audio through the notch filter,
and it actually has a nicer sound with the notch filter on
(Has more highs & lows).

I had a IC-737 that had the same problem with the audio,
just not sounding quite right.

I am also interested in any other mods for the Icom IC-736.

Please send any replies to yingst@knighted.com

Note: If you post a reply into this newsgroup I probaly wont get it,
my internet provider only holds news for 1 day.

Thank You. Harry N6VUJ

5404. Re: DSP for the R2?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <48q1p5$602@usenet.continental.com>
Source record: 109513

12 bits is more like 72 dB rather than 85 dB: 2 raised to the 12th power, take the common log and multiply the result by 20.

-Paul, N9AZ

5405. Re: DSP for the R2?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <48q1u9$602@usenet.continental.com>
Source record: 109514

Does anyone know if Kanga plans on offering a complete kit for the
miniR2-based transceiver as described in QST?

-Paul, N9AZ

5406. Re: QST Tech Errors.... Common?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <48q1id$qke@mgate.arrl.org>
Source record: 109515

N1QDQ pete brunelli <pcb@connix.com> wrote:
>I know that it is prudent to wait an issue or two before diving into
>a homebrew design from QST, but the November issue was chock full.
>The 20M QRP rig appears to have been a forest of errors and omissions
>and the broadband transmitting wire article was pathetic considering the
>lack of complexity.
>
>This is not as much flame-bait as an observation by a ham who is trying
>to justify renewing my league membership which has lapsed for about a year.
>Maybe the additional support will equal better tech editing, but since the
>tech editor was "behind the diamond" in the same issue, i doubt it.

I'm still in the process of insuring that I get to spend a few
hours looking at every article. In the past, there were some
that apparently went to press without me getting a good look at,
especially during the busy conference season when I'm out of the
office. Getting rid of those errors is quite a priority at HQ,
I'm spending a lot more time looking at articles and less time
writing stuff up. (I just tested a 2M directional coupler with
30 dB directivity and realized I designed and etched the circuit
board back in April).

There is still a posting for an Assistant Technical Editor--paying
32-35k. We could certainly use an expert on everything to spot those
technical errors.

Zack zlau@arrl.org.
>
>--
>Pete Brunelli Amateur Call N1QDQ
> Check out http://www.connix.com/~pcb
> Home of the Rolling Thunder Contest Club
> Mobileering for a Better Tomorrow
>--
>
>

5407. Baycom and Windows

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: cj@algonet.se
Message-ID: <48qjp9$9ta@prometheus.algonet.se>
Source record: 109516

Hi,

Anyone knows if the software for Baycom are going
to be ported to Windows 95 ?

Regards,

/Christer

-=-
* High Tech Horizon - Christer Johansson - * email: cj@algonet.se *
-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web - http://www.algonet.se/~cj/catalog.html <<
-=-

5408. Re: QST Nov '95: A Small High-Performance CW Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: fifield@lan.nsc.com
Message-ID: <9511201211.AA26636@davef>
Source record: 109517

I noticed yet another couple of errors as I laid out my PCB this weekend:

1) U5 (NE5514), no pin number for Vcc - should be pin 4

2) U6 Power pin numbers are reversed. Vcc (+12V connection) should be pin 4
and ground should be pin 11.

3) There are two U6B shown, one of them should be U6C (pins 8,9,10). In fact,
I found it easier to layout the PCB using the op amps in an entirely different
configuration. This is also something that Kanga do on their PCB, so be aware!

73 de KE6ZBZ (ex G8INR)

Dave Fifield
fifield@lan.nsc.com

5409. making a RC unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: g0110089@srv2.gbar.dtu.dk
Message-ID: <48q1vb$jv1@unidhp.uni-c.dk>
Source record: 109518

[No readable article body recovered]

5410. Panel Mount Air Variable Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: Larsen_Rick@timeplex.com
Message-ID: <48pvct$dm8_001@timeplex.com>
Source record: 109519

Can anyone recommend a good source for panel-mount, air variable capacitors?
It seems they are becoming rare. The ones that I've found usually are screwdriver
adjustable and won't accomodate an adjustment knob.

Rick Larsen (Larsen_Rick@timeplex.com)

5411. Re: frequency standard using GPS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov20.161223.12248@ke4zv.atl.ga.us>
Source record: 109520

In article <48pp9m$g10@news2.delphi.com> jdow@BIX.com (Joanne Dow) writes:
>If your local TV station uses modern practice and stabilizes their color
>subcarrier with a rubidium or cesium standard you can get quite accurate results
>by locally disciplining an oscillator using a phase lock loop to the recovered
>subcarrier. You divide the subcarrier by 63 and a 5MHz standard by 88 to feed
>the phase detector for the 5MHz standard. (Erm - at least in the US you can do
>this. The constants for PAL would be a tad different I suspect. But it should be
>doable there as well.)

Gee, Joanne, been a while since you've been in a TV station I guess.
Almost all TV stations nowadays use frame syncs for signal timing
convergence in plant, and reference those frame syncs to a simple
crystal oscillator, often not even in an oven. The FCC only requires
us to stay within +/- 10 Hz of the defined color subcarrier frequency,
and there's no point spending extra money and effort to do better.

Once upon a time, when frame syncs were horribly expensive, we used
atomic standards to stay in phase with network signals, and networks
used atomic standards too. But those days are long gone (and wouldn't
work today anyway with the networks being distributed by satellite
with the inherent doppler that introduces). A frame sync is 9 chips
today, and any atomic reference you find in a TV plant will only be
a relic.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5412. Re: DSP for the R2?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov20.163120.12386@ke4zv.atl.ga.us>
Source record: 109521

In article <48q1p5$602@usenet.continental.com> Paul Christensen
<paulc@jax.se.continental.com> writes:
>Content-Transfer-Encoding: 7bit
>X-Mailer: Mozilla 1.1N (Windows; I; 16bit)
>To: gary@ke4zv.atl.ga.us
>
>12 bits is more like 72 dB rather than 85 dB: 2 raised to the 12th
>power, take the common log and multiply the result by 20.

75.25 db actually. You have to use 2 raised to the 12.5 power since
that's the resolution you actually have, to the nearest half of
one bit beyond the least significant bit. 85 db was a typo. Its still
not enough. A 16 bit sample gives you 99.33 db, and that's better.
But still not enough either if you need high dynamic range. You
really have to arrange for some AGC feedback even with 16 bit samples.

Note: some A/D converters aren't even trustworthy to +/- 1 bit,
so they'd be 2 to the 11th power or 2 to the 15th power for their
true dynamic range. But a good converter has 1 bit more internally
than it outputs so that the least bit is significant to +/- half
of a bit beyond what is output.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5413. Direct Digital Synthesis with the Qualacomm Q2220 Chip (Help)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: Bill Risch <brisch@skypoint.com>
Message-ID: <48qes9$d36@stratus.skypoint.net>
Source record: 109522

Has anyone out there built the TW-1 from the 73 Magazine Articles by
John Welch?
I am trying to debug the system and have problems with its output
being more a spectrum that a single frequency.
Any comments or help would be welcome.
Thanks in advance.

5414. Re: frequency standard using GPS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-20 00:00:00 UTC
From: pmonta@venice.qualcomm.com
Message-ID: <PMONTA.95Nov20103749@venice.qualcomm.com>
Source record: 109523

gary@ke4zv.atl.ga.us (Gary Coffman) writes:

> Gee, Joanne, been a while since you've been in a TV station I guess.
> Almost all TV stations nowadays use frame syncs for signal timing
> convergence in plant, and reference those frame syncs to a simple
> crystal oscillator, often not even in an oven. The FCC only requires
> us to stay within +/- 10 Hz of the defined color subcarrier frequency,
> and there's no point spending extra money and effort to do better.
>
> ... and any atomic reference you find in a TV plant will only be
> a relic.

True enough, but the relics exist; no reason not to use them.
Channel 5 in Boston uses (in 1994, anyway, last time I checked)
a rubidium standard for its house sync.

Cheers,
Peter Monta pmonta@qualcomm.com
Qualcomm, Inc./Globalstar

5415. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: Daniel Calzaretta <pcrest@teleport.com>
Message-ID: <48rbap$2um@maureen.teleport.com>
Source record: 109378
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

I'm new to this. What does "spam" mean? Is it Italian or Latin for
something?

5416. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: Daniel Calzaretta <pcrest@teleport.com>
Message-ID: <48rbd7$34d@maureen.teleport.com>
Source record: 109379
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

I'm new to this. What does "spam" mean? Is it Latin or Italian for
something?

5417. Chassis punch for Octal Socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: FJEX69A@prodigy.com
Message-ID: <48rhji$bg2@usenetw1.news.prodigy.com>
Source record: 109380

I'm upgrading the final amp in my Swan 270B to a 6146B from a 6LQ6. I got a nice tube from Red China and a ceramic octal socket and went at it soldering iron a-smokin'.

The reason for this project is that 6LQ6's go for $42 each, when you can find them but Commie 6146B's go for $12. Also the 6146B has 20% more plate dissipation, which is dearly needed in this design.

What I did not foresee is that the original hole for the 9-pin socket is too small to accomodate the octal socket. I don't want to use a crude method to modify the chassis so I am hoping to find a kindly ham who will lend the proper tool for this job. I will bear all expenses and pay a small fee to such an individual.

Thank you- AC4AQ

PS I know the heater current is different- thanks.

5418. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: Cal Eustaquio <ceustaqu@hertz.elee.calpoly.edu>
Message-ID: <Pine.ULT.3.91.951121074747.12984D-100000@hertz.elee.calpoly.edu>
Source record: 109381
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

Dan:
One meaning may be for "Society for the Presevation of Amplitude
Modulation." Otherwise, its a generic term for a meat product that was
invented during WW2 that is still put out in the market by Hormel (I think).

On 21 Nov 1995, Daniel Calzaretta wrote:

> I'm new to this. What does "spam" mean? Is it Italian or Latin for
> something?
>
>
>

5419. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30B26526.B2C@jpaw.com>
Source record: 109382
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

There's now "low fat" Spam. I think I'd expect the can to be empty.

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5420. antenna switch reactance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: paul1@wizard.ucs.sfu.CA
Message-ID: <9511210452.AA08671@wizard.ucs.sfu.ca>
Source record: 109383

I am in the process of doing a bit of antenna experamenting and in order to make antenna changing easier I built a coax switch in a small metal box and some bnc's. Not suprisingly, the box introduces enough reactance to effect the tuning of the individual antennas. All the antennas a fed with 300ohm twinlead with individual tuners. I'm wondering if I should attempt to tune out the reactance in the box or just leave well enough alone and simply adjust the tuners to compensate.

Suggestions will be greatly appreciated.

cheers, Paul
VE7CQK
email: paul1@wizard.ucs.sfu.ca

5421. Need mod for IC-737

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: tbrown@coastalnet.com
Message-ID: <48rn29$fc7@treasure.coastalnet.com>
Source record: 109384

I am looking for the mod for a Icom 737 to extend it's frequency
coverage to use with a transverter. de kb4rxz

5422. Ramsey Kits..worth the money?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: Dan Hughes <danhughe@indiana.edu>
Message-ID: <48t5l3$b00@usenet.ucs.indiana.edu>
Source record: 109385

I am considering purchasing a Ramsey 20 meter qrp outfit. I was wondering if anyone out there had any comments on Ramsey and their kits, both good and bad.

Thanks all,

Dan N9ZTO

5423. Re: What's circulator good for? was Re: How does "circulator" work?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: "Lynn Coffelt"
Message-ID: <48rmks$nh3@cleese.nas.com>
Source record: 109386

> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
> In article <9NOV95.15150724@dragon.pfc.mit.edu> fridberg@dragon.pfc.mit.edu writes:
> >In a previous article, THOMAS STICHELBOUT <stichelt@esiee.fr> wrote:
> >->when energy coming from a goes to b through a circulator,
> >->in a 3 way terminal, it won't go on the way c, which will be isolated.
> >->It used for receiver : Imagine an antenna which is plugged on way a, a
> >->receiver
> >->on way b , and ground on way C. You don't want your receiver to emit anything
> >->on
> >->the antenna. Therefor you use a circulator : All the energy coming back from
> >->the receiver will go to the ground and not on the antenna, which is "isolated
> >->from the receiver" Is that clear enough ?
> >->If you want to know some more about the subject, try to read books dealing
> >->with
> >->hyperfrequencies techniques...
> >->
> >Eh.., hm... well, this example is ok, but it's not very often when you worry
> >about reciever emmitting anything back to antenna. Besides, you can't really
> >get rid of RF by grounding it. You'd need to put load there. The lot more
> >common application is when you have tranmsitter and reciever using same antenna
> >and you want to make sure that transmitted signal going into antenna only,
> >and recieved signal from antenna going to reciever only. So, you connect
> >transmitter to port a, antenna to port b, and reciever to port c, you'll
> >get signal from transmitter (port a) going to port b (antenna) and nowhere
> >else, and recieved signal from antenna (port b) going to reciever (port c)
> >and nowhere else. Another application would be when you want to protect
> >transmitter from load mismatch and isoltare reflected signal from forward one.
> >Actually, in all of these examples you can use hybrid as well...
>
> He's right, Mike, circulators are used primarily for reverse isolation.
> As you note, you terminate port 3 with the characteristic impedance.
> You don't short it to ground, which does no good at all, and in fact
> guarantees a reflection. In microwave work, it's common to have receiver
> radiation since the receiver usually has a mixer as its front end and
> can allow LO to leak back toward the antenna. The other major use of
> a circulator is to isolate a transmitter PA from VSWR on the antenna
> or from out of band components which may enter the PA from the antenna
> and mix there to produce intermod which is then reradiated. The latter
> problem can happen in a receiver mixer too. Circulators can minimize
> either problem. Circulators are also commonly used to isolate an oscillator
> from "pulling" by a following stage, and to isolate a driver stage from a
> PA so that input tuning of the PA doesn't interact with driver output tuning.
>
> Now a circulator as TR switch isn't too useful because the isolation

> typically isn't that good, only about 20 db between port 1 and port
> 3. Since the transmitter typically puts out watts while the receiver
> wants to see no more than microwatts, the isolation is insufficient.
> You want something on the order of 60 db (or better) of isolation.
> A circulator can't give you that so you have to get it other ways.
> For transmitter receiver pairs operating on split frequencies, IE
> a typical repeater, you do that with cavity duplexers. For transmitter
> receiver pairs operating on the same frequency, the only real way that
> they can share a common antenna is by an active TR switch, either a
> relay or PIN diodes. A single relay typically only offers about 30 db
> of isolation due to capacitance through the NO contacts, but the
> relay can be designed to reduce that (rotary relays for example
> which rotate the open contacts 90 degrees to each other). But today,
> pi or Tee section configured PIN diode switches can offer up to 70 db
> of isolation, and that's plenty for most applications. And they're
> fast too.
>
> Gary
> --
> Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
> Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
> 534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
> Lawrenceville, GA 30244 | |
>
>>>>
We use circulators to block high power X band rf from pulse magnetrons
(a simple transmitter) from getting into microwave receiver preamplifiers.
typically 3 to 30 KW peak pulse power in marine radar.
Lynn

5424. Help with Neophyte reciever!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: Joshua Peter Morton <jomorton@u.washington.edu>
Message-ID: <Pine.A32.3.91j.951121122214.117579A-100000@homer07.u.washington.edu>
Source record: 109387

Hey all you usenet guys can anyone tell me a company that ships parts for the neophyte reciever described in the Feb 1988 issue of QST? Also can you give me the company's price and shipping charge (UPS or other cheap path) as I plan to money order. I specifically need the Signetics NE602N mixer/oscilator IC and a 386-pF air-dielectric varible capacitor (these are very hard to find it seems. Please help me as this is my first circuit and not finding these parts is very frustrating! :(

email addresses of the company would also be much appreciated.

please contact me via email and if you find my question irritating on this group please send me your flame to my email and not to the group.

"Mathmatics can't prove everything. I proved it!" Kurt Godel.
"Hofstadter is cool and Steve Stow is too." Joshua Morton KJ7IN

5425. TS-140S software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: arso@badlands.edu
Message-ID: <48tn76$ahk@daily-planet.nodak.edu>
Source record: 109388

Can someone please help me locate software for an IF-10C Kenwood interface.

Thank you.

5426. Re: FREQUENCY CALIBRATION, STANDARDS

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDIE292.66r@netcom.com>
Source record: 109389

In article <48m09r$d2v@newsbf02.news.aol.com> you wrote:
: Hi, Anybody out there into 3.579545 color burst stripping, dividing to
: 1mhz or 100 khz? Anybody using Loran 'c' pulses for ultra accurate
: timing?? Can you steer me towards any of the above?
:
: tnx
:
: de daveaa1a@aol.com

Well, forget color burst. Broadcast network bursts once were NIST
traceable but no longer. NIST bungled it and dropped the program.
Pissed me off. I had a proportional crystal oven time base which
could lock to it. It fed a simple synthesizer to derive standard
frequencies. Sheesh, anyone with a color TV once had a NIST traceable
frequency reference.

At present there really is no low cost easy way to reference a NIST
traceable standard. WWVB is ok if you live within its coverage area but
it is pretty much worthless on most of the east coast. WWVB Reception is
particularly bad in urban areas with high RFI levels. NIST now recommends
GPS but you need a special GPS receiver. Most of the consumer models
don't cut it. Omega and Loran are ok if you have the gear ...

However here is something that might be of interest:

: From: Tom Clark <clark@tomcat.gsfc.nasa.gov>
: Newsgroups: sci.geo.satellite-nav,sci.electronics
: Subject: Re: GPS high performance frequency reference
: Date: 28 Oct 1995 21:20:32 GMT
: Organization: NASA Goddard Space Flight Center -- Greenbelt, Maryland USA
:
: I have been developing low-cost GPS timing receivers which allow
: frequency standards to be "steered" to levels comparable to Rubidium or
: Cesium standards. The design is based on the off-the-shelf Motorola
: ONCORE receiver, which has proven to have a timing precision in the
: 30-50 nsec range. It's timing accuracy (referred to the Master Clock at
: the US Naval Observatory) is in the 20-30 nsec range when the length of
: all cables is compensated for.
:
: Some details can be seen on
:
: ftp://aleph.gsfc.nasa.gov/GPS/totally.accurate.clock
:
: Regards, Tom Clark

73,
Thomas McWilliams
ars KI4N

5427. Ramsey Shortwave Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: ggherb@ccmail.monsanto.com
Message-ID: <NEWTNews.816975423.11948.Postmaster@GGHERB.MONSANTO.COM>
Source record: 109390
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.homebrew

Hi All:

I have a quick question. How does the Ramsey shortwave
receiver kit stack up as far as sensitivity and
selecttivity compared to MFJ's 8100K. Would the Ramsey Kit
be a nice set to build and listen to?

Gary-

5428. Tek 604 CRT Display Diagram?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <48t6n1$vra@lamar.ColoState.EDU>
Source record: 109391

I have a Tektronics model 603 CRT display unit. It has a little problem with with it's -30 volt supply (it's only -25.6 volts, manual sez -30 exactly) and the manual I have is a poor photocopy, missing some horizontal lines, etc.

Does anyone know where to get a better copy or even a real manual? I only need the diagram marked 'Low Voltage Power Supply/Regulators' and is a schematic of same. The bottom says (I think): "603/604 Rev H June 1976'.

havin' fun,
galen, KF0YJ

5429. Re: Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: muehlber@plains.nodak.edu
Message-ID: <48t3tr$1mk@daily-planet.nodak.edu>
Source record: 109392
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

David Stockton (dstock@hpqmdla.sqf.hp.com) wrote:
: Burt Fisher (k1oik@ccsnet.com) wrote:

: : Then why do I get frequent messages that appreciate my comments?

: Is this the first contact with non-human sapient entities ?

: Or is someone going to suggest that any message that likes Burt's
: humour..... No, who would be so cruel ?

: Cheers,
: David

It's unfortunate that this tirade must continue. Even more unfortunate
that our younger readers must be exposed to this behavior by, I assume,
adults. I do not know Mr. Fisher, and even if I did, I would not comment
about him on the net. Making personal attacks on people in public is
just plain tacky. Do I sound like your mother? Well, yes. There is an
absolute right and wrong. You are wrong. God gave us free will, though,
but some still dont know what to do with it. I'll pray for you.--
****
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SUPPORT YOUR MILITARY PERSONNEL +++ Jim Muehlberg MUEHLBER@PLAINS.NODAK.EDU
****

5430. Re: Standard 568A recovery?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: lkraft@aa6lk.rose.hp.com
Message-ID: <DIEu76.MBq@icon.rose.hp.com>
Source record: 109393
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.scanner

Michael Fogarty (mfogarty@netcom.com) wrote:
: > A new tribander is out from Standard: the 568A. It receives a surprising
: > array of frequencies, including 800-1300MHz. Does anyone know of mods
: > for recovering the interesting parts of the 800 realm? I've checked
: > Oakland and can't get through to AD4HL's BBS (at 615-537-6051).
: >
: > Does anyone have one of these radios? What do you think?

Yes, and the image rejection on the 800-999MHz band is so poor
that you can receive the "blocked" part of the 800MHz band by
tuning the radio to (desired frequency) + 46.1MHz.

: >
: > I'd also like to get a general feeling for what people think about the
: > Standard brand.
: >

I like it's size (not too big, not too small). The DTMF encoder
allows direct entry of digits 0-9,#, and *, but not A,B,C, or D.
You can program these digits into one of six DTMF sequence memories
though.

I've had mine for several months. Works fine, but the tiny
"3-band" antenna supplied doesn't work worth a darn on 2-m.
And 35mW on 1280 is useful for only the most local 1280
repeaters (and as a signal source for testing).

: > In the market,
: > Mike

Regards,
L

==========
Lyle Kraft AA6LK
########################## Hewlett-Packard
####### /_ _ ####### System Interconnect Lab -
/ / /_/ ###### Information Networks Division
####### / ####### Roseville, CA 95747-5601
########################## 916-785-5798 FAX 916-785-2875
lkraft@core.rose.hp.com
==========

5431. CW filter in LSB on FT-890

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: tmedin@che2.CHe.umn.EDU
Message-ID: <70492.tmedin@che2.che.umn.edu>
Source record: 109394

anybody have any idea how i can logically switch in the CW filter when
i am in LSB on the Yaesu FT-890?

t medin
n0ufm

5432. Re: Chassis punch for Octal Socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <48sl8j$gm0@service2.uky.edu>
Source record: 109395

In article <48rhji$bg2@usenetw1.news.prodigy.com>, FJEX69A@prodigy.com (Jeffrey Hill) says:
>
>I'm upgrading the final amp in my Swan 270B to a 6146B from a 6LQ6. I got
>a nice tube from Red China and a ceramic octal socket and went at it
>soldering iron a-smokin'.
>
>The reason for this project is that 6LQ6's go for $42 each, when you can
>find them but Commie 6146B's go for $12. Also the 6146B has 20% more
>plate dissipation, which is dearly needed in this design.
>
>What I did not foresee is that the original hole for the 9-pin socket is
>too small to accomodate the octal socket. I don't want to use a crude
>method to modify the chassis so I am hoping to find a kindly ham who will
>lend the proper tool for this job. I will bear all expenses and pay a
>small fee to such an individual.
>
>Thank you- AC4AQ
>
>
>
>PS I know the heater current is different- thanks.
I loaned or lost my octal punch long ago, you might have better luck
tracking down a local electrician. Most of them have a good
array of punches(the more inovative will have hydrolic(sp) punches)
and will shouldn't charge too much to punch it. I bet if you
check on the air, you even have some hams locally who are
electricians.
Just a thought.
.....
Terry Fugate
UKTV
University of Kentucky
"The opinions expressed herein are mine, and soley mine. They do not
represent the official view of the University of Kentucky,
the State of Kentucky, or any agency of any government.
If you do not like my opinion, just get on with your life.
I will not change your mind and you damn sure can not change mine."

5433. Crystals (fwd)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: w4qo@america.NET
Message-ID: <Pine.SV4.3.91.951121111550.9230H-100000@atl1>
Source record: 109396

Tried sending a reply to originator but get back an "undeliverable"
report from inhp4.ucsd.edu, so will send to the list and hope Sandy gets it.

73/72/jim/w4qo

---------- Forwarded message ----------
Date: Tue, 21 Nov 1995 11:08:30 -0500 (EST)
From: Jim Stafford-W4QO <w4qo@america.net>
To: sandy.blaize@ihnp4.ucsd.edu
Subject: Crystals

Check back of QST and write to CW Crytals per their classified ad. He
still makes ft-243 crystals at about $4 apiece and you get to specify
what you want. I have had very good luck with his service altho he is a
bit slow. I suspect he makes them in his basement! If you have trouble
getting address, I can dig around and look him up for you.

73/72/jim/w4qo

5434. Re: Panel Mount Air Variable Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <48te37$mso@mksrv1.dseg.ti.com>
Source record: 109397

I find them at hamfests and swap meets. Ask around on 2-meters. There are a lot of old-timers still active who have tons of this type of part sitting in boxes, drawers, and jars in their shacks, waiting for someone to put them to good use.

You might find junked-out or needing-to-be-junked-out <G> rigs from yester-year that use them. The PA tune and load caps are usually large, and the driver peak/tune caps are usually small. They nearly all have 1/4" shafts for knobs.

I have a bunch of them in my junkbox, but I have no idea what any of their values are, as most are unmarked. If you have a way to measure them, I'll trade them to you for other parts, to be determined (I'm always needing something or other).

73 de KC5NG --> QRP%mimi@magic.itg.ti.com

5435. Re: QST Tech Errors.... Common?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <48tdai$eb6@newsbf02.news.aol.com>
Source record: 109398

In article <48q1id$qke@mgate.arrl.org>, Zack Lau <zlau@arrl.org> writes:

>
>I'm still in the process of insuring that I get to spend a few
>hours looking at every article. In the past, there were some
>that apparently went to press without me getting a good look at,
>especially during the busy conference season when I'm out of the
>office. Getting rid of those errors is quite a priority at HQ,
>I'm spending a lot more time looking at articles and less time
>writing stuff up. (I just tested a 2M directional coupler with
>30 dB directivity and realized I designed and etched the circuit
>board back in April).
>
>There is still a posting for an Assistant Technical Editor--paying
>32-35k. We could certainly use an expert on everything to spot those
>technical errors.
>
>Zack zlau@arrl.org.

Zack,

Why doesn't the ARRL make use of the FREE technical ability of the Technical Directors and the amateur population that works in the industry? That would radically reduce published errors without any cost penalty. HQ will likely have a difficult time hiring a reliable technical expert for the salary you listed, when industry pays over twice that amount!

It is much better to have consensus from several independent sources. Sole sources are almost never reliable for technical data. No single person is error free or catches every mistake! Only a fool or ego-maniac would believe otherwise.

Ceratinly *a few* technical errors are simple and stand out, even a single reliable source could catch those errors. But most technical articles require ****GROUPS***** of experienced reviewers, NOT the single source commonly depended on. The League doesn't need to do the work or even pay for the help. The staff simply needs to learn how to allow and encourage people to help. Resources are available if the staff uses them.

QST and the ARRL Handbooks are certainly the most error free Amateur type publications available. But in my opinion accuracy is slipping. Things seem to be slowly shifting towards being "just another publishing house" and away from reliable technical information.

If it really is a priority to get rid of technical errors, GL. I hope egos don't get in the way.

73,
Tom

5436. Re: CW filter in LSB on FT-890

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951121163311.1670B-100000@biggulp.callamer.com>
Source record: 109399

There is a fairly complicated proceedure for doing something like this in the FT 890. I wrote Chip Margelli at Yaesu about this in an effort to use the 500 Hz filter on Pactor. He mailed a reply in which this is done but not easily! You might ask for this ap note as a start., Cliff W6HDO

On 21 Nov 1995, tom medin wrote:

> anybody have any idea how i can logically switch in the CW filter when
> i am in LSB on the Yaesu FT-890?
>
>
> t medin
> n0ufm
>
>

5437. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: us015794
Message-ID: <30B2AA11.1123@pop3.interramp.com>
Source record: 109400
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

In my neck of the woods, spam = phony HAM
Mike@aa2hs.com
http://www.aa2hs.com

5438. Sams Photofact

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: walshults@aol.com
Message-ID: <48u890$ojr@newsbf02.news.aol.com>
Source record: 109401

Hello,

Is there anyway to download Sams books via the internet?

Thanks for reading.

Wal

5439. Re: Photoreceptors for Flying Spot Scanner

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-21 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <48skr8$gm0@service2.uky.edu>
Source record: 109402

In article <48m8od$ggn@nntp.Stanford.EDU>, stevem@w6yx.stanford.edu (Steve Muther) says:
>
>
>What? A flying spot scanner in today's world!
>
>I was thinking of what I should do with a couple of surplus
>video camera viewfinders (about a 1 inch video monitor) in my
>junk pile when it occured to me that they might make an
>interesting flying spot scanner for viewing or transmitting
>slides on ATV.
>
>In the old days, they used photomultiplier tubes for the
>receptor element. I have not done much work with solid state
>photo sensitive devices so I was wondering what might work
>best. I am looking at cds cells, photovoltaics, photo transistors
>and diodes etc. I do not have a good understanding of which
>might be best in terms of response time, linearity etc. and
>was wondering if anyone had any suggestions. Is there a
>device I have overlooked?
>
>I was thinking of 3 devices with RGB filters and one of the
>many RGB encoder chips to do most of the processing. I will
>get synch from my ATV camera or test generator to form the
>raster on the CRT. That will make for nice, in phase, switching
>between video sources.
>
>Thanks in advance.
>
>Steve Muther WF6R

Back 25 years ago while ain school, we had some "BK" flying spot
scanners that we used to set up TVs. They used "slides" about 4"
square. Any modern photransistor should work. What will "kill"
the project is the phospher decay time. The BK scanners had a
purple phospher, I called the comapnay to find out why(inquiring
minds and all), and was told that that phospher(and I can not for
love nor money remember the P#) had almost no decay time. This was
to prevent any residual(sp) light from messing up the image.
A standard TV crt has a moderate decay, this will fill in any
black areas. It seems that you could use a P7 scope tube(yea I know
how difficult it is to get sweep voltages high enouge to operate
an electrostatic sweep, current is easier to get these days
than voltage) and a filter to remove the long persitance glow.
I think the fast phospher in a p7 is purple(maybe the same right) and

the long persitance phospher was greenish/yellow.(it has be at least
20 years since I last played with p7 crts for wefax/sstv)
I would be more tempted to just get a "cheap" camera(either bw ccd, or
find a modern camcorder with a color ccd pickup) and go that route.
It would be cheaper, faster and probably work better.
I am a TV engineer at the University of Kentucky and I have trouble
excited about ATV. I can reach the whole US woht about 50 watts...
into our 6.1mtr Ku uplink. I feel kind of sorry for some of our local
atv'ers, they run 75-100watts and get about 10-15miles(in the winter,
after the 440 eating trees lose their leaves that increases somewhat).
Good luck
Terry WN4ISX

.....
Terry Fugate
UKTV
University of Kentucky
"The opinions expressed herein are mine, and soley mine. They do not
represent the official view of the University of Kentucky,
the State of Kentucky, or any agency of any government.
If you do not like my opinion, just get on with your life.
I will not change your mind and you damn sure can not change mine."

5440. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: dougrand@i-2000.com
Message-ID: <48tp5c$h4n@i-2000.com>
Source record: 109403
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

Cal Eustaquio <ceustaqu@hertz.elee.calpoly.edu> wrote:

People used (perhaps still do) spread it on bread .. Hence spaming -
or spreading..

xxDan:
xxOne meaning may be for "Society for the Presevation of Amplitude
xxModulation." Otherwise, its a generic term for a meat product that
was
xxinvented during WW2 that is still put out in the market by Hormel (I
think).

xxOn 21 Nov 1995, Daniel Calzaretta wrote:

xx> I'm new to this. What does "spam" mean? Is it Italian or Latin
for
xx> something?
xx>
xx>
xx>

5441. Re: frequency standard using GPS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <48u4bl$aav@hpscit.sc.hp.com>
Source record: 109404

In article <48pp9m$g10@news2.delphi.com>, Joanne Dow <jdow@BIX.com> wrote:
>In article <48ij9i$676@tuegate.tue.nl>, joopv@etprs.seas.ucla.edu () wrote:
>>Hi,
>>
>>I'm in need of a good frequency standard at 10 MHz for my counter.
>>
>>Does anybody know articles / equipment / diagrams etc to do this with
>>a GPS receiver ? Is it usable for this purpose ?
>
>Most are not. Usually there is only a software phaselocked loop with an

Most are not suitable because they don't have 1 pulse per second (1 PPS) outputs.
However, 1 PPS outputs are available. For example, the Motorola Oncore
engine has 1 PPS as an extra cost option.

>oscillator in the receiver of at best TCXO accuracy levels. Therefore there is
>no handy frequency available to tap off a real 10.23MHz signal.

You don't need to tap off a 10.23 MHz. signal. What you do is phase lock
a crystal oscillator to the 1PPS signal by dividing the oscillator signal
down to 1 Hz. and comparing to the 1PPS signal. The accuracy you get is
dependent on how stable your oscillator is, what the time constant of the
phase locked loop is, and the resolution of your phase detector.

In the Hewlett-Packard GPS timing receiver we make at this division, we
approach an accuracy of 1 part in 10^12 for 1 day averaging.

If you just want to check the accuracy of your counter, simply measure
the period of the 1 PPS output with averaging turned on. You can adjust your
counter's timebase until it reads exactly 1 second.

>All the satellites are on slightly different frequencies as they reach the
>receiver due to Doppler shift. Hence the PLL is necessary anyway. So aside
>from making acquisition faster there is little or no need for a very accurate
>clock in a GPS receiver even though GPS can be used as a source for a time
>standard. (And I think there is at least one company making a standard
>stabilized by a custom GPS receiver.)

Yes, a fellow from here left and started a company to do that.
Theoretically, it should be better.
The jury is still out on the merits of that architecture.

>
>If your local TV station uses modern practice and stabilizes their color
>subcarrier with a rubidium or cesium standard you can get quite accurate results

That "modern" practice was discontinued at least 10 years ago.

>>73 Joop, pe1dna
>>joopv@etprs.phys.tue.nl
>>PE1DNA @ PI8ZAA.#NBO.NLD.EU
>>
>
>{^_^} Joanne Dow The Wizardess
>

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5442. Re: WWV propogation variability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <199511221835270SYSMAS@MVS.OAC.UCLA.EDU>
Source record: 109405

>I have seen this but it still leaves the question: WWV issues a
>signal. At the start of a certain tone my two clocks, no--call
>them triggers in this context, when my two triggers receive this
>tone they send a logic pulse. The two receivers are different
>distances from WWV (or WWVH or WWVB whatever). Say receiver R1
>is 100 miles closer to WWV. Receiver R1 triggers at T0
>receiver R2 triggers at T0 + Tpropdelay100miles +/-
>Tpropdelayvariation. What is Tpropdelayvariation? Is it
>nanoseconds or microseconds? Given my locale the distance the
>signal must travel is much greater than the difference between
>the two receivers. I would expect a very small variation. The
>variation from one trigger tone from WWV to the next may vary
>much more due to the long path but the variation between my two
>receivers on the same trigger should be small.

What about skip? Say R1 is one hop and R2 is two hops...

Or the height the hop's are occuring from changes..

Or one receiver is really receiving the signal the "long" way
around the planet..

I'd guess that if you look close and long enough you might see
almost anything for the Tpropdelayvariation.

5443. Ferrite antennas in Pager receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: lukes@iaccess.za
Message-ID: <lukes.3.000662E3@iaccess.za>
Source record: 109406

I would like to use a ferrite antenna similar to that used in pager receivers.

Can anyone please help me with:

1. Who manufactures the antennas?
2. Where can I get information on how to design such an antenna?

They seem to be in wide use in pagers.

Thank you

Lucas Gertenbach
lukes@iaccess.za

5444. WWV propogation variability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: EFBRYA@acxiom.COM
Message-ID: <ed221280@acxiom.com>
Source record: 109407

This is a Mime message, which your current mail reader
may not understand. Parts of the message will appear as
text. To process the remainder, you will need to use a Mime
compatible mail reader. Contact your vendor for details.

--IMA.Boundary.389225587
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 7bit
Content-Description: cc:Mail note part

Mr. Booth wrote:

In article <ecb96940@acxiom.com>, EFBRYA@acxiom.COM wrote:
>
>
>>
>> I am looking at a couple things that would use WWV time service. I
>> need to know about variations in prop delay over a short distance and
>> moderate time periods. If two stations are separated by 300 miles or
>> so what amount will the prop delay change relative to each other?
>> This change is other than the delay due to the differences in distance
>> from the transmiter which can be modeled as a constant. In other
>> words, if the signal is used to drive clockx that have a constant
>> compensation for the prop delay due to distance what is the worst time
>> difference in the two clocks?
>>
>> EFBryan

>"WWV and WWVH are referred to the primary NIST Frequency Standard and
>related NIST atomic time scales in Boulder, Colorado. The frequencies as
>transmitted are accurate to about 1 part in 100 billion (1 x 10^-11) for
>frequency and about 0.01 ms for timing. The day-to-day deviations are
>normally less than 1 part in 1,000 billion (1 x 10^-12). However, the
>received accuracy is far less due to various propagation effects. The
>usable received accuracy is about 1 part in 10 million for frequency (1 x
>10^-7) and about 1 ms for timing."

I have seen this but it still leaves the question: WWV issues a signal.
At the start of a certain tone my two clocks, no--call them triggers in
this context, when my two triggers receive this tone they send a logic
pulse. The two receivers are different distances from WWV (or WWVH or WWVB
whatever). Say receiver R1 is 100 miles closer to WWV. Receiver R1
triggers at T0 receiver R2 triggers at T0 + Tpropdelay100miles +/-
Tpropdelayvariation. What is Tpropdelayvariation? Is it nanoseconds or
microseconds? Given my locale the distance the signal must travel is much
greater than the difference between the two receivers. I would expect a

very small variation. The variation from one trigger tone from WWV to the next may vary much more due to the long path but the variation between my two receivers on the same trigger should be small.

While not pertinent to the main question above --The statements:

"The frequencies as transmitted are accurate to about 1 part in 100 billion (1 x 10^-11) for frequency and about 0.01 ms for timing. The day-to-day deviations are normally less than 1 part in 1,000 billion (1 x 10^-12)."

leave me somewhat confused. Are the timing indicators allowed to drift +/- .01ms from one signal to the next at the transmitter? If the daily deviations are 1 in 1000 billion (I assume this is on frequency) why so inaccurate?

>Additionally, IMO one needs to consider the effect of local clock
>oscillator drift at each site during periods of poor reception; for

Yes! Am planning to build the local clocks in themos bottles with small light bulb for heating element. Should be able to hold better than +-1 degree C. Will see what this does for drift.

>If the 1 millisecond timing uncertainty quoted above is not "good enough"
>for your purposes, consider using the time code embedded in the 60 kHz
>WWVB
>signal. As regards the the WWVB time code accuracy, NIST Special
>Publication 432 states that "The BCD time code can be received and used
>with an accuracy of approximately 0.1 ms."

There are multiple freqencies from each station. Is this one known to be better than the others in terms of reception? Another post said to use the ground wave signal at VLF. I think this was what he was refering to. Will this reach from Colorado to central Arkansas?

Thanks for the thoughts!
--IMA.Boundary.389225587--

5445. Re: Ramsey Kits..worth the money?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <48vjbb$dpq@mksrv1.dseg.ti.com>
Source record: 109408

I built the Ramsey 20m QRP transmitter. One of the transistors was defective right out of the package. The power output was claimed to be one Watt, but in reality, it was more like 350 - 400 mW. Other hams in D/FW have echoed the same finding (low output). It worked as it should, except for the lower-than-advertised power output. I don't like their use of RCA connectors for everything, although you could change the connectors if you don't use their enclosure set.

I also built the Ramsey 40m receiver kit. Junk! It drifts like mad and never does stabilize. The audio output is weak, even using a set of headphones like they suggest.

All in all, I would suggest going another way.

For roughly the same money as the two Ramsey kits and their enclosure sets, you can buy the NN1G superhet transceiver kit, with vfo control on transmit and full break-in. This is a great little rig and works far better than the Ramsey junk could ever dream of. I built this one a couple years ago. Mine was featured in the July, 1994 issue of QRP Quarterly.

I hate to bash anyone, like I'm doing to Ramsey now, but I honestly do not feel their stuff is worth the time and effort you'll put into it, much less the money. There are other, better alternatives...

73 / 72 de KC5NG QRP-ARCI # 8204

5446. Building a 1296Mhz VCO - suggestions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: Hans Insulander <ib94_hin@isk.kth.se>
Message-ID: <48vlvo$7hi@news.kth.se>
Source record: 109409
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Hi!

Does anyone have any suggestion on how to build a 1296MHz VCO?
I have about one hundred BB809 varactor diodes. Will they work (good)
for this frequency?
I also have a bunch of MSA-0386 and MSA-0486 MMIC's. Can i use them
for an oscillator?

Thanks for any help!

/Hans Insulander SM0UTY
ib94_hin@isk.kth.se

5447. [Q] Papers about Microstrips.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: Hans Insulander <ib94_hin@isk.kth.se>
Message-ID: <48vm40$7hi@news.kth.se>
Source record: 109410
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Hi!

Does anyone know about a FAQ or something about striplines?

/Hans Insulander SM0UTY ib94_hin@isk.kth.se

5448. Re: Oil Filled Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <84958327wnr@ifwtech.demon.co.uk>
Source record: 109411

In article: <48vp8f$7fo@louie.udel.edu> hanavin@stimpy.eecis.udel.edu
(Chuck Hanavin) writes:
:
: What's the story on oil filled capacitors ? Are they
: all alike? I remember years ago, someone telling me about
: some caps that looked like oil filled, had high capacitance
: and high voltage ratings, but were unsuitable for power
: supply filtering. I think they were used with some-kind of
: photographer set up.

Photoflash, that would have been, and the dielectric is probably some kind
of plastic rather than oil-soaked paper.

:
: The reason I ask, fair radio has, what they call, Energy
: storage capacitors, 32UF @ 4500v. I was thinking about
: buying a couple for my next transmitter project. Any reason
: why they wouldn't work as a high voltage filter cap?

Obviously I can't speak for these particular components, but I've tried two
photoflash energy storage caps and each one went dead-short after a few
years (followed by a chorus of "We told you so!" from GW4FRX and other
friends).

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

5449. Icom Modification...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: davidole@uoguelph.ca
Message-ID: <48trr7$3sr@ccshst05.cs.uoguelph.ca>
Source record: 109412

Greetings all,

A quick question.... I have an older Icom HT, whose exact model I cannot remember right now. I really don't need it for use on 2m 144 MHz + that it is set for. Is there any way to take a full 100 MHz off of this unit and still have it work? Could it be modified to transmit in the 44+ MHz range or will and such modification completely destroy the transmit ability of the radio.....

Just thinking about the possibility of this sort of thing..... Any advice would be most appreciated.....

Dave O'Leary
VE3TZV

5450. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: us015794
Message-ID: <30B3675A.3FA2@pop3.interramp.com>
Source record: 109413
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

In my neck of the woods "spam" = phony HAM.
Mike@aa2hs.com

5451. Re: THE biggest THE ham THE problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: aranders@kosepc01.delcoelect.com
Message-ID: <48vu6u$a1i@kocrsv08.delcoelect.com>
Source record: 109414
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

Burt Fisher <k1oik@ccsnet.com> writes:
> Frequently I hear hams say, THE name HERE is_____.
>How often do you say when you meet someone (assuming your name
>is Charlie), THE name HERE is Charlie? You never do that right?

It's a different culture, Burt, and you're experiencing culture shock. Amateur Radio has been around a lot longer than you have, and it has developed its own "code of conduct" and a particular way of speaking. In Mexico, one does not say "My name is ____" -- to do so would be considered an EXTREMELY impersonal statement! One says instead "I am called ____" -- and that's just the way it is.

You seem to be ridiculing a common practice merely because it sounds impersonal to you. From the other point of view, you are attempting to use face-to-face speaking conventions when you are communicating with voice only, and that sounds just as strange to many "oldtimers" as the way it's done now sounds to you.

Remember that for the most part, radio communication is just barely interactive; while you are talking, there is no feedback from your listener(s). Don't expect to be able to use the same conversational style in all situations. For instance, how often do you begin a short monologue with the phrase "Three minutes ago, so-and-so said:" and a direct quotation? How often do you punctuate your sentences with "emotion" indicators? Be flexible. When in Rome, do as the Romans do. Don't flame them lest you be burned yourself. (Oh, sorry. Too late.)

= === === === = = = === === === === = = === = = = === = = === =
Alan Anderson # Ignorance can be fixed, but stupidity is permanent.
(I do not speak for Delco Electronics, and DE does not speak for me.)

5452. Re: Timecode stuff...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-211195162455@160.205.101.24>
Source record: 109415

In article <kyrrin.791.029E669A@wolfenet.com>, kyrrin@wolfenet.com (Bruce Lane) wrote:
>
> Hello, fellow hamateurs...
>
> I acquired an interesting piece of gear today. It is designed to receive a
> signal from the GOES (sp?) weather satellite, supposedly at 468 MHz, extract
> the timecode info from the incoming Manchester data, and display it on the
> plasma readout on the front panel.

FWIW the two frequencies used are 468.825 MHz and 468.8375 MHz for the GOES West (135 deg W) and the GOES East (75 deg W) satellites, respectively.

> I've already spoken to the manufacturer (Kinemetrics/Truetime, Santa Rosa,
> CA) and they're sending me the manual for the thing. I'd very much like to be
> able to put it into active service in the shack. For the benefit of anyone who
> might have seen one of these, or may be familiar with it, it is a model 468-DC.
>
> Here's the kicker; I live in an apartment, and would not be able to do
> anything outside for an antenna array. My question; how powerful is the signal
> from the bird? The receiver is built in to the unit; all it needs is an
> appropriate antenna connection, and I see no reason why it wouldn't lock on.

According to NIST Special Publication 432 (Revised 1990), the typical received power with an isotropic antenna (0 dBi) is -131 dBm.

> Is there a halfway decent antenna I can use to try this beastie out without
> alienating everyone in the complex? Being in Washington state, southeast of
> Seattle, I think I'm in a good spot to pick up GOES West.

GOES West would probably be best for you. As far as antenna choice goes, I'd suggest going w/ a right hand circular polarized type, unless you can tolerate the polarization losses from a linearly polarized type. Depending on the coax type and length you're planning to use, you may want to consider a quadrifilar, a circularly polarized Yagi, or a helical antenna. You may have to consider using an LNA at the antenna if you're stuck w/ a physically small (low gain) antenna & can't make threshold at the receiver. If you're willing to build your own antenna, consider some of the 70 cm designs mentioned in the various ARRL publications & scale accordingly.

> Second question; I built the miniature WWV 10 MHz receiver, featured in an
> issue of 'Electronics Now' a while back. I'd like to build a circuit to break
> out the 100 Hz(?) subcarrier, and extract the binary timecode data to feed to
> one of my other TCG's. Suggestions would be most welcome, as my skills in
> design are somewhat less than my computer skills. ;-)

One approach you could try is to use a 567 tone decoder to detect the 100 Hz pulses from the received baseband signal, and some logic to convert the data to the format you need for your TCG (it's a bit tough to get more specific w/ out knowing what format your TCG expects). You can find enough info on how to setup a 567 in the data sheets from the vendors who make them (Signetics, Nat'l Semi, etc.).

The 100 Hz tones used in the WWV/WWVH broadcasts are a variation of IRIG-H timecode, and the format is described in NIST Special Publication 432, so you might want to get a copy from your local GPO bookstore or try http://198.87.193.150/~clocks/clocks/clocks.html - the Web site has what I'll call an "unofficial" HTMLized version of NIST Special Publication 432. The tone decoder (and your receiver's RF/IF bandpass, plus propagation delays) will introduce delays which may or may not be tolerable for your use, so keep this in mind.

Hope this helps, & good luck -

TGB

\\ The opinions expressed herein are my own. //

5453. Re: What's circulator good for? was Re: How

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: burke_br@adcae1.comm.mot.com
Message-ID: <48v86e$etk@brokaw.comm.mot.com>
Source record: 109416

In article 389@rouge.usl.edu, jpd@ucs.usl.edu (Dugal James P.) writes:
}
}Perhaps I missed a posting on this point, but I think the circulator
}(or isolator) has the best benefit NOT of making the transmitter immune
}to SWR variations, but in keeping received RF out of the transmitter.
}Imagine a paging transmitter on a tower using 152.48 MHz. Now suppose
}a competitor locates their 157.74 transmitter on the same tower.
}What do you think the 3-rd order mixing product is? Yep, 147.22 MHz.
}Since pagers run rather high power, and often use no cavities, they
}help us keep our 2m band occupied :-(.
}
}73,
}--
}-- James Dugal, N5KNX Internet: jpd@usl.edu

So far I have been lucky, every place our club has sites,
all transmitters are required a circulator and cavity after it.

Circulators are non-linear devices too and the cavity helps keep them
from saturating and generating their own harmonics!

I have heard some horror stories about "paging only" sites - And the
attitude: "We don't create any intermod at all." Hard to
tell without a local receiver!

73,

Bruce, WB4YUC

5454. Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.6365.546@acenet.com>
Source record: 109417

Newsgroups: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.mi
rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb
rec.radio.noncomm,rec.radio.scanner,rec.radio.swap
From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

Well... that's pretty idiotic. Why not just E-mail the offending
individuals instead of spamming all of these groups yourself?
Keep it out of the gorups please! :-)

KVZ>If you guys want to spam all the rec radio amateur gorups I couldn't care l
KVZ>but why the H*ll are these stupid ham debate posts spilling into the
KVZ>shortwave, scanner and puzzles (among others) groups. Watch the
KVZ>reply lines guys. One spam is bad enough but when you all reply to all
KVZ>the groups it is just plain RUDE.

KVZ>Leave the rest of us in peace -- and if your must spam, do it via e-mail
KVZ>to the original poster and again, leave the rest of us in peace.

KVZ>Thanks for letting me rant. 73 //kvz

KVZ>--
KVZ>kv zichi, aa024@detroit.freenet.org
KVZ> (PGP Public Key Available on Request)
KVZ>"Lasciate ogni speranza, voi ch'entrante" --Dante
KVZ> Kind of appropriate for the Internet, eh?

 SLMR 2.1a Veni, Vidi, Velcro: I came, I saw, I stuck around.

5455. PC & SOUNDBLASTER AS ECHO REPEATER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: ed@fore.com
Message-ID: <48vrg8$47u@baleen.fore.com>
Source record: 109418

I saw an article on how to build an "Echo Repeater" using voice message chips, and want to experiment with such a thing and wonder if anybody has put together any software that performs such a function through a soundblaster.

It doesent seem like a hard thing to do.

Listen for input, store input, when input ends, play back input, beep, and ID every 10 minutes.

I expect its been done already, where can I ftp the code from?

73

Ed N3SDO

Ed@fore.com

5456. Re: QEX again...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: Jon Bloom <jbloom@arrl.org>
Message-ID: <4901u3$686@mgate.arrl.org>
Source record: 109419
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

jbaltz@vanakam.cc.columbia.edu (Jerry B Altzman) wrote:
>Today in the mail I received my *December* QST. (Note that it is only the
>13th of November; there are yet two weeks left in the month.)
>
>Has anyone to date received their September, October, or November QEX's?

Yes, I regret to say that we fell behind schedule. However, we are catching up. You should have received your September issue by now, or within the next few days at the latest (in North America, anyway). The October issue preview copies have come back to HQ from the printer, so those should be arriving in your mailboxes over the next couple of weeks. The November issue is at the printer and should be hitting mailboxes shortly after the October issue, and the December issue will go to the printer in early December for late December/early January delivery. Following issues will continue to creep back toward the normal schedule until things are back in order.

I apologize for the inconvenience and the delays. We'll get it fixed.

Jon Bloom, KE3Z | jbloom@arrl.org
Editor, QEX |
American Radio Relay League |
225 Main St., Newington CT 06111 |

5457. Re: frequency standard using GPS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <817116750.15019@pinetree.microserve.com>
Source record: 109420

joopv@etprs.seas.ucla.edu () wrote:
>Hi,
>
>I'm in need of a good frequency standard at 10 MHz for my counter.
>
>Does anybody know articles / equipment / diagrams etc to do this with
>a GPS receiver ? Is it usable for this purpose ?

At least two companies that I know of offer GPS receivers with internal (or external) disciplined oscillators. The versions I've discussed with them were needed in order to provide a 10 MHz reference, but I'm sure other frequencies are available.

The real question is, how much do you want to spend on this? The cost varies tremendously as a function of the inherent stability of the disciplined oscillator. We use these units to phase lock the cariers of banks of transmitters, and there really is no good substitute when multiple transmit sites are involved. That's particularly true given that we require a relative accuracy between transmit sites of < 1Hz at 2.5 GHz, and that the installations are often in countries where other on-air references are not available.

Unfortunately, the units we use typically sell for upwards of $4,000.00. This cost would come down somewhat if a less-expensive oscillator was substituted, but I suspect the bottom line for anything suitable for use with a counter would still run at least $2,500.00.

73,

Jack WB3U

5458. !!! WWW TECHNO SITES !!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-22 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <NEWTNews.817094126.21729.amsoft@486dx4_120>
Source record: 109421
Cross-posted to:
rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

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5459. Re: WWV propogation variability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-221195143415@160.205.101.24>
Source record: 109324

In article <ed221280@acxiom.com>, EFBRYA@acxiom.COM wrote:
>
> > [Previously, TGB had provided the following extract from NIST SP 432:]
> >
> >"WWV and WWVH are referred to the primary NIST Frequency Standard and
> >related NIST atomic time scales in Boulder, Colorado. The frequencies as
> >transmitted are accurate to about 1 part in 100 billion (1 x 10^-11) for
> >frequency and about 0.01 ms for timing. The day-to-day deviations are
> >normally less than 1 part in 1,000 billion (1 x 10^-12). However, the
> >received accuracy is far less due to various propagation effects. The
> >usable received accuracy is about 1 part in 10 million for frequency (1 x
> >10^-7) and about 1 ms for timing."
>
> I have seen this but it still leaves the question: WWV issues a signal.
> At the start of a certain tone my two clocks, no--call them triggers in
> this context, when my two triggers receive this tone they send a logic
> pulse. The two receivers are different distances from WWV (or WWVH or WWVB
> whatever). Say receiver R1 is 100 miles closer to WWV. Receiver R1
> triggers at T0 receiver R2 triggers at T0 + Tpropdelay100miles +/-
> Tpropdelayvariation. What is Tpropdelayvariation? Is it nanoseconds or
> microseconds? Given my locale the distance the signal must travel is much
> greater than the difference between the two receivers. I would expect a
> very small variation. The variation from one trigger tone from WWV to the
> next may vary much more due to the long path but the variation between my
> two receivers on the same trigger should be small.

Well, the answer will depend on the ionospheric conditions at the time, and
to some extent whether or not both sites are using the same receiving
frequency. I don't think you can count on variations of less than several
microseconds under relatively stable ionospheric conditions. Ionospheric
conditions near sunrise and sunset are liable to degrade the variations
significantly.

My intent of quoting from NIST Special Publication 432 was to give an order
of magnitude bound on the timing uncertainty from a credible government
publication without having to resort to doing a ionospheric propagation
study specific to your situation. Unfortunately, I didn't expess this
sentiment in my previous posting.

> While not pertinent to the main question above --The statements:
>
> "The frequencies as transmitted are accurate to about 1 part in 100 billion
> (1 x 10^-11) for frequency and about 0.01 ms for timing. The day-to-day
> deviations are normally less than 1 part in 1,000 billion (1 x 10^-12)."
>

> leave me somewhat confused. Are the timing indicators allowed to drift +/-
> .01ms from one signal to the next at the transmitter? If the daily
> deviations are 1 in 1000 billion (I assume this is on frequency) why so
> inaccurate?

Your question really should be posed to the folks @ NIST. I would suspect that their time code generator hardware has some inherent jitter (or was specified as such during design) which NIST has deemed tolerable relative to propagation variations.

> >Additionally, IMO one needs to consider the effect of local clock
> >oscillator drift at each site during periods of poor reception; for
>
> Yes! Am planning to build the local clocks in themos bottles with small
> light bulb for heating element. Should be able to hold better than +-1
> degree C. Will see what this does for drift.

This approach is IMO the right one; however, depending on the environmental extremes your oscillators will experience, you may have to consider a secondary oven surrounding your thermos bottle or at least some supplemental insulation to keep the oscillators within stability requirements.

> >If the 1 millisecond timing uncertainty quoted above is not "good enough"
> >for your purposes, consider using the time code embedded in the 60 kHz
> >WWVB
> >signal. As regards the the WWVB time code accuracy, NIST Special
> >Publication 432 states that "The BCD time code can be received and used
> >with an accuracy of approximately 0.1 ms."
>
> There are multiple freqencies from each station. Is this one known to be
> better than the others in terms of reception?

The choice of "best" WWV frequency depends on the propagation conditions between Fort Collins and your site, which will vary with time. For example, where I live there are periods where the best WWV signal is found at 5 MHz, other times at 10 MHz, still other times where the WWVH signal is almost overwhelming the WWV signal. Local RF noise sources may be strong enough to render a given WWV frequency useless as well. As always, YMMV.

> Another post said to use the ground wave signal at VLF. I think this was
> what he was refering to. Will this reach from Colorado to central Arkansas?

Yes, the 60 kHz WWVB signal should be receivable in Central Arkansas; I think the received electric field strength should be on the order of 300 to 400 microvolt/meter (this is from a rough mental picture of the field intensity curves, and of course corrections are welcome). Of course, manmade interference could be a problem so you might want to do a bit of investigation w/ a good ELF receiver before committing to the WWVB approach.

This may have been mentioned by the time I post this, but if the WWVB approach looks feasible, you might want to look at the January thru March

1994 issues of 73 magazine, where a WWVB receiver, frequency comparator and ovenized oscillator are described under the title of "Using the World's Most Accurate Frequency Standard." Other sources of relevant information can be found in the March 1976 issue of Ham Radio magazine, and in the August & Sept. 1973 issues of Radio-Electronics magazine.

TGB

\\ The opinions expressed herein are my own. //

5460. Pioneer KE-A530 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: candea@ATHENA.MIT.EDU
Message-ID: <492p7f$3dd@senator-bedfellow.MIT.EDU>
Source record: 109325
Cross-posted to: rec.radio.amateur.misc,rec.radio.cb,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,alt.radio.uk,aus.radio.amateur.misc

I apologize if I am posting this to the wrong newsgroup but I am in desperate need of advice. I have a Pioneer KE-A530 car radio + cassette that my friend removed from his car a while ago. I am not sure which wires go where because I don't have the manual anymore and there is no indication on the radio as to what each wire is. I would appreciate if any of you could tell how to make the connections (i.e. which is PWR, GND, speakers, etc.).

The wires are in three "bunches":

Bunch 1: blue
black

Bunch 2: green/black (2 wires)
gray/black (2 wires)

Bunch 3: black (this is definitely a GND -- connected to case)
red (has a 0.5 Amp fuse on it and a little box)
yellow
orange (this must be PWR -- it has a 0.5 Amp fuse)

I really appreciate your help. I reply to my personal e-mail address, as I do not read this newsgroup regularly.

Thank you,

5461. Re: Pioneer KE-A530 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: candea@ATHENA.MIT.EDU
Message-ID: <492pid$3fk@senator-bedfellow.MIT.EDU>
Source record: 109326
Cross-posted to: rec.radio.amateur.misc,rec.radio.cb,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,alt.radio.uk,aus.radio.amateur.misc

Sorry for the last paragraph... I meant I would appreciate if you replied to my personal e-mail address, as I do not read this newsgroup regularly.

Thanks a lot,

5462. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: pfeuffer@on-ramp.ior.com
Message-ID: <492qos$ibc@express.ior.com>
Source record: 109327
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

Society for the Preservation of Amplitude Modulation.

In article <48rbap$2um@maureen.teleport.com>, pcrest@teleport.com says...
>
>I'm new to this. What does "spam" mean? Is it Italian or Latin for
>something?
>

5463. Re: What is SPAM???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: flash@lopez.marquette.MI.US
Message-ID: <1995Nov23.220411.15807@lopez.marquette.MI.US>
Source record: 109328
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

In <491ju8$atm@ixnews2.ix.netcom.com> robert-s@ix.netcom.com (Robert I Sinclair) writes:

>Yes it is canned meat, yes it is spread on things and yes it is usually
>scorned!

>Spamming is a term for placing a message in many different groups on
>the net typically refering to advertising.

AND in Ham Radio, SPAM is a group.

The Society to Preserve Ancient Modulation. You know, those signals you hear
on 3885 on into the night....

--
/ Gary Bourgois, WB8EOH, The Birdwatcher: Marquette Michigan USA \
([-o Keeper of The r.v.s.t. FAQ, Wildfeeds List, and Radio Guides o-])
\ flash@lopez.marquette.mi.us REALAUDIO SITE AT: http://ttn.nai.net /
Friday Night Live T2/21 5.8 8PM-Midnight ET FAX: (906) 228-7477

5464. Re: Oil Filled Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4929nm$h04@news.azstarnet.com>
Source record: 109329

w8jitom@aol.com (W8JI Tom) wrote:
>In article <48vp8f$7fo@louie.udel.edu>, hanavin@stimpy.eecis.udel.edu
>(Chuck Hanavin) writes:
>
>>
>>The reason I ask, fair radio has, what they call, Energy
>>storage capacitors, 32UF @ 4500v. I was thinking about
>>buying a couple for my next transmitter project. Any reason
>>why they wouldn't work as a high voltage filter cap?
>>
>>Thanks for any info
>>
>>Chuck (WB3FJJ)
>
>Hi Chuck,
>
>I use the incorrect type of capacitors all the time here! They work fine
>and I have never recorded a failure. I've used dozens of them over the
>last 20 years! Perhaps they shouldn't be used in commercial service, but
>in amateur service they are, in my experience, perfectly fine.

My experience, although much more limited than Tom's, is the same.

>The main worry is the ESR of the capacitor causing internal heating and
>poor regulation. I have never found any energy storage cap to be a
>problem, even up to the 25 kW plate input power level.

Equivalent series resistance (ESR) could be a problem. Offhand, I don't know what the typical ESR of a photo flash cap is, or an oil-paper for that matter. The concern is high ripple normally encountered in capacitor input power supply filters. In effect, the capacitor is receiving large slugs of current at a 120 Hz rate. This (RMS) current (squared) times the ESR gives the power dissipated in the capacitor. Of possible concern too is the peak charging current. Typically, some type of inrush current limiting is used with capacitor input filters.

In my current application, a ~3500 VDC 1A supply, I'm using a 47uF 5000 V photoflash cap. However, I'm also using a resonant choke input to limit the ripple and improve regulation. I don't use much bleed current and with electronic bias switching in the amplifier, the voltage does soar some during standby. The ripple current during this time is low however, so there is minimal heating.

>I would just go ahead and use them. Be cautious of one thing, the terminal
>to case voltage rating generally does not allow for series connections
>unless special precautions are taken.

This is another concern of mine. I mounted my capacitor using Teflon insulation and let the case float.

73, Wes

5465. Re: Ramsey Kits..worth the money?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: Mike.Czuhajewski@bbs.abs.net
Message-ID: <1995Nov23.154852.13310@abs.net>
Source record: 109330

Re the comment on the Ramsey QRP rigs--a few years ago I testedthe 40M rig a friend built, looking at the output on two communications monitors and a "real" spectrum analyzer by Hewlett Packard. All three agreed: the second harmonic was 20 dB below the carrier, which failed by 10 dB to meet the minimum FCC requirement of at least 30 dB (which rises to 40 dB for rigs over 5 watts output). I added in a supplemental filter, 5 element Chebyshev, cutoff 7.5 MHz, 0.1 dB ripple, and now the second harmonic is 51 dB below the carrier; insertion loss dropped the power from 1.6 to 1.53 watts, hardly excessive.

The stock filter in the 40M Ramsey has 3 elements. Anyone knowledgeable about filters will instantly realize that using a 3 element filter on a Class C amp is begging for trouble with excessive harmonic levels at the output. (My article on this subject will be in the January issue of the QRP Quarterly).

5466. Re: Ramsey Kits..worth the money?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <490e76$ce5@news1.inlink.com>
Source record: 109331

Dan Hughes <danhughe@indiana.edu> wrote:

>I am considering purchasing a Ramsey 20 meter qrp outfit. I was wondering
>if anyone out there had any comments on Ramsey and their kits, both good
>and bad.

>Thanks all,

>Dan N9ZTO

You get what you pay for!
Consider the price, the quality is comperable.
I have several Ramsey kits that I have built, some are great, some not
so great, but dollar for dollar, you can't buy the components
wholesale cheaper, thus buy the kit and mod it to your own specs.

Gary - KG0ZP

5467. Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: Thomas Martin <tmartin@teclink.net>
Message-ID: <492e1b$8cp@felix.teclink.net>
Source record: 109332

Does anyone have some plans for a small audio amp. I need to build one for a small ham related project I am working on. Any help greatly appreciated.

Thanks alot...
Thomas Martin (N5ZNO)
tmartin@teclink.net

5468. Re: Panel Mount Air Variable Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: wvanho@infinet.com
Message-ID: <491qqc$3tf@horus.infinet.com>
Source record: 109333

D W Hemphill KC5NG (QRP%mimi@magic.itg.ti.com) wrote:
: I find them at hamfests and swap meets. Ask around on 2-meters.

: I have a bunch of them in my junkbox, but I have no idea what
: any of their values are, as most are unmarked. If you have a
(lots of deletions)

Geez OM, how much accuracy do you need in knowing the value of a variable capacitor? You can certainly measure them to plus/minus 20-percent, or better, just by winding a coil according to a reasonably accurate inductance calculation, put it in parallel with the capacitor and measure its resonant frequency with a calibrated receiver. Isn't that good enough for almost any purpose?

I have some "standard" coils I wound on stable forms and measured their inductances with a borrowed meter. Now I can measure capacitance and inductance within 5-percent, or better, using the same technique. Maybe you could find a local ham who could take your unknown coils to his work place at a commercial, or university, lab and put really accurate values on them for you.

73, and good luck!

Van - W8UOF
wvanho@infinet.com

5469. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <817088348snz@lfheller.demon.co.uk>
Source record: 109334

In article <48rbap$2um@maureen.teleport.com>
pcrest@teleport.com "Daniel Calzaretta" writes:

>
> I'm new to this. What does "spam" mean? Is it Italian or Latin for
> something?

It comes from the John Cleese et al Monty Python "Spam" sketch. The chorus
went "Spam! Spam! Spam! ..."

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

5470. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: ve7zvz@dowco.com
Message-ID: <ve7zvz-2311950115060001@206.12.26.34>
Source record: 109335
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

In article <48lekf$b9k@detroit.freenet.org>, aa024@detroit.freenet.org
(Kenneth Vito Zichi) wrote:

-> If you guys want to spam all the rec radio amateur gorups I couldn't
care less
-> but why the H*ll are these stupid ham debate posts spilling into the
-> shortwave, scanner and puzzles (among others) groups. Watch the
-> reply lines guys. One spam is bad enough but when you all reply to all
-> the groups it is just plain RUDE.
->
-> Leave the rest of us in peace -- and if your must spam, do it via e-mail
-> to the original poster and again, leave the rest of us in peace.
->
-> Thanks for letting me rant. 73 //kvz
->
->
-> --
-> kv zichi, aa024@detroit.freenet.org
-> (PGP Public Key Available on Request)
-> "Lasciate ogni speranza, voi ch'entrante" --Dante
-> Kind of appropriate for the Internet, eh?

The root cause of this problem are the 'original' postings of one BURT FISHER.
His garbage gets replied to by others who inadvertently post to all the
newsgroups the original spammer included in the distribution list.

In the future forward a copy of spam messages from Burt Fisher to the
postmaster at his service provider. Fisher's address is:
k1oik@ccsnet.com therefore you can forward his crap back to place it came
from at postmaster@ccnet.com.

If enough of us do it he will get tired of it and take steps to stop it.
There is no need to even write anything on the forwarded message. They
know who Burt Fisher is, do you think your the first one to complain!? :)

--
Scott Leaf VE7ZVZ
ve7zvz@dowco.com
Port Coquitlam, British Columbia, Canada
Mountain DX Club VA7SM - "To boldy VHF where no ham has VHFed before"

5471. Re: Societies Unwashed: The sin and the apology

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: Steve Sampson <ssampson>
Message-ID: <49233r$ke@news.icon.net>
Source record: 109336
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

I used to be shocked when my private electronic mail was published. About as shocked as my love letters being printed in a book. I find there are no morals in America, and no self discipline. Only a scum would resort to publishing a private letter. I used to put a little line in my signature that said PRIVATE, but then the scum just erased that part.

I'm glad you identified the scum who published your private mail. Said scum should be banished from the net. Write his postmaster.

5472. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: demetre@helios.intranet.gr
Message-ID: <4918ao$2hl@helios.intranet.gr>
Source record: 109337
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

Cal Eustaquio (ceustaqu@hertz.elee.calpoly.edu) wrote:
: Dan:
: One meaning may be for "Society for the Presevation of Amplitude
: Modulation." Otherwise, its a generic term for a meat product that was
: invented during WW2 that is still put out in the market by Hormel (I think).

: On 21 Nov 1995, Daniel Calzaretta wrote:

: > I'm new to this. What does "spam" mean? Is it Italian or Latin for
: > something?
: >
: >
: >

Isn't SPAM a sort of processed caned meat ????

73's

5473. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: skuter@tcgcs.com
Message-ID: <492ab0$jfm@alterdial.UU.NET>
Source record: 109338
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

Daniel Calzaretta <pcrest@teleport.com> wrote:

>I'm new to this. What does "spam" mean? Is it Latin or Italian for
>something?

Aside from being a processed nuclear survival food, spam has its own endearing definition as it related to the Internet.

"Spamming" is when a message is posted to serveral, even all, newsgroups at once. Prime examples of spamming occur when some goober posts a "Make 20 Zillion Dollars by Picking Your Nose" post to every single newsgroup in existence. Then, in each of those newsgroups 50 people post a response saying "I picked my nose and only made $.73 you &***#$%!!!!". Most usenet programs will then post that reply to every group the original post appeared in.

I notice that I am posting this response to all the rec.radio.xxx groups. Since I don't know where this thread originated, I'll leave it that way....and now I too have become a "spammer"!!!

Hope it is now clear as mud!

Scott Eveland Ham call: KB0FKN
skuter@tcgcs.com skuter911@aol.com
Dispatcher Hastings (NE) PD
Reserve Officer Hastings (NE) PD
Reserve FF/EMT-A Hastings (NE) FD
Boy, I do too much....
And nothing I say here represents the opinions
of either of the above departments.

5474. Re: THE biggest THE ham THE problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: skuter@tcgcs.com
Message-ID: <492aib$jfm@alterdial.UU.NET>
Source record: 109339
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

aranders@kosepc01.delcoelect.com (Alan Anderson) wrote:

>It's a different culture, Burt, and you're experiencing culture shock.
>Amateur Radio has been around a lot longer than you have, and it has
SNIP
>Don't flame them lest you be burned yourself. (Oh, sorry. Too late.)

>= === === === = = = === === === === = = === = = = === = = === =
># Alan Anderson # Ignorance can be fixed, but stupidity is permanent. #
> (I do not speak for Delco Electronics, and DE does not speak for me.)

Wow Alan! As a former subsciber of Ham-L, and primarilly a lurker to
the rec.radio.xxx groups, I've never seen anybody with such a
well-written rebuttal for one of Burt's tired old questions.

I hope someday Burt will stop asking the same old questions, and maybe
even get out of the hobby he so dearly hates.

Scott Eveland Ham call: KB0FKN
skuter@tcgcs.com skuter911@aol.com
Dispatcher Hastings (NE) PD
Reserve Officer Hastings (NE) PD
Reserve FF/EMT-A Hastings (NE) FD
Boy, I do too much....
And nothing I say here represents the opinions
of either of the above departments.

5475. Re: WWV propogation variability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: kr4ah@bga.com
Message-ID: <4922b8$33h@giga.bga.com>
Source record: 109340

In article <ed221280@acxiom.com>, EFBRYA@acxiom.COM wrote:

> While not pertinent to the main question above --The statements:
>
> "The frequencies as transmitted are accurate to about 1 part in 100 billion
> (1 x 10^-11) for frequency and about 0.01 ms for timing. The day-to-day
> deviations are normally less than 1 part in 1,000 billion (1 x 10^-12)."
>
> leave me somewhat confused. Are the timing indicators allowed to drift +/-
> .01ms from one signal to the next at the transmitter? If the daily
> deviations are 1 in 1000 billion (I assume this is on frequency) why so
> inaccurate?

It has been a while since I've worked with extremely accurate time standards, but here is the situaion as well as I can remember. The time standard is based on a series of cesium-beam oscillators (or atomic clocks) that use some sort of intelligent averaging to feed the master time standard oscillator.

It should be obvious that it would be fairly easy to lock the frequency of the transmitter to this time standard. It is just annother oscillator.

The "time burst" is an audio signal that has to be detected. That means that the audio has to rise to a detectable level and that is a function of the audio frequency, not the time standard or the transmitter frequency. 0.01 ms seems incredibly accurate in this context. Does anyone know what WWV's highest audio frequency is in the "time burst" ? What does Nyquist have to say about this?

That is why, for any kind of accurate time, you need to keep your own local standard and use WWV, WWVH or WWVB as corrections rather than primary frequency sources.

--
John Meaker -=- kr4ah

5476. Re: antenna switch reactance

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <DIIFrM.I8s@eskimo.com>
Source record: 109341

In article <9511210452.AA08671@wizard.ucs.sfu.ca>,
paul1@wizard.ucs.sfu.CA (Paul Erickson) wrote:
>I am in the process of doing a bit of antenna experamenting and in order
>to make antenna changing easier I built a coax switch in a small metal
>box and some bnc's. Not suprisingly, the box introduces enough reactance
>to effect the tuning of the individual antennas. All the antennas a
>fed with 300ohm twinlead with individual tuners. I'm wondering if I should
>attempt to tune out the reactance in the box or just leave well enough
>alone and simply adjust the tuners to compensate.
>
>Suggestions will be greatly appreciated.
>
>cheers, Paul
>VE7CQK
>email: paul1@wizard.ucs.sfu.ca
>

You might try this as a quick and dirty fix: in my commercially-made antenna switch box there is a 10pf capacitor from the output connector to ground for just that purpose. Your box will need a different value no doubt, so a variable might be a good choice. If that doesn't fix it, don't lose a lot of sleep over it. Assuming your leads are all fairly short, the amount of reactance introduced won't matter much.

73, Bill W7LZP
wrt@eskimo.com

5477. Undelivered Mail

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: MAILER-DAEMON@cris.COM
Message-ID: <199511231309.IAA06335@deathstar.cris.com>
Source record: 109342

```
? Serious error sending mail to 'Empee@cris.com' ...

? IGEMAIL06 -- MAIL-BOX is not writable.
? IGEMAILEP -- Return to sender. Message undelivered.

Undelivered message:

>From owner-ham-homebrew@UCSD.EDU Thu Nov 23 08:08:59 1995
Return-Path: <owner-ham-homebrew@UCSD.EDU>
Received: from mail.ucsd.edu by deathstar.cris.com [1-800-745-CRIS (voice)]
Received: by mail.ucsd.edu; id DAA15487
sendmail 8.6.12/UCSD-2.2-sun
Thu, 23 Nov 1995 03:20:57 -0800 for ham-homebrew-list
Errors-To: ham-homebrew-relay@UCSD.EDU
Sender: ham-homebrew-relay@UCSD.EDU
Precedence: List
Received: by mail.ucsd.edu; id DAA15467
sendmail 8.6.12/UCSD-2.2-sun
Thu, 23 Nov 1995 03:20:54 -0800 for ham-homebrew-ddist
Message-Id: <199511231120.DAA15467@mail.ucsd.edu>
Date: Thu, 23 Nov 95 03:20:52 PST
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Errors-To: Ham-Homebrew-Errors@UCSD.EDU
Reply-To: Ham-Homebrew@UCSD.EDU
Precedence: List
Subject: Ham-Homebrew Digest V95 #397
To: Ham-Homebrew@UCSD.EDU

Ham-Homebrew Digest Thu, 23 Nov 95 Volume 95 : Issue 397

Today's Topics:
[Q] Papers about Microstrips.
Chassis punch for Octal Socket
CW filter in LSB on FT-890
Ferrite antennas in Pager receivers
frequency standard using GPS? (2 msgs)
Help with Neophyte reciever!
Icom Modification... (2 msgs)
Oil Filled Caps
PC & SOUNDBLASTER AS ECHO REPEATER
Photoreceptors for Flying Spot Scanner
Ramsey Kits..worth the money?
Sams Photofact
Tek 604 CRT Display Diagram?
What's circulator good for? was Re: How
WWV propogation variability
```

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 22 Nov 1995 17:20:00 GMT
From: Hans Insulander <ib94_hin@isk.kth.se>
Subject: [Q] Papers about Microstrips.

Hi!

Does anyone know about a FAQ or something about striplines?

/Hans Insulander SM0UTY ib94_hin@isk.kth.se

Date: 21 Nov 1995 13:46:59 GMT
From: Tfugate@service1.uky.edu (Terry Fugate)
Subject: Chassis punch for Octal Socket

In article <48rhji$bg2@usenetw1.news.prodigy.com>, FJEX69A@prodigy.com (Jeffrey Hill)
says:
>
>I'm upgrading the final amp in my Swan 270B to a 6146B from a 6LQ6. I got
>a nice tube from Red China and a ceramic octal socket and went at it
>soldering iron a-smokin'.
>
>The reason for this project is that 6LQ6's go for $42 each, when you can
>find them but Commie 6146B's go for $12. Also the 6146B has 20% more
>plate dissipation, which is dearly needed in this design.
>
>What I did not foresee is that the original hole for the 9-pin socket is
>too small to accomodate the octal socket. I don't want to use a crude
>method to modify the chassis so I am hoping to find a kindly ham who will
>lend the proper tool for this job. I will bear all expenses and pay a
>small fee to such an individual.
>
>Thank you- AC4AQ
>
>
>
>PS I know the heater current is different- thanks.
I loaned or lost my octal punch long ago, you might have better luck
tracking down a local electrician. Most of them have a good
array of punches(the more inovative will have hydrolic(sp) punches)
and will shouldn't charge too much to punch it. I bet if you

check on the air, you even have some hams locally who are
electricians.
Just a thought.
.....
Terry Fugate
UKTV
University of Kentucky
"The opinions expressed herein are mine, and soley mine. They do not
represent the official view of the University of Kentucky,
the State of Kentucky, or any agency of any government.
If you do not like my opinion, just get on with your life.
I will not change your mind and you damn sure can not change mine."

Date: Tue, 21 Nov 1995 16:35:56 -0800
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Subject: CW filter in LSB on FT-890

There is a fairly complicated proceedure for doing something like this in
the FT 890. I wrote Chip Margelli at Yaesu about this in an effort to
use the 500 Hz filter on Pactor. He mailed a reply in which this is done
but not easily! You might ask for this ap note as a start., Cliff W6HDO

On 21 Nov 1995, tom medin wrote:

> anybody have any idea how i can logically switch in the CW filter when
> i am in LSB on the Yaesu FT-890?
>
>
> t medin
> n0ufm
>
>

Date: Wed, 22 Nov 1995 06:23:08
From: lukes@iaccess.za (Vivesco cc)
Subject: Ferrite antennas in Pager receivers

I would like to use a ferrite antenna similar to that used in pager receivers.

Can anyone please help me with:

1. Who manufactures the antennas?
2. Where can I get information on how to design such an antenna?

They seem to be in wide use in pagers.

Thank you

Lucas Gertenbach
lukes@iaccess.za

Date: 22 Nov 1995 03:10:45 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: frequency standard using GPS?

In article <48pp9m$g10@news2.delphi.com>, Joanne Dow <jdow@BIX.com> wrote:
>In article <48ij9i$676@tuegate.tue.nl>, joopv@etprs.seas.ucla.edu () wrote:
>>Hi,
>>
>>I'm in need of a good frequency standard at 10 MHz for my counter.
>>
>>Does anybody know articles / equipment / diagrams etc to do this with
>>a GPS receiver ? Is it usable for this purpose ?
>
>Most are not. Usually there is only a software phaselocked loop with an

Most are not suitable because they don't have 1 pulse per second (1 PPS) outputs.
However, 1 PPS outputs are available. For example, the Motorola Oncore
engine has 1 PPS as an extra cost option.

>oscillator in the receiver of at best TCXO accuracy levels. Therefore there is
>no handy frequency available to tap off a real 10.23MHz signal.

You don't need to tap off a 10.23 MHz. signal. What you do is phase lock
a crystal oscillator to the 1PPS signal by dividing the oscillator signal
down to 1 Hz. and comparing to the 1PPS signal. The accuracy you get is
dependent on how stable your oscillator is, what the time constant of the
phase locked loop is, and the resolution of your phase detector.

In the Hewlett-Packard GPS timing receiver we make at this division, we
approach an accuracy of 1 part in 10^12 for 1 day averaging.

If you just want to check the accuracy of your counter, simply measure
the period of the 1 PPS output with averaging turned on. You can adjust your
counter's timebase until it reads exactly 1 second.

>All the satellites are on slightly different frequencies as they reach the
>receiver due to Doppler shift. Hence the PLL is necessary anyway. So aside
>from making acquisition faster there is little or no need for a very accurate
>clock in a GPS receiver even though GPS can be used as a source for a time
>standard. (And I think there is at least one company making a standard
>stabilized by a custom GPS receiver.)

Yes, a fellow from here left and started a company to do that.
Theoretically, it should be better.
The jury is still out on the merits of that architecture.

>
>If your local TV station uses modern practice and stabilizes their color
>subcarrier with a rubidium or cesium standard you can get quite accurate results

That "modern" practice was discontinued at least 10 years ago.

>>73 Joop, pe1dna
>>joopv@etprs.phys.tue.nl
>>PE1DNA @ PI8ZAA.#NBO.NLD.EU
>>
>
>{^_^} Joanne Dow The Wizardess
>

Rick Karlquist N6RK
rkarlqu@scd.hp.com

Date: Wed, 22 Nov 95 20:49:27 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: frequency standard using GPS?

joopv@etprs.seas.ucla.edu () wrote:
>Hi,
>
>I'm in need of a good frequency standard at 10 MHz for my counter.
>
>Does anybody know articles / equipment / diagrams etc to do this with
>a GPS receiver ? Is it usable for this purpose ?

At least two companies that I know of offer GPS receivers with internal (or external) disciplined oscillators. The versions I've discussed with them were needed in order to provide a 10 MHz reference, but I'm sure other frequencies are available.

The real question is, how much do you want to spend on this? The cost varies tremendously as a function of the inherent stability of the disciplined oscillator. We use these units to phase lock the cariers of banks of transmitters, and there really is no good substitute when multiple transmit sites are involved. That's particularly true given that we require a relative accuracy between transmit sites of < 1Hz at 2.5 GHz, and that the installations are often in countries where other on-air references are not available.

Unfortunately, the units we use typically sell for upwards of $4,000.00. This cost would come down somewhat if a less-expensive oscillator was substituted, but I suspect the bottom line for anything suitable for use with a counter would still run at least $2,500.00.

73,

Jack WB3U

Date: Tue, 21 Nov 1995 12:30:22 -0800
From: Joshua Peter Morton <jomorton@u.washington.edu>
Subject: Help with Neophyte reciever!

Hey all you usenet guys can anyone tell me a company that ships parts for the neophyte reciever described in the Feb 1988 issue of QST? Also can you give me the company's price and shipping charge (UPS or other cheap path) as I plan to money order. I specifically need the Signetics NE602N mixer/oscilator IC and a 386-pF air-dielectric varible capacitor (these are very hard to find it seems. Please help me as this is my first circuit and not finding these parts is very frustrating! :(

email addresses of the company would also be much appreciated.

please contact me via email and if you find my question irritating on this group please send me your flame to my email and not to the group.

"Mathmatics can't prove everything. I proved it!" Kurt Godel.
"Hofstadter is cool and Steve Stow is too." Joshua Morton KJ7IN

Date: 22 Nov 1995 00:45:27 GMT
From: davidole@uoguelph.ca (David O'Leary)
Subject: Icom Modification...

Greetings all,

A quick question.... I have an older Icom HT, whose exact model I cannot remember right now. I really don't need it for use on 2m 144 MHz + that it is set for. Is there any way to take a full 100 MHz off of this unit and still have it work? Could it be modified to transmit in the 44+ MHz range or will and such modification completely destroy the transmit ability of the radio.....

Just thinking about the possibility of this sort of thing..... Any advice would be most appreciated.....

Dave O'Leary
VE3TZV

Date: 22 Nov 1995 00:45:27 GMT
From: davidole@uoguelph.ca (David O'Leary)
Subject: Icom Modification...

Greetings all,

A quick question.... I have an older Icom HT, whose exact model I cannot remember right now. I really don't need it for use on 2m 144 MHz + that it is set for. Is there any way to take a full 100 MHz off of this unit and still have it work? Could it be modified to transmit in the 44+ MHz range or will and such modification completely destroy the transmit ability of the radio.....

Just thinking about the possibility of this sort of thing..... Any advice would be most appreciated.....

Dave O'Leary
VE3TZV

Date: Wed, 22 Nov 1995 22:32:17 +0000
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Subject: Oil Filled Caps

In article: <48vp8f$7fo@louie.udel.edu> hanavin@stimpy.eecis.udel.edu
(Chuck Hanavin) writes:
:
: What's the story on oil filled capacitors ? Are they
: all alike? I remember years ago, someone telling me about
: some caps that looked like oil filled, had high capacitance
: and high voltage ratings, but were unsuitable for power
: supply filtering. I think they were used with some-kind of
: photographer set up.

Photoflash, that would have been, and the dielectric is probably some kind
of plastic rather than oil-soaked paper.

:
: The reason I ask, fair radio has, what they call, Energy
: storage capacitors, 32UF @ 4500v. I was thinking about
: buying a couple for my next transmitter project. Any reason
: why they wouldn't work as a high voltage filter cap?

Obviously I can't speak for these particular components, but I've tried two
photoflash energy storage caps and each one went dead-short after a few
years (followed by a chorus of "We told you so!" from GW4FRX and other
friends).

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

Date: 22 Nov 1995 13:51:52 -0500
From: ed@fore.com (Ed Bathgate)
Subject: PC & SOUNDBLASTER AS ECHO REPEATER

I saw an article on how to build an "Echo Repeater" using voice message
chips, and want to experiment with such a thing and wonder if anybody has
put together any software that performs such a function through a soundblaster.

It doesent seem like a hard thing to do.

Listen for input, store input, when input ends, play back input, beep, and
ID every 10 minutes.

I expect its been done already, where can I ftp the code from?

73

Ed N3SDO

Ed@fore.com

Date: 21 Nov 1995 13:39:52 GMT
From: Tfugate@service1.uky.edu (Terry Fugate)
Subject: Photoreceptors for Flying Spot Scanner

In article <48m8od$ggn@nntp.Stanford.EDU>, stevem@w6yx.stanford.edu (Steve Muther) says:
>
>
>What? A flying spot scanner in today's world!
>
>I was thinking of what I should do with a couple of surplus
>video camera viewfinders (about a 1 inch video monitor) in my
>junk pile when it occured to me that they might make an
>interesting flying spot scanner for viewing or transmitting
>slides on ATV.
>
>In the old days, they used photomultiplier tubes for the
>receptor element. I have not done much work with solid state
>photo sensitive devices so I was wondering what might work
>best. I am looking at cds cells, photovoltaics, photo transistors
>and diodes etc. I do not have a good understanding of which
>might be best in terms of response time, linearity etc. and
>was wondering if anyone had any suggestions. Is there a
>device I have overlooked?
>
>I was thinking of 3 devices with RGB filters and one of the
>many RGB encoder chips to do most of the processing. I will
>get synch from my ATV camera or test generator to form the
>raster on the CRT. That will make for nice, in phase, switching
>between video sources.
>
>Thanks in advance.
>
>Steve Muther WF6R

Back 25 years ago while ain school, we had some "BK" flying spot
scanners that we used to set up TVs. They used "slides" about 4"
square. Any modern photransistor should work. What will "kill"
the project is the phospher decay time. The BK scanners had a
purple phospher, I called the comapnay to find out why(inquiring
minds and all), and was told that that phospher(and I can not for
love nor money remember the P#) had almost no decay time. This was
to prevent any residual(sp) light from messing up the image.
A standard TV crt has a moderate decay, this will fill in any
black areas. It seems that you could use a P7 scope tube(yea I know
how difficult it is to get sweep voltages high enouge to operate

an electrostatic sweep, current is easier to get these days
than voltage) and a filter to remove the long persitance glow.
I think the fast phospher in a p7 is purple(maybe the same right) and
the long persitance phospher was greenish/yellow.(it has be at least
20 years since I last played with p7 crts for wefax/sstv)
I would be more tempted to just get a "cheap" camera(either bw ccd, or
find a modern camcorder with a color ccd pickup) and go that route.
It would be cheaper, faster and probably work better.
I am a TV engineer at the University of Kentucky and I have trouble
excited about ATV. I can reach the whole US woht about 50 watts...
into our 6.1mtr Ku uplink. I feel kind of sorry for some of our local
atv'ers, they run 75-100watts and get about 10-15miles(in the winter,
after the 440 eating trees lose their leaves that increases somewhat).
Good luck
Terry WN4ISX

.....
Terry Fugate
UKTV
University of Kentucky
"The opinions expressed herein are mine, and soley mine. They do not
represent the official view of the University of Kentucky,
the State of Kentucky, or any agency of any government.
If you do not like my opinion, just get on with your life.
I will not change your mind and you damn sure can not change mine."

Date: Thu, 23 Nov 1995 00:14:27 GMT
From: raiar@inlink.com (Gary V. Deutschmann, Sr.)
Subject: Ramsey Kits..worth the money?

Dan Hughes <danhughe@indiana.edu> wrote:

>I am considering purchasing a Ramsey 20 meter qrp outfit. I was wondering
>if anyone out there had any comments on Ramsey and their kits, both good
>and bad.

>Thanks all,

>Dan N9ZTO

You get what you pay for!
Consider the price, the quality is comperable.
I have several Ramsey kits that I have built, some are great, some not
so great, but dollar for dollar, you can't buy the components
wholesale cheaper, thus buy the kit and mod it to your own specs.

Gary - KG0ZP

Date: 21 Nov 1995 23:17:36 -0500
From: walshults@aol.com (WalShults)

Subject: Sams Photofact

Hello,

Is there anyway to download Sams books via the internet?

Thanks for reading.

Wal

Date: 21 Nov 1995 11:44:49 -0700
From: galen@lamar.ColoState.EDU (Watts)
Subject: Tek 604 CRT Display Diagram?

I have a Tektronics model 603 CRT display unit. It has a little problem with
with it's -30 volt supply (it's only -25.6 volts, manual sez -30 exactly) and
the manual I have is a poor photocopy, missing some horizontal lines, etc.

Does anyone know where to get a better copy or even a real manual? I only
need the diagram marked 'Low Voltage Power Supply/Regulators' and is a
schematic of same. The bottom says (I think): "603/604 Rev H June 1976'.

havin' fun,
galen, KF0YJ

Date: 22 Nov 1995 13:22:22 GMT
From: burke_br@adcae1.comm.mot.com (Bruce Burke)
Subject: What's circulator good for? was Re: How

In article 389@rouge.usl.edu, jpd@ucs.usl.edu (Dugal James P.) writes:
}
}Perhaps I missed a posting on this point, but I think the circulator
}(or isolator) has the best benefit NOT of making the transmitter immune
}to SWR variations, but in keeping received RF out of the transmitter.
}Imagine a paging transmitter on a tower using 152.48 MHz. Now suppose
}a competitor locates their 157.74 transmitter on the same tower.
}What do you think the 3-rd order mixing product is? Yep, 147.22 MHz.
}Since pagers run rather high power, and often use no cavities, they
}help us keep our 2m band occupied :-(.
}
}73,
}--
}-- James Dugal, N5KNX Internet: jpd@usl.edu

So far I have been lucky, every place our club has sites,
all transmitters are required a circulator and cavity after it.

Circulators are non-linear devices too and the cavity helps keep them
from saturating and generating their own harmonics!

I have heard some horror stories about "paging only" sites - And the
attitude: "We don't create any intermod at all." Hard to
tell without a local receiver!

73,

Bruce, WB4YUC

Date: 22 Nov 95 15:46:00 GMT
From: EFBRYA@acxiom.COM
Subject: WWV propogation variability

This is a Mime message, which your current mail reader
may not understand. Parts of the message will appear as
text. To process the remainder, you will need to use a Mime
compatible mail reader. Contact your vendor for details.

--IMA.Boundary.389225587
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 7bit
Content-Description: cc:Mail note part

Mr. Booth wrote:

In article <ecb96940@acxiom.com>, EFBRYA@acxiom.COM wrote:
>
>
>>
>> I am looking at a couple things that would use WWV time service. I
>> need to know about variations in prop delay over a short distance and
>> moderate time periods. If two stations are separated by 300 miles or
>> so what amount will the prop delay change relative to each other?
>> This change is other than the delay due to the differences in distance
>> from the transmiter which can be modeled as a constant. In other
>> words, if the signal is used to drive clockx that have a constant
>> compensation for the prop delay due to distance what is the worst time
>> difference in the two clocks?
>>
>> EFBryan

>"WWV and WWVH are referred to the primary NIST Frequency Standard and
>related NIST atomic time scales in Boulder, Colorado. The frequencies as
>transmitted are accurate to about 1 part in 100 billion (1 x 10^-11) for
>frequency and about 0.01 ms for timing. The day-to-day deviations are
>normally less than 1 part in 1,000 billion (1 x 10^-12). However, the
>received accuracy is far less due to various propagation effects. The
>usable received accuracy is about 1 part in 10 million for frequency (1 x
>10^-7) and about 1 ms for timing."

I have seen this but it still leaves the question: WWV issues a signal.
At the start of a certain tone my two clocks, no--call them triggers in
this context, when my two triggers receive this tone they send a logic

pulse. The two receivers are different distances from WWV (or WWVH or WWVB whatever). Say receiver R1 is 100 miles closer to WWV. Receiver R1 triggers at T0 receiver R2 triggers at T0 + Tpropdelay100miles +/- Tpropdelayvariation. What is Tpropdelayvariation? Is it nanoseconds or microseconds? Given my locale the distance the signal must travel is much greater than the difference between the two receivers. I would expect a very small variation. The variation from one trigger tone from WWV to the next may vary much more due to the long path but the variation between my two receivers on the same trigger should be small.

While not pertinent to the main question above --The statements:

"The frequencies as transmitted are accurate to about 1 part in 100 billion (1 x 10^-11) for frequency and about 0.01 ms for timing. The day-to-day deviations are normally less than 1 part in 1,000 billion (1 x 10^-12)."

leave me somewhat confused. Are the timing indicators allowed to drift +/- .01ms from one signal to the next at the transmitter? If the daily deviations are 1 in 1000 billion (I assume this is on frequency) why so inaccurate?

>Additionally, IMO one needs to consider the effect of local clock
>oscillator drift at each site during periods of poor reception; for

Yes! Am planning to build the local clocks in themos bottles with small light bulb for heating element. Should be able to hold better than +-1 degree C. Will see what this does for drift.

>If the 1 millisecond timing uncertainty quoted above is not "good enough"
>for your purposes, consider using the time code embedded in the 60 kHz
>WWVB
>signal. As regards the the WWVB time code accuracy, NIST Special
>Publication 432 states that "The BCD time code can be received and used
>with an accuracy of approximately 0.1 ms."

There are multiple freqencies from each station. Is this one known to be better than the others in terms of reception? Another post said to use the ground wave signal at VLF. I think this was what he was refering to. Will this reach from Colorado to central Arkansas?

Thanks for the thoughts!
--IMA.Boundary.389225587--

End of Ham-Homebrew Digest V95 #397
****

5478. Re: Want 6JH8 or 7360

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <492a74$h04@news.azstarnet.com>
Source record: 109343

kurt@ksode.pp.fi (Kurt Soderstrom) wrote:
>Does anyone know of a source for this (these) Beam Deflection Tubes
>(Valves).
>Please answer via email to: kurt@ksode.pp.fi
>or
>this newsgroup.
>
>kurt
>
Kurt

Antique Electronic Supply,
6221 S. Maple Ave.
Tempe, AZ 85283

Voice 602-820-4643
Fax 800-706-6789

Lists 6JH8 at $5.20 (US)
7360 at $41.20 (US)

73, Wes

5479. Re: Oil Filled Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <491qlh$khm@newsbf02.news.aol.com>
Source record: 109344

In article <48vp8f$7fo@louie.udel.edu>, hanavin@stimpy.eecis.udel.edu (Chuck Hanavin) writes:

>
>The reason I ask, fair radio has, what they call, Energy
>storage capacitors, 32UF @ 4500v. I was thinking about
>buying a couple for my next transmitter project. Any reason
>why they wouldn't work as a high voltage filter cap?
>
>Thanks for any info
>
>Chuck (WB3FJJ)

Hi Chuck,

I use the incorrect type of capacitors all the time here! They work fine and I have never recorded a failure. I've used dozens of them over the last 20 years! Perhaps they shouldn't be used in commercial service, but in amateur service they are, in my experience, perfectly fine.

The main worry is the ESR of the capacitor causing internal heating and poor regulation. I have never found any energy storage cap to be a problem, even up to the 25 kW plate input power level.

I would just go ahead and use them. Be cautious of one thing, the terminal to case voltage rating generally does not allow for series connections unless special precautions are taken.

73 Tom

5480. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <490mim$ofc@nnrp3.news.primenet.com>
Source record: 109422
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Daniel Calzaretta (pcrest@teleport.com) wrote:
: I'm new to this. What does "spam" mean? Is it Latin or Italian for
: something?

The word "Spam" is a trade named registered with Hormel. It is
short for "Spiced Ham." Disgusting stuff, but it kept a lot of people
alive in the field during WWII. It was used so much in Britain, that it
is still served in restauraunts for breakfast. Fried, usually. Quite good
when cooked that way.

--
Regards,

Chris

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo--

5481. Re: Need Help - Parallel!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-23 00:00:00 UTC
From: mulveyr@vivanet.vivanet.com
Message-ID: <490on6$442@vivanews.vivanet.com>
Source record: 109423

The2X4 (the2x4@aol.com) wrote:
: In article <48dq7b$8ji@linet02.li.net>, thom@newshost.li.net (Thom)
: writes:

: >
: >For example I'm presently building a keyer which call for a 91K resitor.
: >I have a 100K resistor, so how do I (in a simple manor) determine what
: >value to put across the 100K? (Now in reality I'll wind going with the
: >100K as close enough, but that's cheating).
: >
: >

: Hi
: Why not pur a 68K and a 22K in series. 90K should work.
: You might even get closer by testing the value of several.

Hmmm... that famous Curtis Keyer 91K resistor. :-)

Use 100K. It works just fine - you'll never know the difference.

Rich Mulvey, aa2ys Rochester, NY USA
mulveyr@vivanet.com
aa2ys@net.wb2psi.ampr.org
aa2ys@wb2psi.#wny.ny.us

5482. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: croaker@access.digex.net
Message-ID: <znr817238843k@Digex>
Source record: 109345
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio

In article <492ab0$jfm@alterdial.UU.NET> skuter@tcgcs.com writes:

> >I'm new to this. What does "spam" mean? Is it Latin or Italian for
> >something?
>
> "Spamming" is when a message is posted to serveral, even all,
> newsgroups at once. Prime examples of spamming occur when some goober
> posts a "Make 20 Zillion Dollars by Picking Your Nose" post to every
> single newsgroup in existence. Then, in each of those newsgroups 50
>
> I notice that I am posting this response to all the rec.radio.xxx
> groups. Since I don't know where this thread originated, I'll leave
> it that way....and now I too have become a "spammer"!!!

Not really. You have posted 'velveeta' (Vegetarian spam).

The difference is that velveeta is crossposted (note the newsgroup line). On the internet, this message will cross the backbone once, and be stored on the ISP host harddrives once, with references to the crossposted newsgroups. It can't even really be called velveeta because you were answering a valid question, even if it was off-topic for the newsgroup in question.

Spam is a message, usually commercial in nature, that is posted once for every newsgroup. In this case, the same message will cross the backbone and be stored on the harddrive once for each newsgroup, resulting in massive waste of bandwidth and disk space.

Internet lore: the term was derived from the Monty Python skit, were 'spam' was said/sung numerous times. It was a really funny skit, too.

Hope this helps.

73s

Frank Ney EMT-A N4ZHG LPWV NRA(L) GOA CCRKBA LEAA JPFO 'M-O-U-S-E'
Sponsor, BATF Abuse Page http://www.access.digex.net/~croaker/batfabus.html
"A wise man once pointed out that the American eagle eats carrion, never picks on anything its own size and will soon be extinct. That being so, perhaps Americans ought to select a symbol more in keeping with their current condition, like a milked cow, a sheared sheep, a plucked chicken, or a slaughtered steer."
- L. Neil Smith, speaking as W.W. Curringer, _Pallas_

5483. Re: Even my wife thinks hams are...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: mulveyr@vivanet.vivanet.com
Message-ID: <4952h8$n9e@vivanews.vivanet.com>
Source record: 109346
Cross-posted to: radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space

Dennis A. Mason (damason) wrote:
: Burt must be a Chicken Bander.

Please, we don't appreciate fowl language here.

Rich Mulvey, aa2ys Rochester, NY USA
mulveyr@vivanet.com
aa2ys@net.wb2psi.ampr.org
aa2ys@wb2psi.#wny.ny.us

5484. Re: Chassis punch for Octal Socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <49474h$7gt@newsbf02.news.aol.com>
Source record: 109347

In article <48sl8j$gm0@service2.uky.edu>, Tfugate@pop.uky.edu (Terry Fugate) writes:

>>
>>What I did not foresee is that the original hole for the 9-pin socket is

>>too small to accomodate the octal socket. I don't want to use a crude
>>method to modify the chassis so I am hoping to find a kindly ham who will
>>lend the proper tool for this job. I will bear all expenses and pay a
>>small fee to such an individual.
>>
>>Thank you- AC4AQ

Where are you at? I have a complete set near Atlanta.

I've done similar changes in my T4XC, the neutralizing circuit and grid capacitance needs modification, as well as bias system. Funny, in my Drake the sockets bolted right in, but then they were American made!

73 Tom

5485. Re: Icom Modification...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: network@emi.com
Message-ID: <4953rp$b8k@boston.emi.com>
Source record: 109348

> davidole@uoguelph.ca (David O'Leary) writes:
>
> Greetings all,
>
> A quick question.... I have an older Icom HT, whose exact model I cannot
> remember right now. I really don't need it for use on 2m 144 MHz + that
> it is set for. Is there any way to take a full 100 MHz off of this unit
> and still have it work? Could it be modified to transmit in the 44+ MHz
> range or will and such modification completely destroy the transmit
> ability of the radio.....

I suppose theoretically, if you *really* had to, you could probably do it and make it work, but to be truthful,
it would be a royal pain in the ass, and not really worth the effort. You'd be changing just about every
component on the board, so you would probably be better off just getting a different radio. See if you can
find someone to do a swap with or something like that.

73,
--
Glenn Lasher, Jr.

5486. Want 6JH8 or 7360

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: kurt@ksode.pp.fi
Message-ID: <491u1c$gba@idefix.eunet.fi>
Source record: 109349

Does anyone know of a source for this (these) Beam Deflection Tubes
(Valves).
Please answer via email to: kurt@ksode.pp.fi
or
this newsgroup.

kurt

5487. Receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: filipec@telepac.pt
Message-ID: <495led$75h@vivaldi.telepac.pt>
Source record: 109350

Hi , I looking for simple electronic schemes for radio receivers . Something
with I can listen fire-man or police communications .
Please , answers by e-mail .
Thanks .

5488. FS HP 477B Thermistor Mounts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: pgerba@crl.com
Message-ID: <495jpo$di1@crl11.crl.com>
Source record: 109351

I have a few HP 477B bolometers. These fit the 430, and I think will work
on the 430C, HP Power Meters. Tested, $ 35 ea incl shipping in the lower 48.

pete
pgerba@crl.com

5489. Code practice oscillator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: n2mcs@aol.com
Message-ID: <493ksq$44m@newsbf02.news.aol.com>
Source record: 109352

Hello. I am going to attempt to design a keyer (based on one of the curtis ICs) with a built in code practive oscillator. The keyer is rather simple, as I have the information I need.
However, I don't know how to go about building the oscillator. Someone mentioned to me that I could build a simple osc. using a 555 timer IC. I can imagine how this is possible, but can't seem to figure out the details. I want a reliable osc. with variable pitch. The audio amp part I can handle (yet another IC) I prefer an IC approach because it tends to look nicer (I like to show off my work, who doesn't?) But if you have a simple and reliable design with other methods, I am all ears!

Thanks for everyones help in advance.

Chris N2MCS
N2MCS@aol.com

ps (I prefer email responses, but followup posts are OK :-))

5490. Building a phased array of patch antennas for 432.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <494pul$1id0@stealth.mindspring.com>
Source record: 109353

I am trying to build an array of patch antennas for 435 MHz. Where could I find more information on the dimensions, etc. I would like to use double sided PWB material like Duroid Ro4000 series and would like to etch the antenna right on the board without using spacers. There was a recent article on QST on building a patch antenna for GPS, but very little info was given on how he arrived at those numbers.

thanks & 73's

AC4OP
Pieter Ibelings

5491. Re: Ferrite antennas in Pager receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <494taq$r2h@hpscit.sc.hp.com>
Source record: 109354

In article <lukes.3.000662E3@iaccess.za>, Vivesco cc <lukes@iaccess.za> wrote:
>I would like to use a ferrite antenna similar to that used in pager receivers.
>
>Can anyone please help me with:
>
>1. Who manufactures the antennas?
>2. Where can I get information on how to design such an antenna?
>
>They seem to be in wide use in pagers.
>
>Thank you
>
>Lucas Gertenbach
>lukes@iaccess.za

I am also interested in any information on this topic.
I have collected a few hard to get articles on the subject
over a number of years. Philips seems to have pioneered the
ferrite material for them, and now Siemens, TDK, and Neosid
also make antenna ferrites. In the USA, Fair-Rite Products
#68 is the best I've tried. Ceramic Magnetics in NJ is nice
in that they can machine the ferrite to any shape you want.
You might try reading about HF ferrite loopstick antennas
in the ARRL Antenna Book. The VHF ones in pagers work on
the same principles, just lower permeability and a lot
fewer turns, of course. I once built a 6 meter transmitter
the size of a pack of chewing gum using a ferrite rod antenna.
It had a range of several hundred meters with .1 watts.
The "coil" was a slit piece of copper tubing with a bunch
of capacitors across it to resonate the one "turn".

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5492. Re: QST Tech Errors.... Common?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <4950t4$g21@mgate.arrl.org>
Source record: 109355

w8jitom@aol.com (W8JI Tom) wrote:

>It is much better to have consensus from several independent sources. Sole
>sources are almost never reliable for technical data. No single person is
>error free or catches every mistake! Only a fool or ego-maniac would
>believe otherwise.
>

Which is why we try to quickly route articles through several
staff members. While I don't care if it takes a year of more
to publish my articles, many authors are concerned about how
long it takes for their stuff to appear in print.

Some stuff does have a short shelf life--we do know that
Radio Shack likes to change its assortment of parts. But,
is that grounds for rejecting an article that someone has
spend a lot of time and effort developing?

>Ceratinly *a few* technical errors are simple and stand out, even a single
>reliable source could catch those errors. But most technical articles
>require ****GROUPS***** of experienced reviewers, NOT the single source
>commonly depended on. The League doesn't need to do the work or even pay
>for the help. The staff simply needs to learn how to allow and encourage
>people to help. Resources are available if the staff uses them.

Looks like we need to hire an expert on managing volunteer labor.
How do you get them to give the volunteer work you hand them top
priority? People change jobs and they seemingly vanish...

Its also an interesting problem to decide which expert/experts
are right. I was surprised to find out that the K2RIW 432 MHz
parallel4CX250 amp was actually rejected by Ham Radio.

Zack KH6CP/1 zlau@arrl.org

5493. Re: Chassis punch for Octal Socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: ldesot@atl.com
Message-ID: <1995Nov24.103128@atl.com>
Source record: 109356

In article <49474h$7gt@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) writes:
> In article <48sl8j$gm0@service2.uky.edu>, Tfugate@pop.uky.edu (Terry
> Fugate) writes:
>
> >>
> >>What I did not foresee is that the original hole for the 9-pin socket is
>
> >>too small to accomodate the octal socket. I don't want to use a crude
> >>method to modify the chassis so I am hoping to find a kindly ham who
> will
> >>lend the proper tool for this job. I will bear all expenses and pay a
> >>small fee to such an individual.
> >>
> >>Thank you- AC4AQ
>
> Where are you at? I have a complete set near Atlanta.
>
> I've done similar changes in my T4XC, the neutralizing circuit and grid
> capacitance needs modification, as well as bias system. Funny, in my Drake
> the sockets bolted right in, but then they were American made!

I'd be really interested in knowing just what changes you made to your
T4XC. I have a pair of the old Drake twins though the transmitter is the
T4X. I wouldn't mind converting it to 6146 finals.

--
Larry WA5MLH **********
* *
* Speaking for myself *
* *
****

5494. Re: Pioneer KE-A530 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: fitr%mimi@magic.itg.ti.com
Message-ID: <493oa2$1dh@tilde.csc.ti.com>
Source record: 109357
Cross-posted to: rec.radio.amateur.misc,rec.radio.cb,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,alt.radio.uk,aus.radio.amateur.misc

In article <492p7f$3dd@senator-bedfellow.MIT.EDU>, candea@ATHENA.MIT.EDU says...
>
>I apologize if I am posting this to the wrong newsgroup but I am in desperate
>need of advice. I have a Pioneer KE-A530 car radio + cassette that my friend
>removed from his car a while ago. I am not sure which wires go where because I
>don't have the manual anymore and there is no indication on the radio as to
>what each wire is. I would appreciate if any of you could tell how to make the
>connections (i.e. which is PWR, GND, speakers, etc.).
>
>The wires are in three "bunches":
>
> Bunch 1: blue
> black
>
> Bunch 2: green/black (2 wires)
> gray/black (2 wires)
>
> Bunch 3: black (this is definitely a GND -- connected to case)
> red (has a 0.5 Amp fuse on it and a little box)
> yellow
> orange (this must be PWR -- it has a 0.5 Amp fuse)
>
>
>I really appreciate your help. I reply to my personal e-mail address, as
>I do not read this newsgroup regularly.
>
>Thank you,
>

I'll try, but dont blame me if it blows up!!!. Ok...start with bunch 3. The black wire goes to battery negative terminal, or chassis ground. The red wire with fuse holder and box (noise filter, likely) goes to ignition ACC ON. T The yellow wire is used if you want to send a signal to an auto amplifier (external power amp, subwoofer, etc) or a power up/down automatic retractable antenna. The orange wire might be to control a clock if the radio has a clock built in. Orange wire would then go to the battery and the red wire would go to the acc side of the ignition switch. Then, when you turn the car -on-, the radio works. Otherwise, when the car is off, the only power received by the stereo is on the orange wire and the only operating function is the clock. Only when the car is -on- does the radio/tape actually work.

bunch 1 : blue/black...bunch 1. not sure, possibly line in for an equalizer.

Bunch 2: most likely, this is left channel positive and negative (to speaker left)
most likely, this is right channel positive and negative (speaker right)

Without trying it, it's hard to say. Does the radio have a "fader" for
front-and-back speakers, or is it only a 2 channel output (left and right but no
front and back)???

Keep your posts here...someone can probably help ya.

--
73 from Joe BV2/N0IAT Taipei, Taiwan R.O.C.
Ex. 7J1AOF(Japan) KA0ZDH(novice) YU3/N0IAT(Slovenia)
Licensed Radio Amateur since 1986 //comments are mine only

5495. Re: Pioneer KE-A530 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: David Atkins <davidj@spacemen.demon.co.uk>
Message-ID: <6BQ9jAAv$gtwEw32@spacemen.demon.co.uk>
Source record: 109358
Cross-posted to: rec.radio.amateur.misc,rec.radio.cb,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,alt.radio.uk,aus.radio.amateur.misc

In article <492p7f$3dd@senator-bedfellow.MIT.EDU>, George Mihai Candea
<candea@ATHENA.MIT.EDU> writes
>I apologize if I am posting this to the wrong newsgroup but I am in desperate
>need of advice. I have a Pioneer KE-A530 car radio + cassette that my friend
>removed from his car a while ago. I am not sure which wires go where because I
>don't have the manual anymore and there is no indication on the radio as to
>what each wire is. I would appreciate if any of you could tell how to make the
>connections (i.e. which is PWR, GND, speakers, etc.).
>
yeah, some bugger nicked the one from my car, too!

--

David Atkins |Office Space is a vital part
Ergonomist |of your Business Strategy

5496. Re: FS C528 dual band or swap

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-24 00:00:00 UTC
From: Ken Linney <Ken@cassar.demon.co.uk>
Message-ID: <729530114wnr@cassar.demon.co.uk>
Source record: 109359

Hello Brian
At last I have spotted you on the net. How much do you want
for them ?
--
From : Ken Linney BSc.
Available at Internet : ken@cassar.demon.co.uk
Ham Radio Packet AX25 Network : G3UDA@GB7PMB.#28.GBR.EU
" Being a Quantum mechanic - I could pop up anywhere "

5497. Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-25 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <495ui8$t6@ixnews3.ix.netcom.com>
Source record: 109360

I was just skimming the Handbook and came across an interesting article discussing oscillator phase-noise, and a simple technique for measuring it by phase-locking an HP-8640B generator to the oscillator signal.

Unfortunately, it was more of a summary of the technique than a detailed descripton. I have an 8640B, but it's the militarized option 323 version, and so lacks several of the standard version's features. As anyone tried this technique? I have several questions about it and the "useability" of the option 323 version generator for this application.

Question 1: Although the 8640B has a "lock" feature that allows it to lock to it's internal reference, the option 323 lacks this feature. Is it needed for this application? I'd think not, since, in this application, the generator is being locked to the oscillator using an external phase detector (mixer) and low-pass filter, the output of which is applied to the external FM input. I can't see any reason why I'd simultaneously need to lock to the internal reference. However, there may be a good reason. As anyone tried this with the lock ON, and with it OFF? Any differences in measurement?

Question 2: I think the article mentioned that the filter was a 1 MHz low-pass. How many poles should it be? Is shape important, or can I get by with a simple topology (like, say, an RC lowpass)?

Question 3: Any harm in using the generator's external sync output (basically a square wave, rather than a nice sine) to drive the mixer? Again, I'd think not, but an experiment might be in order.

Does anyone know more about this technique? I've got all the equipment here (including an ancient HP 3591A Selective Voltmeter, which ought to give me some interesting plots on my equally old 7035B XY Plotter).

Also, is anyone familiar with the circuitry of the 8640B? I'd like to find out what the actual differences are - perhaps I can make a mod to give me the lock feature, if required. I've sketched out some ideas, but knowing what HP really did would help...

Thanks!

- Jeff, WA6AHL

5498. WWVB Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-25 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <495una$9tc@ixnews2.ix.netcom.com>
Source record: 109361

I'm looking into building a WWVB receiver so that I can have
(hopefully) an accurate lab frequency reference. As anyone built one
of these, or can you point me in the direction of literature (I already
have the "73" magazine article of several years ago)?

Thanks,

Jeff, WA6AHL

5499. Shareware for Ft-990

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-25 00:00:00 UTC
From: thom@newshost.li.net
Message-ID: <4960md$chr@linet02.li.net>
Source record: 109362

Can anyone point me in the direction of a shareware program to run with
the Yaesu FT-990 or FT-1000?

I'd like to test drive it before going ahead.

Thnaks es 73

de Tom
WB2QDG

thom@li.net

5500. Re: Panel Mount Air Variable Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-25 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <495nca$6dk@ixnews2.ix.netcom.com>
Source record: 109363

In <48te37$mso@mksrv1.dseg.ti.com> QRP%mimi@magic.itg.ti.com (D W Hemphill KC5NG) writes:
>
>I have a bunch of them in my junkbox, but I have no idea what
>any of their values are, as most are unmarked. If you have a
>way to measure them, I'll trade them to you for other parts,
>to be determined (I'm always needing something or other).

Hey, *until* you get your LCR meter or dip meter (Christmas is coming!), I've found that about 10pf per plate pair is a reasonable figure for many caps. Caps with big plates and small spacing, like BC receiver tuning caps, are more like 30pf per plate pair.

73,
Mike, KK6GM

5501. WANTED Zenith Trans-Oceanic R7000-1

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-25 00:00:00 UTC
From: Michael Neidich <neidich@interport.net>
Message-ID: <4973ra$mjo@park.interport.net>
Source record: 109364

Want to buy R7000-1 with no fine tuning backlash. Advise condition in detail and price wanted. 73, K2ENN NYC

5502. Re: Oil Filled Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-25 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4974c5$sbo@newsbf02.news.aol.com>
Source record: 109365

In article <84958327wnr@ifwtech.demon.co.uk>, Ian G3SEK
<G3SEK@ifwtech.demon.co.uk> writes:

>Obviously I can't speak for these particular components, but I've tried
two
>photoflash energy storage caps and each one went dead-short after a few
>years (followed by a chorus of "We told you so!" from GW4FRX and other
>friends).

What brand were they? Did they say "photoflash"? I've use the energy
storage types for years now, but then our power lines are superior (read
that with an icy snobby tone ;-)) since we do use 60 Hz here.

73 Tom

5503. Re: Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-25 00:00:00 UTC
From: Bob <rjp@intac.com>
Message-ID: <4979q1$kkk@uucp.intac.com>
Source record: 109366

Save your time and money radioshack has a small amp in a case. It runs off 9volt battery.

Bob Wa2ihj

5504. Plate Choke - Where can I find ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-25 00:00:00 UTC
From: rhiii@delphi.com
Message-ID: <9511251432591.The_Win-D.rhiii@delphi.com>
Source record: 109367

Hello Helpful Person:

Got from flea market an Amp Supply Co. model LA-1000, 80-15 meter amplifier. It has a zapped plate choke and probably soft tubes.

Other than name (Amp Supply Co.) no other mfgr identification. Can you help me with a source to purchase a new plate choke and tubes ?

Tks,

de Richard/NT2Z

5505. Re: Sams Photofact

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-25 00:00:00 UTC
From: walshults@aol.com
Message-ID: <496ogq$q76@newsbf02.news.aol.com>
Source record: 109368

>Hi Wal,
>Why would a company that spends $$$ to compile this information, in order
to
>sell it for a profit, make it available free for the asking on the 'net?

>Joe - AA3GN

I guess that's why people make money selling mods for radios/scanners -
We ALL KNOW youCAN'T get Anything like that on the net. Sorry for the
sarcasm, but I thought maybe somewhere it was tucked away in a site, and
it was worth asking.

Take it easy :-)

Wal

5506. Plate Choke - Where can I find ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-25 00:00:00 UTC
From: richard.harrison@panda.org
Message-ID: <8B5A39F.04B5000001.uuout@panda.org>
Source record: 109369

```
MSGID: mid__9511251432591.The_Win-D.rhiii@delphi.com 1ad50001
REPLYTO 1:330/317 UUCP
REPLYADDR rhiii@delphi.com
PID GIGO+ sn 395 at panda vsn 0.99.950801
From: rhiii@delphi.com (Richard Harrison)
Subject: Plate Choke - Where can I find ?
Organization: Delphi Internet Services Corporation

Hello Helpful Person:

Got from flea market an Amp Supply Co. model LA-1000, 80-15 meter
amplifier. It has a zapped plate choke and probably soft tubes.

Other than name (Amp Supply Co.) no other mfgr identification. Can you
help me with a source to purchase a new plate choke and tubes ?

Tks,

de Richard/NT2Z

---
```

5507. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: emdx@accent.net
Message-ID: <498k6u$5ee@news0.accent.net>
Source record: 109370
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

==========

dmwelch@ornews.intel.com (Don Welch)
�crivit le - wrote on 14 Nov 1995 17:01:27 -0800:

>jimc@mdsroc.com (Jim Clarke) writes:

>>I've only been an amateur radio operator for 18 years and I would have to
>(snip)
>>Don't let the bad apples spoil the excitement that can be found in amateur
>>radio, there is something there for everyone (wives/girlfriends too).

>Speaking of HAM radios, could this group help me out? Every time I go and
>dive with my radio set, the fuse blows. What's the trick here?

It could have something to do with your set antenna's SWR. What does
the S-meter says just before the fuse blows?

----------Pour la R�publique Fran�aise du Qu�bec----------
In a Republic, society should be like school, whose prime mission is to
teach citizens how to judge for themselves by their own natural light.
In a democracy, it is school that must look like society, and it's prime
mission is solely to produce people adapted to the job market.
R�gis Debray in "Are you a democrat or a republican?"
- Marc Dufour -- [\]ACUC 6 31874 & TDI -- http: will soon be relocated -

5508. Re: Plate Choke - Where can I find ?Amp Supply amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: afn01212@afn.org
Message-ID: <498dku$8mq@huron.eel.ufl.edu>
Source record: 109371

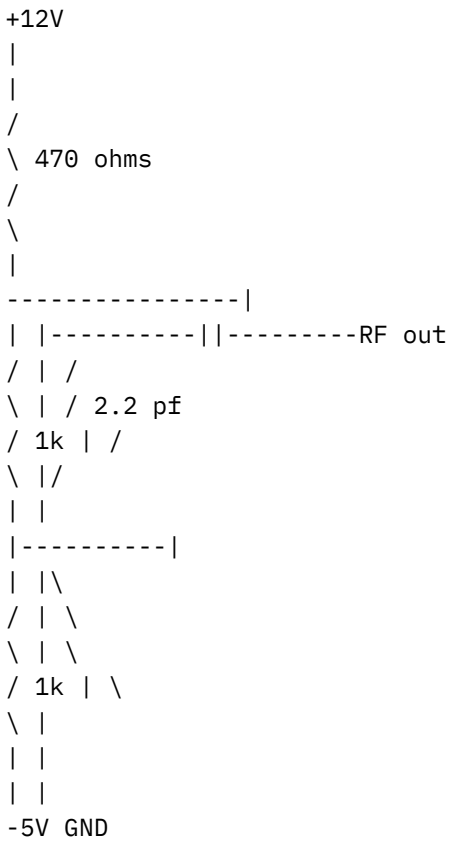
The company is located in North Carolina, but dont have a address...Sparks W4KZL....

5509. Re: Building a 1296Mhz VCO - suggestions

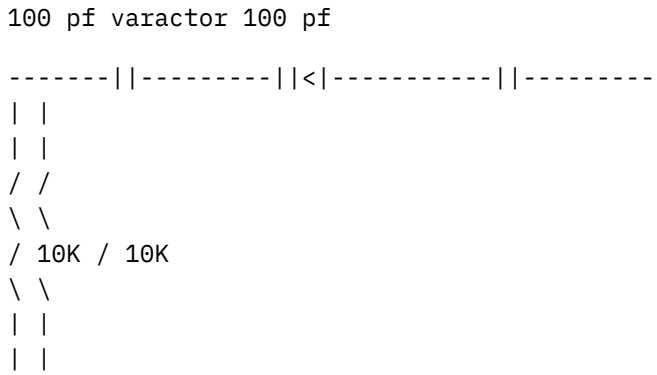
Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <498h3s$9e7@hpscit.sc.hp.com>
Source record: 109372
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <48vlvo$7hi@news.kth.se>,
Hans Insulander <ib94_hin@isk.kth.se> wrote:
>Hi!
>
>Does anyone have any suggestion on how to build a 1296MHz VCO?
>I have about one hundred BB809 varactor diodes. Will they work (good)
>for this frequency?
>I also have a bunch of MSA-0386 and MSA-0486 MMIC's. Can i use them
>for an oscillator?
>
>Thanks for any help!
>
>/Hans Insulander SM0UTY
> ib94_hin@isk.kth.se

1. Get a microwave transistor, such as BFR90
2. Connect the following bias circuit:



3. Connect the following from collector to base:



If the frequency of oscillation is too low, shorten the leads on the tuning network. If it is too high, lengthen them. The tuning diode resonates with stray inductance. It is fairly easy to get this to tune from say 1 to 2 GHz.

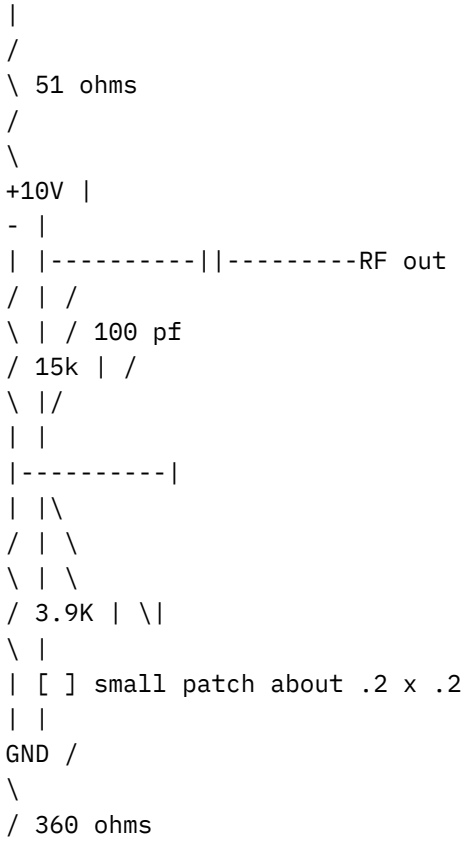
Rick Karlquist N6RK
rkarlqu@scd.hp.com

5510. Re: Building a 1296Mhz VCO - suggestions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <498jkm$q0i@firehose.mindspring.com>
Source record: 109373
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <498h3s$9e7@hpscit.sc.hp.com>, rkarlqu@scd.hp.com says...
>
>In article <48vlvo$7hi@news.kth.se>,
>Hans Insulander <ib94_hin@isk.kth.se> wrote:
>>Hi!
>>
>>Does anyone have any suggestion on how to build a 1296MHz VCO?
>>I have about one hundred BB809 varactor diodes. Will they work (good)
>>for this frequency?
>>I also have a bunch of MSA-0386 and MSA-0486 MMIC's. Can i use them
>>for an oscillator?
>>
>>Thanks for any help!
>>
>>/Hans Insulander SM0UTY
>> ib94_hin@isk.kth.se

You can also try this: using a MRF901 or similar transistor:



\
|
GND

Connect the center of an open piece of semirigid coax of 50 or 75 ohm impedance to the base of the transistor. Make it
about 150 degrees long and ground the shield. Trim the lenght of the coax to oscillate at the desired frequency. To vary the
frequency apply the vco voltage to the base of the transistor using a 20K resistor. This voltage can be a few volts. There
is no varicap required since the s-parameters of the transistor change with base bias. I have used this simple circuit to
transmit FM video using a simple pre-emphasis network in front of it.

73's
Good Luck
AC4OP
Pieter Ibelings

5511. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: ejp@anv.net
Message-ID: <498i5n$416@bighorn.accessnv.com>
Source record: 109424
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

In article <48lp3c$jaa@tribune.usask.ca>, aa266@sfn.saskatoon.sk.ca
says...
>
> What about free BEEF???

Are you that dumb to post this stupid response to that many newsgroups???
This kind of behavior will probably kill any usefulness of these
newsgroups. Look at the list of places you have crossposted this. You are
stupid beyond belief!!!

--

Earl Petersen E-Mail: ejp@anv.net
KF7TI ejp@gty.ci.henderson.nv.us

5512. Re: What is SPAM???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: wa6ube@aol.com
Message-ID: <49aco6$ru5@newsbf02.news.aol.com>
Source record: 109425
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

In amateur radio parlance, SPAM is a an amateur radio interest group that promotes the use of A.M. (Amplitude Modulation) using older, usually vacuum tube transmitters.

SPAM: Society for the Preservation of Amplitude Modulation

check 75 meters around 3870-3885 KHz in the evenings if you live on the west coast of the U.S.

Trish
WA6UBE@aol.com "The Vertical Skywave Girl"
Mobile radio repair shop supervisor - City of San Jose, GSA-Communications

5513. Re: Even my wife thinks hams are...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: mcovingt@ai.uga.edu
Message-ID: <49a9on$o9l@hobbes.cc.uga.edu>
Source record: 109426
Cross-posted to: radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space

Burt Fisher (k1oik@ccsnet.com) wrote:
: I received a call today from a ham who would not identify himself. I
: repeatedly asked him who he was, even saying to him that if he had an
: opinion worth anything it is reasonable to expect he state who he was.
: Still he he refused. I then commented that he was "so typical ham, no guts."

Why do you presume he was a properly licensed ham?

--
Michael A. Covington http://www.ai.uga.edu/faculty/covington/
Artificial Intelligence Center <><
The University of Georgia Unless specifically indicated, I am
Athens, GA 30602-7415 U.S.A. not speaking for the University.

5514. Re: Plate Choke - Where can I find ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDIMyJ0.3zt@netcom.com>
Source record: 109427

: It has a zapped plate choke and probably soft tubes.
: Other than name (Amp Supply Co.) no other mfgr identification. Can you
: help me with a source to purchase a new plate choke and tubes ?

Remove the choke. Unwind the old wire and save it. Buy some new magnet wire of the same gauge at Radio Shack. Cut a piece of new wire the same length as the original piece. Wind the new wire back on to the original form. Re-install the choke. That's it.

73,
Thomas (KI4N)
tgm@netcom.com

5515. Re: Plate Choke - Where can I find ?Amp Supply amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: Dave Hockaday <wb4iuy@nando.net>
Message-ID: <499ted$dm8@castle.nando.net>
Source record: 109428

>The company is located in North Carolina, but dont have a address...Sparks
>W4KZL....

The remaining stock was bought out by one of the original engineers, Bill Edwards K4BWC. He operates Omega Electronics in Knightdale NC and services the Amp Supply products. His work number is (919)266-7373 (no doubt that he's a ham, heehee). He even has stuff like the original meters, faceplates, cabinet covers, etc. He is currently working an a new and improved version called Omega Gold (I think that's right). Nice looking stuff!

73 de Dave WB4IUY

5516. MGF 1402 noise figure. (And S param)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <49a4is$a0t@tempo.univ-lyon1.fr>
Source record: 109429

Hi,
I'm always looking for my noise figure info.

This time, I'd like to know if anybody has the NF of the MGF 1402 at
150 MHz, together with its s or y param and the optimal source imped.

I simply don't have any kind of info on this GaAsFET.

THX for any info,
Vince

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

5517. The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: mcovingt@ai.uga.edu
Message-ID: <49abeq$p4b@hobbes.cc.uga.edu>
Source record: 109430

THE N4TMI DESOLDERING CONTEST

This evening (November 23, 1995), I decided to hold a fair competition between all the different desoldering techniques available to me. Here are the results.

I would appreciate comments on these notes from anyone more experienced.
^^

The goal in each case was to remove some ICs, undamaged, from a double-sided circuit board (part of an IBM PC AT); this is the most difficult desoldering task that I routinely face. Single-sided boards are _much_ easier to deal with.

Unless otherwise noted, the heat source was a 40-watt Weller temperature-controlled iron set to 750 F, and in each case I tried the technique quite a few times before drawing conclusions.

GENERAL PRECAUTIONS AND TECHNIQUES:

- All of these techniques work better when I wear magnifying goggles (2x). That makes it much easier to see the condition of the surface of the solder.

- Desoldering takes time. All the techniques work better if each joint is heated 5 to 10 seconds beyond the point at which it appears to melt. That helps ensure the solder is melted all the way through the double-sided board.

- If a joint fails to desolder properly, the thing to do is add more solder and try again. It is almost impossible to remove the remaining solder from a half-desoldered joint.

TECHNIQUES AND RESULTS:

(1) HOT AIR GUN

Overall performance: VERY GOOD. Even 40-pin ICs were removed easily. No damage to the board occurred (not even scorching of labels).

Technique: Use a 1200-watt Black and Decker hot-air gun, with 1/2" diameter tip, positioned 1/2" from the solder side of the board, to heat all the pins of the IC for about 30 seconds. Meanwhile, pull on the IC from the component side with pliers or an IC extractor. When the solder melts, it can be pulled free. Some force is needed because the pins of the IC have been bent to hold the IC in place.

I just thought of this technique today and was delighted to see it work so well. A similar technique with a propane torch is sometimes suggested, but it is more likely to scorch the board.

With this technique, the IC gets rather hot, but probably no hotter than during initial wave soldering of the PC board. The IC case stays below 200 F as judged by the water-drop test.

Precaution: Droplets of solder may be blown through the holes and land in unexpected positions on the component side.

(2) EDSYN SOLDAPULLT

Overall performance: ADEQUATE. Fine for small components (up to 8 pins); tedious for larger ones.

Precautions:
(a) Internal cleaning and lubrication of the Soldapullt is very important.
(b) For best results, melt the solder fully, then keep it melted by applying the tip of the iron at one edge while putting the tip of the Soldapullt on the middle of it.
(c) After removing the solder, free up the IC pin by moving it to the middle of the hole either with pliers or with the tip of the soldering iron. THIS STEP IS CRUCIAL for the ICs to come out undamaged.
(d) A big Soldapullt performs better than a small one.

(3) DESOLDERING IRON WITH RUBBER BULB (Weller DS-40)

Overall performance: POOR. ICs could be removed with difficulty. With smaller components or single-sided boards, it would be adequate.

Special precautions:
(a) Inadequate heat transfer is the biggest problem; often a joint simply doesn't melt.
(b) To ensure good heat transfer, the tip must be clean, well tinned, and the same size as the solder pad on the PC board (neither much bigger nor much smaller). Best results are achieved when, at the moment of initial contact, there is a droplet of solder spanning the hole in the tip.
(c) Before sucking away the solder, use the tip to wiggle the IC pin back and forth, leaving it in the middle of the hole rather than at the edge.

Some improvement results from attaching the Soldapullt in place of the rubber bulb.

(4) COPPER BRAID (Chemtronics Chem-Wik Lite)

Overall performance: INADEQUATE for this job; I could not remove all the solder from a hole in THIS board using this material. It is of course quite adequate for single-sided boards, and very helpful for cleaning up solder from inopportune places.

(5) SPECIAL TIP TO HEAT SEVERAL PINS SIMULTANEOUSLY

I have not tried these special Ungar tips, which have been a standard item ever since ICs appeared on the scene. I am thinking of making a homemade steel or copper tip just to check the results.

An obvious problem is that a different tip is needed for each size of IC (although one could probably get away with using the 16-pin tip on 14-pin PCs).

Comments welcome!

Michael Covington, N4TMI, mcovingt@ai.uga.edu

--
Michael A. Covington http://www.ai.uga.edu/faculty/covington/
Artificial Intelligence Center <><
The University of Georgia Unless specifically indicated, I am
Athens, GA 30602-7415 U.S.A. not speaking for the University.

5518. RS Electronics in Atlanta?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: mcovingt@ai.uga.edu
Message-ID: <49abgk$p4b@hobbes.cc.uga.edu>
Source record: 109431

There is a new place in suburban Atlanta (near Gwinnett Place Mall)
called RS Electronics. I haven't seen the place itself, only a billboard.
They are apparently an industrial components supplier and test equipment
dealer. Has anyone been there yet? What's it like?

--
Michael A. Covington http://www.ai.uga.edu/faculty/covington/
Artificial Intelligence Center <><
The University of Georgia Unless specifically indicated, I am
Athens, GA 30602-7415 U.S.A. not speaking for the University.

5519. Re: The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: marvin@rain.org
Message-ID: <49ae1p$het@news.rain.org>
Source record: 109432

Michael Covington (mcovingt@ai.uga.edu) wrote:
: THE N4TMI DESOLDERING CONTEST

<snip>

: (4) COPPER BRAID (Chemtronics Chem-Wik Lite)

: Overall performance: INADEQUATE for this job; I could not remove all the
: solder from a hole in THIS board using this material. It is of course
: quite adequate for single-sided boards, and very helpful for cleaning up
: solder from inopportune places.

I have used copper braid quite successfully when I am interested in salvaging an IC. However, the cleanliness of the solder is a BIG factor in how successful the technique is. Whenever I am using copper braid, I will always apply additional flux to both the braid and the joint. The solder seems to suck up into the braid leaving a clean hold and the part ready to remove. Couple of caveats though. 1) The pins usually need to be broken free from the side of the hole since a small amount of solder remains. I tend to do that with my fingernail since using the iron sometimes leaves the problem of the pins resticking to the hole. 2) Multilayer boards where the pin is connected to an internal ground plane are sometimes rather difficult to removed the solder. Thermal pads in the original board design help out a *LOT* to reduce this problem.

5520. Fluke -- "Oops!"

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: EUGENE.WELCOME@rook.wa.com
Message-ID: <8869B64D@rook.wa.com>
Source record: 109433

Fluke -- "Oops!"

If you have a Fluke Series II DMM, Model 21, 23, Kit-23, 70, 73, 75,
or 77, Fluke wants to get it back to be modified. It seems that
anything over 400V,ac or dc, may indicate zero volts, which could
lead one to get one heck of a surprise, if the reading is believed.

This was copied from 73 Magazine Dec. 1995 issue.
Here is their Number as I found from one of their adds,
Fluke Corporation 1-800-873-5853 8AM to 4:30PM PST.

Another historical "Oops" quote: "Oops." -- Richard Nixon

_ /|
\'o 0'
73, Gene, K7"EEK" !! a =(_"_)= ?? He ate my Mouse !
U
eugene.welcome@rook.wa.com

5521. Looking for; B&W 851

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: RMCCARTY@DELTANET.COM
Message-ID: <RMCCARTY.6.000B2850@DELTANET.COM>
Source record: 109434

Looking for a Barker and Williamson 851 PI-Net.
If you have to get rid of or know of someone who does, I would appreciate
hearing from you.
Thanks
Roger KD6CC
rmccarty@deltanet.com
Roger A. McCarty
rmccarty@deltanet.com
ARS KD6CC

5522. Re: MGF 1402 noise figure. (And S param)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <49a9de$c7s@abyss.West.Sun.COM>
Source record: 109435

In article <49a4is$a0t@tempo.univ-lyon1.fr>, Elendir <elendir@enst.fr> wrote:
>Hi,
>I'm always looking for my noise figure info.
>
>This time, I'd like to know if anybody has the NF of the MGF 1402 at
>150 MHz, together with its s or y param and the optimal source imped.
>
>I simply don't have any kind of info on this GaAsFET.

How well does the MGF1402 work at 150MHz in general? If it is
stable, I'd guess the noise figure is low enough that you need
not worry about it :-).

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

5523. need people for underground zine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: Amit_Kalra@cyberden.com
Message-ID: <772866014.17330423@cyberden.com>
Source record: 109436

i am putting together a zine that covers
noize,ambient,industrial,goth,experimental,acid,gabber,hardcore,acid
core,house,punk,goth,goa,chill out, electro,acid
house,ethereal,trip-hop,grrrl
jungle,trance,emo,acid jazz, and whatever other obscure form of music there
is.....
i need help with writers from every corner of the world...i would simply ask
of you to review any concerts, raves,rituals,books,movies,or albums that you
saw orbought...i would also take commentary on any issue on what you feels
relates to the underground and it's well being......also how clubs are
doing.....anything.......fashion,advertizers welcome to question.....
I want writers with some writing capability, a sense of style, and an
opinion no matter what it is....
What i don't want are stupid fools who don't know shit about what they are
saying and who are just writing to piss people off...i want this thing to get
somewhere..and i have realized that by myself and a few others i cannot
handle a project this big...that is why i ask the help of you and many
others.............

Please email me back at Kush Arora@cyberden.com or AmitKalr@ix.netcom.com

``i am the light with no source"

5524. Re: Oscillators using mmic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <817434041.AA04387@hamlink.mn.org>
Source record: 109437

JJ>experience the term "Unconditionally Stable" is a misnomer and
JJ>easily misunderstood. Invariably when you read the fine print
JJ>there are "conditions" attached to the "unconditionally stable"
JJ>claims. Whether with op amps or mmics such as the MAR-1, I
JJ>have found that they yes, oscillate actually rather EASILY
JJ>unless careful attention is paid to layout, input/output
JJ>impedances, etc. Whether they can oscillate at a particular
JJ>frequency of choice sounds a bit chancy according to my
JJ>esteemed colleague Mr. Coffman... I've never INTENTIONALLY used
JJ>one for an oscillator but have lots of experience trying to
JJ>tame mmic circuits acting as oscillators but designed as amps
Hi gang,
Yes I agree the term "unconditionally stable" is frequently misunderstood. It does *not* refer in any way to the use of the device as an oscillator, nor to it's anticipated stability in a given physical implementation. It *does* indicate that in a *properly executed* state, the device in question will not be more or less likely to oscillate with a 1:1 or some other, higher VSWR on it's input. Also, the output may be terminated in resistive, reactive, open, or shorted loads, and it will be no less (or more) *likely* to oscillate.
All of this assumes that you have built the circuit up on an RF worthy platform, have taken precautions to keep input away from output, etc. In other words all the normal RF design rules for a non-oscillating ckt have been followed. This is what is meant by *properly executed* above. This may seem to be a trivial spec to those that have carefully built amp ckts, only to have them oscillate, but try building one with a device which, even with *perfect* layout, must be terminated in the proper R+/- j on both the input or the output or it will oscillate! This by the way is called a conditionally stable device.

72 Bob WB0POQ

Technology is OUT of control....

5525. Re: Help with Neophyte reciever!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-26 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8174091105202@lss.humnet.humberc.on.ca>
Source record: 109438

> Hey all you usenet guys can anyone tell me a company that ships parts for
> the neophyte reciever described in the Feb 1988 issue of QST? Also can
> you give me the company's price and shipping charge (UPS or other cheap
> path) as I plan to money order. I specifically need the Signetics NE602N
> mixer/oscilator IC and a 386-pF air-dielectric varible capacitor (these
> are very hard to find it seems. Please help me as this is my first
> circuit and not finding these parts is very frustrating! :(
>
> email addresses of the company would also be much appreciated.
>
> please contact me via email and if you find my question irritating on
> this group please send me your flame to my email and not to the group.
>
> ---
> "Mathmatics can't prove everything. I proved it!" Kurt Godel.
> "Hofstadter is cool and Steve Stow is too." Joshua Morton KJ7IN
>

Hi there ! Why would anyone want to flame you for your question ?
It's pretty much on topic and that's what the newsgroups are for.
I can't give you a direct answer to your question but I do know that
Far Circuits has the blank pc boards for the Neophyte and I recently
read that the mail-order firm Digikey carries the NE-602. They may even
have the variable cap you're looking for. (I don;t have their info
handy). You could also try DC Electronics, another mail-order outfit.
(P.O. Box 3202 Scottsdale Az. 85271-3202 800-467-7736 or 800-423-0070)

Gud luk with your project !

Regards...Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

5526. Re: The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: mcovingt@ai.uga.edu
Message-ID: <49d1jd$43q@hobbes.cc.uga.edu>
Source record: 109224

Thanks, Gary. Straightening the bend or clinched pens with an ordinary soldering iron prior to applying hot air sounds like a very good idea.

--
Michael A. Covington http://www.ai.uga.edu/faculty/covington/
Artificial Intelligence Center <><
The University of Georgia Unless specifically indicated, I am
Athens, GA 30602-7415 U.S.A. not speaking for the University.

5527. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <49cta5$stu@hpscit.sc.hp.com>
Source record: 109225

In article <495ui8$t6@ixnews3.ix.netcom.com>,
Jeff Anderson <jeffa@ix.netcom.com> wrote:
>
>I was just skimming the Handbook and came across an interesting article
>discussing oscillator phase-noise, and a simple technique for measuring
>it by phase-locking an HP-8640B generator to the oscillator signal.

This will not be a complete answer to your question since I have
not read the Handbook article.

>Unfortunately, it was more of a summary of the technique than a
>detailed descripton. I have an 8640B, but it's the militarized option
>323 version, and so lacks several of the standard version's features.
>As anyone tried this technique? I have several questions about it and
>the "useability" of the option 323 version generator for this
>application.
>
> Question 1: Although the 8640B has a "lock" feature that allows
> it to lock to it's internal reference, the option 323 lacks this
> feature. Is it needed for this application? I'd think not, since,
> in this application, the generator is being locked to the
> oscillator using an external phase detector (mixer) and low-pass
> filter, the output of which is applied to the external FM
> input. I can't see any reason why I'd simultaneously need to
> lock to the internal reference. However, there may be a good
> reason. As anyone tried this with the lock ON, and with it OFF?
> Any differences in measurement?

I have an 8640/323 also. It omits the "lock" feature probably because
the military correctly realized that it was of dubious value and was
not "soldier" proof, being that it will remain in lock for about 2
minutes at a time, typically. Also, it is a frequency lock loop using
the built in frequency counter, not a true synthesizer. Hence don't
even ask about phase noise clean up, there ain't none. You're better
off without it. Who knows how it would interact with the external
FM port?

>
> Question 2: I think the article mentioned that the filter
> was a 1 MHz low-pass. How many poles should it be? Is
> shape important, or can I get by with a simple topology
> (like, say, an RC lowpass)?

It must be either a 1 pole, or a 2 pole/1 zero filter for loop
stability. This is basic phase locked loop theory.

> Question 3: Any harm in using the generator's external sync
> output (basically a square wave, rather than a nice sine) to
> drive the mixer? Again, I'd think not, but an experiment
> might be in order.

I would get it working with the sine wave first.

>Does anyone know more about this technique? I've got all the equipment
>here (including an ancient HP 3591A Selective Voltmeter, which ought to
>give me some interesting plots on my equally old 7035B XY Plotter).

Measuring phase noise in general is non trivial and requires a lot
of knowledge of both math and hardware gotchas. You can get some
HP ap notes from your local sales office that explain phase noise
measurements. Definitely read these first.

>Also, is anyone familiar with the circuitry of the 8640B? I'd like to
>find out what the actual differences are - perhaps I can make a mod to
>give me the lock feature, if required. I've sketched out some ideas,
>but knowing what HP really did would help...

They simply compare the counter reading to a preset register and steer
the oscillator accordingly. Wayne Ryder published a receiver article
in Ham Radio about 15 years ago that used a locked VCO with the circuitry
stolen from the 8640B. Again, you don't want to use the lock feature.

>
>Thanks!
>
>- Jeff, WA6AHL

The 8640 has great phase noise far from the carrier (20 kHz.) but
for close in phase noise measurements, you want to use a crystal
oscillator as the reference. Again, I haven't read the Handbook
article, so I don't know where they were coming from.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5528. WANTED: 2M Hand-Held HAM transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: visw@ulysses.homer.att.com
Message-ID: <DIpxH4.7A4@ulysses.homer.att.com>
Source record: 109226

Hi,

I am looking for a used 2M hand held ham radio. Any make, with at least
5W of power output is ok. If u have one for sale, please
let me know at "visw@ulysses.homer.att.com"

thanks a lot,

Ajai.

5529. Is there a place where,...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: morganp@fn1.freenet.edmonton.ab.ca
Message-ID: <49b34s$dn6@news.sas.ab.ca>
Source record: 109439

I can find info on homebrewing receivers and (once I upgrade my lisence)
transmitters? Thanx

--
73 & ttyl Morgan Patterson
\\/// Internet: morganp@freenet.edmonton.ab.ca
(o o) Ham Radio: VE6MRP
(_) "Ok, take your best shot. Aim well: I don't die easy"
----oOO-----OOo---

5530. Standard Broadcast Antennae

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: FJEX69A@prodigy.com
Message-ID: <49bcls$mrg@usenetz1.news.prodigy.com>
Source record: 109440

Does anyone have any suggestions on building an antenna for the Standard Broadcast band (you know- AM radio) in the form of a small coil or loop? I would like to create a deep null so that I can receive WLAC, a cleared-channel station over the noise created by a local station 20 kHz away.

Considerations-

1) The Zo of the antenna input on my receiver is unknown, as no person at the local representative of the Nippon Gakki Co. Ltd. was able to provide this.

2) Should the turn be concentric or a spiral to be cut by the most lines of force from the M-field of the signal?

3) Is noise from local interference generators (like power lines, HID lamps, SCR devices) mostly static or magnetic?

Thanks for any comments.

jHill

5531. Re: Burt Fisher jokes not funny

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DIp4wt.Gpw@hpqmoea.sqf.hp.com>
Source record: 109441
Cross-posted to: rec.radio.swap,rec.radio.shortwave,rec.radio.scanner,rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

James E Muehlberg (muehlber@plains.nodak.edu) wrote:

: It's unfortunate that this tirade must continue.

True!

: Even more unfortunate
: that our younger readers must be exposed to this behavior by, I assume,
: adults.

Youngsters seem to (usually) be more sophisticated and sensible than
adults (usually) credit them with.

:I do not know Mr. Fisher, and even if I did, I would not comment
: about him on the net.

Your restraint is commendable, though, as yet, untested.

: Making personal attacks on people in public is
: just plain tacky.

Engaging in a little banter with a wind-up merchant is not quite the
same as no-holds-barred-go-for-the-jugular hatred propelled flame wars that
sometimes erupt. May I suggest you read Burt's earlier postings? He's
quite right about there being plenty of boring radio amateurs (I may be
one of them..), but, unfortunately, he forgets those who do not fit his
stereotypes, and lumps everyone together. He seems to be having fun
stirring people up. While I've enjoyed watching this, I did consider his
remarks about Germans to be unreasonable and tasteless.

:Do I sound like your mother?

No

: Well, yes. There is an
: absolute right and wrong. You are wrong.

Your opinion is that *I* am wrong. I do not believe that I have any
right to declare anything to be absolutely right or absolurely wrong.

: God gave us free will, though,
: but some still dont know what to do with it. I'll pray for you.--

Thank you, but please do not. I think it most important that people
take responsibility for their thoughts and actions, and, if ever judged, I
should be judged fairly on my own performance without aid from others.

Cheers
David GM4ZNX

: SUPPORT YOUR MILITARY PERSONNEL +++ Jim Muehlberg MUEHLBER@PLAINS.NODAK.EDU

Isn't warfare evil?

5532. Re: What is SPAM???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: santa@northpole.com
Message-ID: <49cntv$kbl@its.hooked.net>
Source record: 109442
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

wa6ube@aol.com (WA6UBE) wrote:

>In amateur radio parlance, SPAM is a an amateur radio interest group that
>promotes the use of A.M. (Amplitude Modulation) using older, usually
>vacuum tube transmitters.
>
>SPAM: Society for the Preservation of Amplitude Modulation
>
>check 75 meters around 3870-3885 KHz in the evenings if you live on the
>west coast of the U.S.
>
>Trish
>WA6UBE@aol.com "The Vertical Skywave Girl"
>Mobile radio repair shop supervisor - City of San Jose, GSA-Communications

SPAM is also idiots like JOE and his frend Brandis whoever who post
off topic messages, or people who cross post a "Call me, I'm horny.
011-32-4443-22332. Only 10 cents a minute" to EVERY newsgroup,
including binaries.

5533. Re: Even my wife thinks hams are...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <49ch3e$st8@crchh327.rich.bnr.ca>
Source record: 109443
Cross-posted to: radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space

In article <4952h8$n9e@vivanews.vivanet.com>, mulveyr@vivanet.vivanet.com (Rich Mulvey) writes:
|> Dennis A. Mason (damason) wrote:
|> : Burt must be a Chicken Bander.
|>
|> Please, we don't appreciate fowl language here.
|>
|>
Well, it's in the same family, seeing as Burt's a turkey. BTW, do ol' Burt survive Thanksgiving ? %^)
--
==========

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 991-4769 email: cnc23a@bnr.ca Ham: N4ZBB Packet: n4zbb@n1gmv.nc
DX PacketCluster (tm) Node : W4DW

All opinions are my own and do not necessarily reflect the views of my employer or co-workers, family, friends, congress, or president.

5534. Re: Building a 1296Mhz VCO - suggestions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: Hans Insulander <ib94_hin@isk.kth.se>
Message-ID: <Pine.SUN.3.91.951127100341.23309A-100000@isett.isk.kth.se>
Source record: 109444
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

On Fri, 24 Nov 1995 GeertJan.deGroot@ripe.net wrote:

> In rec.radio.amateur.homebrew you write:
>
> >Does anyone have any suggestion on how to build a 1296MHz VCO?
> >I have about one hundred BB809 varactor diodes. Will they work (good)
> >for this frequency?
> >I also have a bunch of MSA-0386 and MSA-0486 MMIC's. Can i use them
> >for an oscillator?
>
> The coil is a very important part and very difficult to make
> using 'regular' components. I tried 1/4lambda of semirigid coax
> (4 cm of it), and that works very nice; stability is excellent
> (.5 MHz on 23cm without any special measures)

What about stripline instead of coax? At least simplier to construct...
>
> I think the BB809 varicap (not varactor) diode should work fine.
> I tried a BB105...
>
> I don't think that an MSA builds a good oscillator because of the noise
> (broadband device). Try a regular transistor (BFR91) and use the
> MSA as buffer. I think that with a BFR96 behind that you ought to
> be able to get 100mW at least.

hmm. Think I have a bunch of BFR540 available cheap. What about them?
>
> Oh, see of you can use SMD's for the capacitors and such. Ceramics
> do not nearly work as well.
>
> Geert Jan
>
>

Thanks for your help!

/Hans Insulander ib94_hin@isk.kth.se

5535. Re: The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: Bob <rjp@intac.com>
Message-ID: <49c3q4$r7f@uucp.intac.com>
Source record: 109445

Interesting...
Bob WA2IHJ

5536. Re: The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <DIpB96.Hwn@eskimo.com>
Source record: 109446

In article <49abeq$p4b@hobbes.cc.uga.edu>,
mcovingt@ai.uga.edu (Michael Covington) wrote:
>THE N4TMI DESOLDERING CONTEST
>
>This evening (November 23, 1995), I decided to hold a fair competition
>between all the different desoldering techniques available to me.
>Here are the results.
>
>I would appreciate comments on these notes from anyone more experienced.
>^^
>
>The goal in each case was to remove some ICs, undamaged, from a
>double-sided circuit board (part of an IBM PC AT); this is the most
>difficult desoldering task that I routinely face. Single-sided boards
>are _much_ easier to deal with.
>

Your technique with the hot-air gun was interesting, but anytime you pull on the IC while the solder is molten, you risk lifting the pad off the board. A better way, although more expensive, is to use one of the power vacuum devices made by Hakko, Pace and others. They heat the board while applying a vacuum which you control with a pushbutton. You can do a very thorough job of removing the solder from the hole before exerting any pull on the part. They cost in the several hundred buck range though, more than most hobbyists would want to spend. They are what the professionals use, and if you have access to one, that's the way to go.

73, Bill W7LZP
wrt@eskimo.com

5537. Re: 811A VS 572B Triodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: n2wks@aol.com
Message-ID: <49car2$gmr@newsbf02.news.aol.com>
Source record: 109447

I run a heathkit warrior HA-10 kilowatt linear amplifier
The 4 811A deliver 900 watts output at 750ma plate current
and 1600 v plate voltage with 100w drive.
This output is not safe for the 811A but if the 572B
can be used instead can I safely run at 900 watts class AB?

N2WKS

5538. Re: QSKing a Heath SB1000 (AL80A)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: n2wks@aol.com
Message-ID: <49caug$gnl@newsbf02.news.aol.com>
Source record: 109448

I just saw the sb1000 in an old heath catalog
it mentioned the sb2001 upgrade as the qsk kit.

hope that helps with your search.

N2WKS, Zev

5539. Re: CW filter in LSB on FT-890

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: dennisg@microware.com
Message-ID: <49cfhp$lif@mcrware.microware.com>
Source record: 109449

In <70492.tmedin@che2.che.umn.edu> tmedin@che2.CHe.umn.EDU (tom medin) writes:

>anybody have any idea how i can logically switch in the CW filter when
>i am in LSB on the Yaesu FT-890?

I think that this is a fairly complex mod to do, if the info is even available.
I ended up running split. Recieve on 'A' with CW filter engaged and xmitting
on 'B'. This worked OK for the digital modes but was a pain. I bought a
Timewave 59+ eventually.

73's Dennis
--
Dennis Gabler --o--------------------------=o=--------------------------o--
|
dennisg@microware.com KB5HVN/NNN0BQG__________| KB5HVN@WB0UGO.IA.USA.NA

5540. Re: Plate Choke - Where can I find ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <49cfsv$i9t@newsbf02.news.aol.com>
Source record: 109450

In article <9511251432591.The_Win-D.rhiii@delphi.com>, rhiii@delphi.com (Richard Harrison) writes:

>
> Got from flea market an Amp Supply Co. model LA-1000, 80-15 meter
>amplifier. It has a zapped plate choke and probably soft tubes.
>
> Other than name (Amp Supply Co.) no other mfgr identification. Can
you
>help me with a source to purchase a new plate choke and tubes ?
>
>
>Tks,
>
>de Richard/NT2Z
>
>

Hi Rich,

Amp used all types of chokes in the 1000. Some were surplus and some were homemade. You do not need all the inductance the surplus chokes had, they were huge and impossible to re-wind as built.

Actually if you close wind either form with #20 enamel you will do ok. The only rub is the choke may have a series resonace that causes it to burn up on some bands. I can suggest a method to test for and cure that problem if you like or need.

Good luck on the tubes! The price is outta sight, and the amp will gobble them up if you do anything wrong when tuning...even for a few seconds!

73 Tom

5541. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: datwyler@aros.net
Message-ID: <49cg6u$l8e@news.aros.net>
Source record: 109451

JDR shows them at $1.95, both in the www catalog page and in the printed catalog I just received.

5542. Re: The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <49chqq$j2s@newsbf02.news.aol.com>
Source record: 109452

Thanks for the tip on the hot air gun.

Seems to be the answer to getting it done right.

I've been using the torch for those boards I have no use
for . Since the smell is awful, I've been looking for another way.

Tanks.....

Carl The2x4

5543. 2 meter linear desired

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: kuhl@acsu.buffalo.edu
Message-ID: <49cn1j$4d6@azure.acsu.buffalo.edu>
Source record: 109453

I currently have a two meter HT and would like to buy or build a linear for it. If anyone could point me in the direction of a supplier and/or plans, it would be appriciated.

Thanks,
Kevin

5544. Re: Oscillators using mmic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30B9AAD5.554C@jpaw.com>
Source record: 109454

Does the old tube circuit rule: "If you want an oscillator, build an amplifier; if you want an amplifier, build an oscillator." apply to MMIC's?? :) :) :)

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5545. Re: MGF 1402 noise figure. (And S param)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <49cshe$76l@tempo.univ-lyon1.fr>
Source record: 109455

Dana Myers (myers@West.Sun.COM) wrote:

: How well does the MGF1402 work at 150MHz in general? If it is
: stable, I'd guess the noise figure is low enough that you need
: not worry about it :-).

Well, if I just look at the "appendices" of the ARRL Handbook, there are plenty of Preamps build with this FET. That would probably mean it is stable. NF is given as 0.4 dB. I just wonder if it can be lowered, I'd maybe like to use this rig for EME (at least in reception)

But again, lacking S params, I can't figure out the area of stability. The input stages given in the Handbook are of little use, I simply can't convert from those b***y american unities into metric.

BTW, whereis Sun's hardware lab ? I should work there for three/four months quite soon.

Good afternoon,
Vince
--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

5546. Some specific duplexer design questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <49cvst$bgn@crchh327.rich.bnr.ca>
Source record: 109456

Working on a project for a class, and had some specific questions...

1) I am working on a 900 Mhz design, any special considerations you
would recommend ?

2) What is the effect of the material used on a cavity/tuning rod/etc. ?

3) What determines the diameter of the cavity ?

4) Should the cavity be a 1/4 wavelength ? If it were 3/4 wavelengths,
how would that affect performance ?

5) What is the purpose of the "coupling loops(s)" ? What considerations
are needed to develop the geometry ?

6) Can a duplexer be achieved with a tuning shaft that is simply a screw
into a cylindrical cavity ? What is the effect of the cylinder in a
cylinder design ?

7) Are the interconnecting cables 1/4 wavelength ? What is the significance
of the interconnecting cables ?

8) What is the circuit element model of a cavity ?

9) How can I determine insertion loss and isolation of a design ?

10) What would you recommend about shunt capacitors and inductors ?

11) How do you determine the Q of the cavity circuit(s) ?

--
==========

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 991-4769 email: cnc23a@bnr.ca Ham: N4ZBB Packet: n4zbb@n1gmv.nc
DX PacketCluster (tm) Node : W4DW

All opinions are my own and do not necessarily reflect the views of
my employer or co-workers, family, friends, congress, or president.

5547. TS-140S software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: arso@badlands.nodak.edu
Message-ID: <49cu6p$qng@daily-planet.nodak.edu>
Source record: 109457

Please accept my apology if you answered my precvious posting and it did not get delivered. I entered the wrong E-mail address (forgot to include .nodak).

Can somoeone please help me locate software for an IF-10C Kenwood interface.

Thank you.

5548. Surface-mount JFETs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9510278174.AA817491434@mail.creo.bc.ca>
Source record: 109458

I'm in the market for some surface-mount JFETs - something in the MPF102/2N3819 class. I'd appreciate any suggestions on part numbers and availability.

Thanks in advance...

Laura Halliday VE7LDH "C'est une femme mutine, assez
elegante, grave et legere, ayant
lhalliday@creo.bc.ca le sens du confort et du plaisir
ve7ldh@amsat.org en tout." - C. Deneuve

5549. Re: The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <49d73a$mc@mrnews.mro.dec.com>
Source record: 109459

In article <49abeq$p4b@hobbes.cc.uga.edu>, mcovingt@ai.uga.edu (Michael Covington) writes...
>THE N4TMI DESOLDERING CONTEST
>
>- If a joint fails to desolder properly, the thing to do is add more
>solder and try again. It is almost impossible to remove the remaining
>solder from a half-desoldered joint.

As one who's been known to pick up TV sets left at the curb on trash day for purposes of scrounging the parts inside, I feel qualified to answer.

In the above case, another trick is to turn the board over and try again from that side. Often the half-desoldered joints are caused by a big ground plane or some such sinking all the heat from the pin on the opposite side.

BTW, my results over the years (some of it done for a living) exactly match yours. Heat gun is #1 for rapid desoldering of multiple joints. If the parts on the particular board didn't have every little lead bent over to hold them in, you could melt large areas and just watch the parts fall out.

#2 is solder suckers of various sorts. These clear the holes of solid solder so you can pop the pins loose by wiggling a little. The pins are indeed often still bonded slightly. Rather tedious, but it works.

Solder wick is mostly for helping clean up after #2. I've never managed to get it to properly desolder plated-trough holes very well.

Adding a bit of solder does help sometimes. I've come to the conclusion that this has more to do with the rosin cleaning out the joint than with the actual solder. Seems like both the iron and the joint get a bit oxidized and won't transfer heat very well.

If you want to save the board, DON'T apply any kind of force to the part you're extracting. The plated-through holes pop out very easily when hot. Let the iron do it's job and gently tug the leads free. If they don't loosen up, something else is holding them or the solder isn't melting.

Happy scrounging!

-Tom R. N1OOQ randolph@est.enet.dec.com

5550. Address/Phone Number needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <49d7i9$gvq@crchh327.rich.bnr.ca>
Source record: 109460

Does anyone have the address and/or phone number for CelWave or
Phelps-Dodge ? (They make duplexers)

--
==========

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 991-4769 email: cnc23a@bnr.ca Ham: N4ZBB Packet: n4zbb@n1gmv.nc
DX PacketCluster (tm) Node : W4DW

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my employer or co-workers, family, friends, congress, or president.

5551. Re: The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: ed@fore.com
Message-ID: <49da5k$4gd@baleen.fore.com>
Source record: 109461

Ill jump in and add my $.02

I repair 9 layer boards that have 120 pin piggyback modules on machined copper pins soldered into plated through holes, attached to large power & ground planes in both the motherboard and the piggyback board. A desoldering nightmare!

We need to remove defective modules without damaging the motherboard and leave the holes open for the new part.

It depends on what you are wanting to save, the pcb or the chips.

DONT USE A TORCH!!!, it will burn your PCB, and oxidize your chip pins and make them hard to solder. The high heat can also "Thermal shock" your chips too! Dont know thermal shock, drink some hot coffee, now take a bite of ice cream, your teeth shattering is from thermal shock. Heat does the same to silicon.

Hot air is wonderful for removing or preheating boards/chips for solder suction removal. To just save the chips heat the pcb from the back and yank, but you will leave solder in the holes that will be nearly impossible to get out.

To keep the PCB in good shape, use a combination method, flux the pins of the chip to be removed, both top & bottom, stand or prop the board up on its side so that the solder is travelling horizontally, gravity makes a difference. You can then hot air from top side while using desoldering iron (suction, squeeze bulb, or pump) to suck the solder from the pin/hole from the bottom side. Dont run the air hot enough to melt the soler though, or you may have bridges develop, or have other components skew, let the iron make the final melt. Desolder the pins in a row, 1,2,3,4... dont jump from side to side, 1,20,2,19,3,17... When you desolder a pin, you will also be warming up the pin next to it, work quickly, dont wait for it to cool inbetween pin desolderings. So desolder while the pin is hot. Its easier to desolder a pin thats 400deg F rather than a pin thats 70deg.

We use Hakko 850 hot air stations and Hakko 470 powered suction irons. We tried weller, pace, denon, ok industrys, ungar, APE, Dragon. The hakko passed the "Ed test".

73

Ed N3SDO Ed@fore.com

5552. Re: Building a 1296Mhz VCO - suggestions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: geertj@ripe.net
Message-ID: <DIq3Ct.2J4@inter.NL.net>
Source record: 109462
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In <Pine.SUN.3.91.951127100341.23309A-100000@isett.isk.kth.se> Hans Insulander <ib94_hin@isk.kth.se> writes:
>> The coil is a very important part and very difficult to make
>> using 'regular' components. I tried 1/4lambda of semirigid coax
>> (4 cm of it), and that works very nice; stability is excellent
>> (.5 MHz on 23cm without any special measures)
>What about stripline instead of coax? At least simplier to construct...

A stripline is not shielded, while semirigid is. I think a stripline will work (Glenn explained that to me recently), but he used multilayer to shield it. I'd take semirigid over the pain of making stripline every day. Can you imagine an oscillator that doesn't detune (much) if you touch it, or waive in the neighbourhood?

Another reason for me liking semirigid here is that I plan to use this for a transmitter, i.e. add a few amplifiers behind. As an oscillator is a very sensitive amp (it oscillates, right?) this shielding will be helpful.

Try it, just for the heck of it. I was amazed; I hope you will be too (yes, free-running FM ATV is trivial)

>hmm. Think I have a bunch of BFR540 available cheap. What about them?
I don't know that type. Pro-electron suggests 2 digits behind BFR; is that type number correct?

Have fun hacking,

Geert Jan

5553. Re: Diversity with RX ATV?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <49ddl9$nkr@nntp.Stanford.EDU>
Source record: 109463

I do quite a bit of work with FM ATV here. While I have no
specifics on diversity video reception, I do know that the
commercial broadcasters use digital frame storage devices
which hold the last frame or implement individual line
replacement during signal dropouts from portable cameras
and aircraft etc. Because these are out door operations,
diversity and multipath may not be as big an issue with them.
I think you may be getting into a new area of research.
I have heard of others using FMTV indoors and have heard similar
complaints.

Good Luck,

Steve Muther WF6R
stevem@w6yx.stanford.edu

In article <ycrbupyrqrz.fsf@mesfet.ee.tut.fi> benjamin@mesfet.ee.tut.fi (Gr|nlund Pentti)
writes:
>A couple of weeks ago a customer of ours addressed me with
>a problem that is closely related to ATV.
>
>They are using 1,4 GHz low-power FM TV transmitters indoors
>to transmit picture from a moving vehicle to the remote
>control site. Needless to say that the picture quality is
>plagued with multipath drops even when the vehicle is close
>to the receiver. I suggested that they should try several
>receivers with diversity combiners and the result was that
>they came back asking for more information...;-)
>
>Has anybody tried diversity reception with FM ATV? And if you
>have, what have you used as the diversity criteria? Are there
>any articles about the subject and combiners?
>
>Also pointers to commercial video diversity combiners and manu-
>facturers would be greatly appreciated.
>
>73 de Benjamin OH3BK
>
>PS. The FM TV equipment they use now was made by Microwave
>Modules. I have a faint idea that they have gone out of business,
>are there any successors? Sinclabs?
>--
> Pentti "Benjamin" Gronlund benjamin@ee.tut.fi
> Life member of IAAA, the International Association for Adjustment Aces
> *** Original Live Reports from the Taxman's Paradise ***

5554. RF choke color codes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: "Colin Schmutter"
Message-ID: <49dev0$i2e@chopin.bcit.bc.ca>
Source record: 109464

I am a bit unclear as to how the color coding scheme applies to small RF chokes. The type of choke I am refering to look like small resistors and have colored bands around them.

I can see that the first and second band refers to a digit value as in a resistor but the multiplier band confuses me.

For example what value would a choke with the colors brown black and orange represent?

Any help would be appreciated.

cschmutter@bcit.bc.ca

Colin

5555. Re: QST Tech Errors.... Common?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <49cfqo$i9j@newsbf02.news.aol.com>
Source record: 109465

Hi Zak,

In article <4950t4$g21@mgate.arrl.org>, Zack Lau <zlau@arrl.org> writes:
>
>Which is why we try to quickly route articles through several
>staff members. While I don't care if it takes a year of more
>to publish my articles, many authors are concerned about how
>long it takes for their stuff to appear in print.

The problem I see with that is when people work together at the same location a "pecking order" is established. Portions of the review process are severly hampered or destroyed by the "pecking order", although it is better than one person.

>Some stuff does have a short shelf life--we do know that
>Radio Shack likes to change its assortment of parts. But,
>is that grounds for rejecting an article that someone has
>spend a lot of time and effort developing?

Hunh???

>>Ceratinly *a few* technical errors are simple and stand out, even a
single
>>reliable source could catch those errors. But most technical articles
>>require ****GROUPS***** of experienced reviewers, NOT the single source
>>commonly depended on. The League doesn't need to do the work or even pay
>>for the help. The staff simply needs to learn how to allow and encourage
>>people to help. Resources are available if the staff uses them.
>
>Looks like we need to hire an expert on managing volunteer labor.
>How do you get them to give the volunteer work you hand them top
>priority? People change jobs and they seemingly vanish...

The biggest complaint I hear from technical advisors and their assistants is they are kept out of the loop. People actually want to help, and there are so many of them out there I can't imagine not being able to find several dozen respondents.

>Its also an interesting problem to decide which expert/experts
>are right. I was surprised to find out that the K2RIW 432 MHz
>parallel4CX250 amp was actually rejected by Ham Radio.

That's true, but I was equally surprised to see the Handbook include a steel wool balun, a forward acting speech processor, a linear amp that connects the blower and filament transformer primary wiring to the chassis, and so on. Look at the inability to resolve the Bruene/Maxwell disagreement when a simple lab test would provide the truth!

Perhaps both review systems have the same problem, a few people that work together make decisions without considering or requesting outside independent input.

73 Tom

5556. Re: Oil Filled Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <49cfs2$i9q@newsbf02.news.aol.com>
Source record: 109466

In article <447428674wnr@ifwtech.demon.co.uk>, Ian G3SEK
<G3SEK@ifwtech.demon.co.uk> writes:

>What makes of photoflash capacitors have you been using successfully,
Tom?
>
>
>--
>73 from Ian G3SEK

Actually I'm not sure they are photoflash. They are CDE type LPC111-1 40
mf 3 kV. I also use GE 33 mf 4 kV. One 3CX3000 amp here has been running
since 1978 with CDE's at 2800 volts per cap in a cap input full wave
supply!

I thought you would have a more painful response to my 50 Hz dig, but I
guess not. I'll try again later. ;-)

73 Tom

5557. TS-140S software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: arso@badlands.edu
Message-ID: <49cf6u$lfj@daily-planet.nodak.edu>
Source record: 109467

Can someone please help me locate software for an IF-10C Kenwood interface.

Thank you.

5558. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: StaZyr@Lin.FOA.SE
Message-ID: <StaZyr-2711951601130001@stazyr.lin.foa.se>
Source record: 109468

In article <4888ht$lnh@guava.epix.net>, smackay@news.epix.net () wrote:

> I seem to recall the NE604 is a souped up '602. Think pinouts the same.
> Also have seen '602s in Nuts and Volts ads..surplus houses.
> 73
> Scott
> W7GSM
>
> Alan Wong (wong@PROBLEM_WITH_INEWS_DOMAIN_FILE) wrote:.......
> : Jim Devenport (jdevenport@lanl.gov) wrote:.................

The NE604 is a completely different IC than NE602. They have not even the same amount of pins. (16 vs 8) Substitute the NE602 with an NE612 which is a pin for pin replacement but has a slightly better perfomance.

Stan

5559. Re: The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov27.152026.19641@ke4zv.atl.ga.us>
Source record: 109469

In article <49abeq$p4b@hobbes.cc.uga.edu> mcovingt@ai.uga.edu (Michael Covington) writes:
>I would appreciate comments on these notes from anyone more experienced.
>^^
>TECHNIQUES AND RESULTS:
>
>(1) HOT AIR GUN
>
>Overall performance: VERY GOOD. Even 40-pin ICs were removed easily.
>No damage to the board occurred (not even scorching of labels).
>
>Technique: Use a 1200-watt Black and Decker hot-air gun, with 1/2"
>diameter tip, positioned 1/2" from the solder side of the board,
>to heat all the pins of the IC for about 30 seconds. Meanwhile, pull on
>the IC from the component side with pliers or an IC extractor. When the
>solder melts, it can be pulled free. Some force is needed because the
>pins of the IC have been bent to hold the IC in place.
>
>I just thought of this technique today and was delighted to see it work
>so well. A similar technique with a propane torch is sometimes
>suggested, but it is more likely to scorch the board.
>
>With this technique, the IC gets rather hot, but probably no hotter than
>during initial wave soldering of the PC board. The IC case stays below
>200 F as judged by the water-drop test.
>
>Precaution: Droplets of solder may be blown through the holes and land
>in unexpected positions on the component side.

I use a static hot air source for much of my work. Let me make a few
suggestions. First, you want a *static* hot air source. That has several
advantages, notably it won't blow solder (or parts) everywhere, and it's
easier to control exactly where the heat will go. I normally use either a
Weller Pyropen or a Bernz-O-Matic torch, either fitted with a proper
heat shroud and baffle. (Weller sells some for their Pyropen, and you
can make others from simple sheetmetal. The bigger torch is most useful
for huge multilegged parts.)

Second, for thru-hole boards, deal with any cinched pins first. Just
heat the pin with an ordinary fine point iron and use your "Greenie"
(the ubiquitous Xcelite R3322 every tech *always* has in his shirt
pocket) to pry the pin back straight.

Now if you are trying to *repair* the board, build up a small clay
dam around the part to be removed. Just use a 1/8th inch to 1/4 inch
roll of modeling clay formed around the pins of the part to be removed

to keep the hot air from spreading to other component leads. If you're just salvaging chips, you can skip this step.

With the board held in your hand, *quickly* heat the pins with the hot air source (with either torch recomended this should take no more than a couple seconds, with the big torch held further away to control the heat flux). Now rap the board sharply against the bench and the part should fall out. Alternately, you can pry it off from the component side with the Greenie or with a chip puller, but if you do you run the risk of damaging the board, or the part. It's better if you can make it fall out.

This technique works even better with SMD parts since they aren't bound to the board with anything but solder. (Some are, however, with a dab of adhesive between the board and the part body, for those, apply the Greenie to pop the part off the board. Just make sure the solder is molten when you do this or traces may come up.)

I can't emphasize enough that you need to work *quickly*. Otherwise you can overheat the part or the adhesive holding the trace to the board.

Nothing can beat the static hot air source for *installing* a SMD part either. Just put a dab of solder paste on each *clean* pad, set the part in place (with the clay dam installed to avoid heating other parts' joints), and give it a shot of static hot air. Surface tension of the molten solder will pull the chip into perfect alignment. As soon as it does, remove the hot air source and let cool before disturbing. (This obviously is a case where the hot air source has to be static, otherwise it would blow the part out of alignment.)

Now let me talk about another *repair* technique with thru-hole parts. Often you know a chip is bad, and need to remove it to install a replacement part. With a multilegged DIP, this can be a tedious process fraught with danger to the board. So just snip the part off the board from the component side with a pair of fine dikes. Now you can either remove each pin individually with a fine tipped iron and a pair of needlenose pliers, or just leave them there and solder the replacement part to the pins left from the old part. This latter method is ugly, but it's fast and it offers less trauma to the board, especially if it is a multilayer board.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5560. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <49d4t9$70c@newshost.lanl.gov>
Source record: 109470

I also noticed NE602's in the BG Micro catalog for about $2
each, no minimum listed: bgmicro@ix.netcom.com
No connection to yours truly, of course.
--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5561. Re: QST Tech Errors.... Common?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: Ed Hare <ehare@arrl.org>
Message-ID: <49dg7c$rjb@mgate.arrl.org>
Source record: 109471

Zack Lau <zlau@arrl.org> wrote:

>w8jitom@aol.com (W8JI Tom) wrote:

>>It is much better to have consensus from several independent sources. >>Sole sources are almost never reliable for technical data.=
No single >>person is error free or catches every mistake!

>Which is why we try to quickly route articles through several
>staff members. While I don't care if it takes a year of more
>to publish my articles, many authors are concerned about how
>long it takes for their stuff to appear in print.

>>Ceratinly *a few* technical errors are simple and stand out, even a >>single reliable source could catch those errors. But most te=
chnical >>articles require ****GROUPS***** of experienced reviewers, NOT the >>single source commonly depended on. The League doesn=
't need to do the >>work or even pay for the help. The staff simply needs to learn how to >>allow and encourage people to help. Reso=
urces are available if the >>staff uses them.

>Looks like we need to hire an expert on managing volunteer labor.
>How do you get them to give the volunteer work you hand them top
>priority? People change jobs and they seemingly vanish...

The ARRL has a collection of volunteer Technical Advisors, experts in various fields. In many cases, as an incoming article is in the queue for review, we elect to take the extra time to send it off to one or more of these volunteers, in addition to the in-house review by the editors and Zack here in the Lab. In most cases, the TAs are able to review the article fairly quickly and advise us before we publish. For many types of articles, we won't accept the article until it has received review by an expert we trust. However, volunteers are *volunteers*, and in my experience, sooner or later every volunteer has a busy time in his or her life and cannot drop what they are doing and tend to an ARRL matter for us.

However, from personal experience, I have also found that the experts do not always tend to the details. Even some of the authors have not noticed that U2B appears on the schematic twice. When I did my first technical review on a QST article, I almost glossed over the schematic, reading the text for the overview, looking for the gross technical misrepresentation. I assumed that the details had to be okay, and they wanted my expertise for the big picture. I soon figured out that it is the details that were wrong, not the big picture. Once I spent the time to carefully read each line in the text, and make sure that if it said

"adjust R2" that R2 wasn't a fixed resistor, I was catching some of the potential errors. Fortunately, it doesn't take an expert to locate those types of problems, it takes someone with a sharp eye and the patience to spend up to a full day on a large construction project poring over and verifying the details. We are not in a position to demand this of outside volunteers, but we can pay staff to do it.

As Zack pointed out earlier, we are committed to eliminating all errors in QST articles. We use a good combination of outside people and paid technical staff to do just that. We will never succeed 100%, but I don't want to see any errors that could be caught by careful review of the details. The recent case in question involved an article that had somehow dropped into a crack, lost perhaps in some shuffling of staff responsibilities. Zack and I are very concerned about what may have gone awry and how to change the process so it doesn't happen again. We are working with Steve Ford, our Managing Editor, to ensure that the articles receive the external and internal review for technical accuracy. Zack has worked very hard to improve the quality of ARRL publications, identifying and catching many potential errors before they get to print.

73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor

5562. 320 MHz power brick source? UK preferably.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: nigel@smalldog.u-net.com
Message-ID: <49dcjc$mfi@oveja.u-net.net>
Source record: 109472

Anyone know where I can gaet a PA module covering 320-330 megs?
Output at least 1 Watt, as much gain as possible?

I know it's not a ham allocation in the UK, it's not a ham project.

I've tried Birkett, by the way.

5563. Diversity with RX ATV?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-27 00:00:00 UTC
From: benjamin@mesfet.ee.tut.fi
Message-ID: <ycrbupyrqrz.fsf@mesfet.ee.tut.fi>
Source record: 109473

A couple of weeks ago a customer of ours addressed me with
a problem that is closely related to ATV.

They are using 1,4 GHz low-power FM TV transmitters indoors
to transmit picture from a moving vehicle to the remote
control site. Needless to say that the picture quality is
plagued with multipath drops even when the vehicle is close
to the receiver. I suggested that they should try several
receivers with diversity combiners and the result was that
they came back asking for more information...;-)

Has anybody tried diversity reception with FM ATV? And if you
have, what have you used as the diversity criteria? Are there
any articles about the subject and combiners?

Also pointers to commercial video diversity combiners and manu-
facturers would be greatly appreciated.

73 de Benjamin OH3BK

PS. The FM TV equipment they use now was made by Microwave
Modules. I have a faint idea that they have gone out of business,
are there any successors? Sinclabs?
--
Pentti "Benjamin" Gronlund benjamin@ee.tut.fi
Life member of IAAA, the International Association for Adjustment Aces
*** Original Live Reports from the Taxman's Paradise ***

5564. How to? (was Re: Plate Choke - Where can I find?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <49e4vl$kps@cloner3.netcom.com>
Source record: 109227

In <49cfsv$i9t@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:

>The only rub is the choke may have a series resonace that causes it to
>burn up on some bands. I can suggest a method to test for and cure
>that problem if you like or need.

I'm interested -- can we get good results home-winding a plate choke? The two potential problems that come to mind are the resonances you mention, and the high RF voltage across the choke (what's the insulation breakdown rating on magnet wire anyway?). Anybody care to give a little tutorial?

73,
Mike, KK6GM

5565. Re: Measuring phase noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <49f063$s62@ixnews4.ix.netcom.com>
Source record: 109228

In <199511270333.NAA20990@dyson.brisnet.org.au>
peterw@dyson.BRisnet.ORG.AU (Peter L. Williamson) writes:
>
>Hello Geoff, Where did you get the aricle on measuring phase noise
with the
>8640??.
>Peter L. Williamson
>VK4AWP.
>

Peter,

The technique is on page 14.12 of the '95 edition of the "Radio Amateur's Handbook" (and can probably be found in other Handbooks). It is also discussed in the two-part series entitled "Phase Noise and its Effects on Amateur Communications", published in the March and April, '88 issues of "QST".

- Jeff, WA6AHL

5566. Need source of MA4P1250 PIN Diodes in small qty's

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: pieter.ibelings@sciatl.com
Message-ID: <49f3m2$tac@stealth.mindspring.com>
Source record: 109229

Please help. Thanks
AC4OP

Pieter Ibelings

5567. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <49f4kj$h08@ixnews5.ix.netcom.com>
Source record: 109230

>
>Ricks post is most informative on this topic. The operative word
>in the handbook article is "crude" phase-locked loop. If the
>oscillator under test is any good, what they are measuring is the
>performance of the '8640.
>
>If they had an '8662, it would be a different story.
>
>regards, Wes
>

Good point. Interestingly, the Handbook stated that the 8640B "has a much cleaner spectral output than most transmitters", and so would be adequate in this application. I wonder if the ARRL's Lab has compared the results of the 8640B method with those from commercially available phase-noise measurement systems? How much worse is this technique? Its virtue is that, if you already have an 8640B, it's very simple.

If only I could afford an '8662...

Rick wrote:
>I have an 8640/323 also. It omits the "lock" feature probably because
>the military correctly realized that it was of dubious value and was
>not "soldier" proof, being that it will remain in lock for about 2
>minutes at a time, typically. Also, it is a frequency lock loop using
>the built in frequency counter, not a true synthesizer. Hence don't
>even ask about phase noise clean up, there ain't none. You're better
>off without it. Who knows how it would interact with the external
>FM port?

HP *claims* that there is little interaction with the FM port ("...assures no degradation in noise from the unlocked mode"). But who knows?

Rick, thanks for pointing me towards Wayne Ryder's article. I dug it up last night -- interesting! I don't know how much of the 8640B's counter section he scavenged, but I was surprised to see that the counter stops counting in lock mode. I can understand Wayne doing this for simplicity and parts count sake, but I assumed HP would keep the counter functional - otherwise, how would you see the frequency change if you're in "x100" expanded mode, and you're tweaking the time base +/- 20 ppm? (This also means, I think, that the "tweakable" time base cannot be the counter's time base -- otherwise, you'd never see the frequency change as you tweak it).

I was pleasantly surprised to see how similar HP's technique was to the one that I'd blocked out Sunday afternoon (although I planned to keep the counter running -- hard not to do without making MAJOR mods, although it does mean more parts).

(As a side note - to those who are complaining about QST's technical error's, take a look at the counter schematic in this article!)

A final question - why is this not a "true" synthesizer? I don't know much about synthesizers, but it looks to me like a typical synthesizer schematic: VCO divided by M, reference divided by N, both go to a phase detector (cleverly combined with the VCO counter's control logic), whose output is then filtered and fed back to the VCO. How is this different from a real synthesizer?

Thanks for the help.

- Jeff, WA6AHL

5568. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <49fe2o$c39@canyon.sr.hp.com>
Source record: 109231

Jeff,

I haven't read the article either but I thought I might drop some
numbers in case they might be helpful. Typically, the 8662 which
is mentioned as a "golden standard" has SSB phase noise of

Offset from .01-120M 120-160M 160-320M
Carrier dBc dBC dBc

10 Hz -113 -120 -113
100 Hz -130 -132 -126
1 KHz -134 -138 -133
10 KHz -137 -148 -143
100 KHz -134 -146 -142

While these are generally good numbers, I have found that except in
the decade centered on about 100 Hz offset, a good vhf crystal
oscillator locked to a decent 10 MHz reference with a low bw loop can be
even better. Overtone crystal noise generally falls at -30 dB/ decade and
can be 'out of sight' at fairly low offsets. If a good reference can
clean it up below that corner, the result is good indeed.

I show an example of this in a series I did several years ago in Ham
Radio Magazine, Feb/Jun/Oct 1988. I don't claim that oscillator circuit
is the quietest that can be done, I've done better since, but I think
something along that line can be made to be very quiet and that an
inexpensive circuit like this can rival or beat the above numbers at
most offsets. The article shows the results of multiplying and locking
this oscillator to microwave. Of course, a crystal oscillator phase
noise reference isn't going to have the flexibility of a synthesizer but
it may serve to help develop a low noise generator or transmitter.

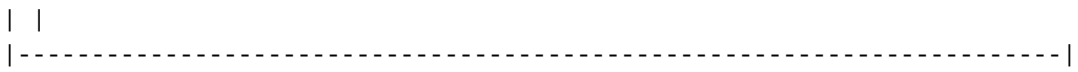
In addition to the raw oscillator performance, really good design
requires attention to all the buffers, dividers, phase comparators
involved and there can be a lot of layers of onion to peel in order to
get the very best performance.

I hope the above is useful.

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| ftp://col.hp.com/hamradio/packet/n6gn/index.html |



5569. Re: ac motor noise suppression/cancellation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1995Nov28.171257.25957@ke4zv.atl.ga.us>
Source record: 109232
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <49f3pr$bia@news.aros.net> datwyler@aros.net (Douglas L. Datwyler) writes:
>I have need of a few suggestions or references dealing with the VERY BROAD
>spectrum noise of ac motors, such as vacuum cleaners or drills, and reducing
>it or eliminating it. Any one know of something that may fit this need?

Real AC motors generally generate very little interference. The motors
in vacuum cleaners and drills are *universal* motors, IE they don't care
if you feed them AC or DC, and have nasty brushes which arc like mad.
The only solution to this sort of noise problem is to *suppress it at
the source*. All the usual things can be applied, shunt capacitors,
series inductors, shielding, etc. The best solution, of course, is to
replace the motors with brushless true AC motors.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

5570. AirDux coil source?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: cmoore@vegas.ch.intel.com
Message-ID: <49fld7$1egp@chnews.ch.intel.com>
Source record: 109233

Anybody know a source for AirDux coils? Any other brand
of large coils?

thanks and 73, Cecil, KG7BK, OOTC (not speaking for my employer)

5571. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <49fld6$517@mgate.arrl.org>
Source record: 109234

jeffa@ix.netcom.com (Jeff Anderson) wrote:
>
>I was just skimming the Handbook and came across an interesting article
>discussing oscillator phase-noise, and a simple technique for measuring
>it by phase-locking an HP-8640B generator to the oscillator signal.

> Question 2: I think the article mentioned that the filter
> was a 1 MHz low-pass. How many poles should it be? Is
> shape important, or can I get by with a simple topology
> (like, say, an RC lowpass)?

This filter may not be needed. It was added to avoid
relying on the spectrum analyzer to ignore the high
frequency products coming out of the spectrum analyzer.

Zack KH6CP/1

5572. Re: Surface-mount JFETs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <49fl53$ff6@news.iii.net>
Source record: 109235

I have about 2,500 MMBFJ310LT1s.
JFET
VHF/UHF Amp.

Interested?
E-Mail sefranek@iii.net

Tom
WA1RHP

5573. Re: MGF 1402 noise figure. (And S param)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <49fkbu$517@mgate.arrl.org>
Source record: 109236

elendir@enst.fr (Elendir) wrote:
>Hi,
>I'm always looking for my noise figure info.
>
>This time, I'd like to know if anybody has the NF of the MGF 1402 at
>150 MHz, together with its s or y param and the optimal source imped.
>
>I simply don't have any kind of info on this GaAsFET.

DJ9BV published S parameter data for the MGF 1302 in the No. 2
1993 DUBUS. The 1302 is a 1402 in a less expensive package--it
shouldn't make much of a difference at 2 meters. You might be
able to estimate the noise parameters from the information in
his 2 meter preamp article published the previous issue.

The French representative to contact for back issues is
Patrick Magnin, F6HYE. Rus, N7ART is the person to contact
in the USA.

Zack KH6CP/1

5574. Project boxes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: gdfender <eureka@datasync.com>
Message-ID: <49fqo0$uof@osh2.datasync.com>
Source record: 109237

Does anyone know where I can buy small (about 3x3x2) plastic project
boxes by the hundreds for a resonable price?

please respond to Gary at eureka@datasync.com

thanks, Gary W6SZX

5575. N4TMI on Desoldering: MORE DATA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: mcovingt@ai.uga.edu
Message-ID: <49dstk$ieg@hobbes.cc.uga.edu>
Source record: 109238
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

Thanks to all who responded to "The N4TMI Desoldering Contest" with advice and suggestions.

I made another trial with copper braid ("Chem-Wick Lite") this evening and found that I had been using it wrong. Tonight's notes:

(1) For best performance, the braid should *not* be spread out; it should remain narrow, just as it comes off the roll. That way, you get more wicking action.

(2) There's a lot of solder in each hole of a PC AT board. Each joint will need to be melted into copper braid about 3 times, using a fresh place on the braid each time.

Overall performance: VERY GOOD albeit slow.

--
Michael A. Covington http://www.ai.uga.edu/faculty/covington/
Artificial Intelligence Center <><
The University of Georgia Unless specifically indicated, I am
Athens, GA 30602-7415 U.S.A. not speaking for the University.

5576. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <49g4s3$g1a@mgate.arrl.org>
Source record: 109239

Zack Lau <zlau@arrl.org> wrote:

>> Question 2: I think the article mentioned that the filter
>> was a 1 MHz low-pass. How many poles should it be? Is
>> shape important, or can I get by with a simple topology
>> (like, say, an RC lowpass)?
>
>This filter may not be needed. It was added to avoid
>relying on the spectrum analyzer to ignore the high
>frequency products coming out of the spectrum analyzer.
^^^^^^^^^^^^^^^^
correction* It was added to avoid relying on the
spectrum analyzer to ignore the high frequency products
coming out ofthe phase detector. The LO+RF product could
generate spurious analyzer responses.

>Zack KH6CP/1
>

5577. GE MASTER II Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: dsharpe@bermudat.dr.att.com
Message-ID: <DIrwwv.CJ2@bigtop.dr.att.com>
Source record: 109240

Looking for any or all information on these radios. Want to convert a couple
of them to 2 Meters. Have not been able to find any mods or info at the servers
I normally get my information from. Send any info you may have to My E-Mail
address. Have been having troubles with XRN. Thanks and 73......
--
--> Dave Sharpe (KE6IRZ)

5578. $29 PIC Programmer pricing ends 12/31/95!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: itutec@aol.com
Message-ID: <49gfaf$1jb@newsbf02.news.aol.com>
Source record: 109241

Our special introductory pricing on our PIC-1 programmer and PIC-n-GO package will END December 31st OF THIS YEAR! Place your order now to receive your own PIC programmer at this incredible price before the holidays(an excellent gift idea for the electronic hobbyist!). Our PIC-1 programmer has been making news in Electronics Now, Popular Electronics, MicroComputer Journal, Electronic Products and was featured in Nuts and Volts Magazine. See our Web page for more information. Call us today to place your VISA/MasterCard order!

Remember, we include EVERYTHING you need, CABLES and POWER SUPPLIES!

ITU Technologies is proud to introduce the ITU PIC Programmer Model PIC-1, the first truly low-cost and versatile programmer for the Microchip Family of PIC microcontrollers. This programmer is designed for programming Microchip's popular PIC16C6x/7x/8x family of microcontrollers. The programmer is approximately 3.3" x 3.7" in size and features a built-in 18 pin DIP socket and an expansion header. The expansion header is provided for programming adapters and in-system programming of EEPROM-based PICs. A variety of adapters are also available to support 28/40 pin DIP PICs and other packaging forms. The PIC-1 programmer comes complete with an interfacing cable to connect to your PC parallel port, programming software, and power supply. The included power supply is for US use only, foreign customers must provide their own converter/power supply.

The programming software included is designed to program all of the supported PICs mentioned above. Software updates will be available electronically free of charge. The software allows programming of the PICs program memory, setting of configuration fuses, program verification and the ability to read PIC memory to a file. The software also allows data memory programming, reading of data memory, and bulk erase of EEPROM-based PICs. The software is DOS-based and is Windows95 compatible.

An UNREGISTERED shareware version of Don Lekei's Macro+ Assembler for Microchip PIC Microcontrollers (ASPIC) is included with each programmer for your evaluation.

SPECIAL INTRODUCTORY PRICING FOR INTERNET CUSTOMERS
THIS PRICING ENDS December 31st, 1995, HURRY!

ITU PIC Programmer (Model PIC-1) KIT $29
This kit includes:

* an easy to follow instruction manual for building your programmer
* a high quality printed circuit board with silkscreen
* all components needed to build the programmer
* PIC Programming Software for IBM PC AT-compatible Computers
* a cable to connect the programmer to a PC's parallel port
* a power supply for the programmer (for US use)
* a User's manual introducing the PIC-1 programmer and software

ITU PIC Programmer (Model PIC-1) Assembled/Tested $49
As above, but assembled and tested.

ZIF Upgrade Additional $11
* ZIF Socket Upgrade for PIC-1 programmer

40/28 PIN Adapter Assembled/Tested $25
* an adapter with ZIF socket for programming 40 and 28 pin DIP PICs

---

ALSO AVAILABLE PIC-N-GO PACKAGES:

PIC-N-GO packages are designed for the microcontroller novice. They include the ITU PIC Programmer Model PIC-1, as above, plus a PIC16C84-04/P microcontroller. This EEPROM-based microcontroller is ideal for the novice and the PIC-N-GO packages are the most attractive programmers available for the beginner. You can program and erase the PIC16C84 many times without the use of an EPROM eraser, making it the best choice for those starting out with microcontrollers. These packages are great for students and hobbyists looking to acquaint themselves with microcontrollers.

PIC-N-GO KIT only $39
* includes PIC-1 programmer kit and PIC16C84-04/P microcontroller (w/ data sheet)

PIC-N-GO Assembled/Tested only $59
* includes assembled and tested PIC-1 programmer and PIC16C84-04/P (w/ data sheet)

EXTRA PIC16C84-04/P Chips (with purchase of package) $7

THIS SPECIAL PRICING WILL END 12/31/95, SO ORDER TODAY! Don't miss this special opportunity.

Quantity discounts are available, making these packages the perfect choice for schools and clubs wishing to teach introductory microcontroller usage.

All products include a 30-day money back guarantee and a 90-day warranty. Due to the nature of kit building, all kits must be returned unassembled to qualify for a full refund.

Please add $5 for shipping/handling inside North America. An additional $5 service charge is required on COD orders.

You may place your VISA/MasterCard or COD order via phone. Our telephone number is (513) 574-7523. You can also mail in your check or money order to :
ITU Technologies
3477 Westport Ct.
Cincinnati, OH 45248-3026

Please feel free to e-mail us with your questions or COD orders at sales@itutech.com or ITUTec@aol.com.

See our Web page for a photo of the PIC-1 programmer and more details!
URL: http://www.itutech.com

ITU Technologies (513)574-7523 Visa/MasterCard Accepted
E-MAIL: sales@itutech.com OR itutec@aol.com
FTP: ftp://itutech.com WEB: http://www.itutech.com

5579. ac motor noise suppression/cancellation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: datwyler@aros.net
Message-ID: <49f3pr$bia@news.aros.net>
Source record: 109242
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I have need of a few suggestions or references dealing with the VERY BROAD spectrum noise of ac motors, such as vacuum cleaners or drills, and reducing it or eliminating it. Any one know of something that may fit this need?

Please send e-mail to datwyler@aros.net.

TNX in advance
Douglas L. Datwyler WR7O
datwyler@aros.net

5580. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <49e8md$5qu@news.azstarnet.com>
Source record: 109243

jeffa@ix.netcom.com (Jeff Anderson) wrote:
>
>I was just skimming the Handbook and came across an interesting article
>discussing oscillator phase-noise, and a simple technique for measuring
>it by phase-locking an HP-8640B generator to the oscillator signal.

[snip]

Ricks post is most informative on this topic. The operative word
in the handbook article is "crude" phase-locked loop. If the
oscillator under test is any good, what they are measuring is the
performance of the '8640.

If they had an '8662, it would be a different story.

regards, Wes

5581. Phone lines

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: "Charles W. Doolittle-Scovish" <doolic@rpi.edu>
Message-ID: <49drbd$3p7@usenet.rpi.edu>
Source record: 109244

I know this is in the wrong group, sorta, but if anybody could point me in the right direction.

I am creating a 2 station internal phone system. I have a 12-volt bias on the line. Everything works fine.

ONE CATCH: When phone A is picked up, I want phone B to ring. When phone B is picked up, I want phone A to ring. Not continuosly, but 1 ring of 4 seconds (standard) would suffice. This should be automatic, i.e. no buttons to push, as I have a cordless phone as one of the ends.

I am looking for either a manufacturer or schematics.

Thanks

--
Charles W. Doolittle-Scovish
doolic@rpi.edu
N1SPX
Frequencies at http://acm.rpi.edu/~n1spx

5582. Mass Production of P.C. boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-28 00:00:00 UTC
From: gdfender <eureka@datasync.com>
Message-ID: <49fqke$uof@osh2.datasync.com>
Source record: 109245

Does anyone knw where I can get P.C. boards mass produced (300-1000 at a time) with good quality and price? Overseas ok..

Please respond to

Gary at eureka@datasync.com

thanks, Gary W6SZX

5583. Re: What some think about sexy hams

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: russell@dreamscape.com
Message-ID: <49g9np$b10_001@x42.dreamscape.com>
Source record: 109246
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

In article <498k6u$5ee@news0.accent.net>, emdx@accent.net (Marc Dufour)
wrote:
>
>==========
>dmwelch@ornews.intel.com (Don Welch)
>&#65533;crivit le - wrote on 14 Nov 1995 17:01:27 -0800:
>----------
>
>>jimc@mdsroc.com (Jim Clarke) writes:
>
>>>I've only been an amateur radio operator for 18 years and I would
have to
>>(snip)
>>>Don't let the bad apples spoil the excitement that can be found in
amateur
>>>radio, there is something there for everyone (wives/girlfriends
too).
>
>>Speaking of HAM radios, could this group help me out? Every time I
go and
>>dive with my radio set, the fuse blows. What's the trick here?
>
> It could have something to do with your set antenna's SWR. What
does
>the S-meter says just before the fuse blows?
>
>----------Pour la R&#65533;publique Fran&#65533;aise du
Qu&#65533;bec----------
>In a Republic, society should be like school, whose prime mission is
to
>teach citizens how to judge for themselves by their own natural
light.
>In a democracy, it is school that must look like society, and it's
prime
>mission is solely to produce people adapted to the job market.
> R&#65533;gis Debray in "Are you a democrat or a
republican?"
>- Marc Dufour -- [\]ACUC 6 31874 & TDI -- http: will soon be relocated
-
>Pardon me, but what are ham radio enthusiasts doing in the

rec.pyrotechnics newsgroup?

5584. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Ed Hare <ehare@arrl.org>
Message-ID: <49gbcc$ih3@mgate.arrl.org>
Source record: 109247

Wes Stewart <N7WS@azstarnet.com> wrote:

>jeffa@ix.netcom.com (Jeff Anderson) wrote:

>>I was just skimming the Handbook and came across an interesting article
>>discussing oscillator phase-noise, and a simple technique for measuring
>>it by phase-locking an HP-8640B generator to the oscillator signal.

>Rick's post is most informative on this topic. The operative word
>in the handbook article is "crude" phase-locked loop. If the
>oscillator under test is any good, what they are measuring is the
>performance of the '8640.

While this is certainly true, unfortunately, we haven't yet seen an
oscillator in amateur equipment that is better than 10 dB worse than our
HP8640s. If they ever do get better, we will have to switch over to
using a low-noise reference crystal oscillator we have handy, at least
until someone donates a better signal generator. :-) (It would be tax
deductible, if anyone is feeling generous!)

>If they had an '8662, it would be a different story.

73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor

5585. Re: The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Mark Castiglione <mcast@novalink.com>
Message-ID: <49gr6o$enj@loki.novalink.com>
Source record: 109248

One comment..The Heat gun method is a little extreme..I have warmed a board to aid desoldering
when using a "solder sucker" but I think a heat gun alone will do damage.The cheaper the board the
more trouble you will have..73 Mark N8REZ M

5586. Anyone know a source for Yagi antenna parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Douglas Braun <dbraun>
Message-ID: <49i6ih$m8p@news.jf.intel.com>
Source record: 109249
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

I want to find a source for element-to-boom fittings so
I can build some 2-Meter and 70-cm yagi antennas. Is there
any place or person that sells these? (I can get plenty of Aluminum
tubing without any problem...)

Thanks,

Doug Braun (SV/N1OWU)

5587. Re: Anyone know a source for Yagi antenna parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: jstroppe@uhl.uiowa.edu
Message-ID: <49iiq6$eig@flood.weeg.uiowa.edu>
Source record: 109250
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

There is a company in the back of QST : Harbach Electronics WA4DRU
2318 S Country Club Road; Melbourne ,Fl. 32901-5809
no phone #

His add is for the sale of antenna parts. Element to boom;Boom to mast;S.S.
"U" bolts; Saddels; MORE

Have not tried him but there you are. John WA0VYZ 73

--
John Stroppel | Internet: jstroppe@uhl.uiowa.edu
The University of Iowa - Hygienic Lab | Amateur Radio: WA0VYZ
Oakdale Research Campus, OH-M7A | Voice: (319) 335-4500
Iowa City, IA 52242 | Fax: (319) 335-4555

5588. Re: Project boxes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <49gl2n$gn5@newshost.lanl.gov>
Source record: 109251

I'd recommend :

Jameco Electronics
1-800-831-4242
Boxes are VERY expensive from most all sources except some
surplus outlets, which usually don't have the quantities you
need. Good luck.
--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5589. Need small transceiver circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: lbe_dps@dircon.co.uk
Message-ID: <49hkgn$rgs@newsgate.dircon.co.uk>
Source record: 109252

Hi,

I'm trying to build a cheap tranceiver for bike to bike
communications. Small, easy to build and cheap are
the operative words here.

Has anyone got any circuit ideas, I not too bothered
about what frequency, obviously a legal one (hi,hi), but
a small (ish) aerial would be desireable.

Many thanks,

73's de G7DIN

5590. Re: Phone lines

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <49i2q3$eu9@newsbf02.news.aol.com>
Source record: 109253

Go to the library and look at the index for back issues of Radio
Electronics. Seems to me I recall seeing a little circuit to do just what
you are thinking of.
/===/
/ PFZouave@aol.com
/
/
/
/ The absurdity of a claim is not a valid measure of its probability
/
/
/
/===/

5591. Re: ac motor noise suppression/cancellation

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <49i2ng$ete@newsbf02.news.aol.com>
Source record: 109254
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

>. The motors in vacuum cleaners and drills are *universal* motors, IE
they don't care if you feed them AC or DC, and have nasty brushes which
arc like mad.
The only solution to this sort of noise problem is to *suppress it at
the source*. All the usual things can be applied, shunt capacitors,
series inductors, shielding, etc. The best solution, of course, is to
replace the motors with brushless true AC motors.

What if you used a full wave bridge (prior to the motor) in order to
supply it with D.C., and then , across the brushes, used a clamping diode?
/===/
/ PFZouave@aol.com
/
/
/
/ The absurdity of a claim is not a valid measure of its probability
/
/
/
/===/

5592. Re: Mass Production of P.C. boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: snoble@critech.com
Message-ID: <49ht3s$2bn@condor.ic.net>
Source record: 109255

General your best bet for a pc board house is to find on localy. Here in Ann Arbor we have 3 or 4 that I have dealt with. 300-1000 would be a small number for a simply board. Electronic Design Mag has adds for sort run pc board house but I have never work with any of them.

5593. Kenwood TS-870

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: jkbe@zeus
Message-ID: <DItC52.7Kx@nntpa.cb.att.com>
Source record: 109256

Can anyone offer some information on the new Kenwood TS-870 that uses DSP at the IF frequency.

What's the IF frequency? Has it been reviewed in any of the magazines yet? Inpressions? Strong signal performance, etc.?

Sorry if this isn't the proper newsgroup but I expect more of the "how it works" types here.

John, WB3ESS

5594. Re: Need small transceiver circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <49i2t3$q7@newshost.lanl.gov>
Source record: 109257

In the USA the small 49 MHZ unlicensed "easy-talks" and pocket
sized handhelds marketed by Radio Shack cost about $29 each,
less when on sale. It is VERY hard to build any sort of
transceiver for less than that.
--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5595. Re: GE MASTER II Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: greends01@aol.com
Message-ID: <49i65t$g24@newsbf02.news.aol.com>
Source record: 109258

Dave, I'm sorry I don't have any info to help you, but I just picked one of these up at a tag sale. I am in need of cabling and setup schematics. If any one happens to get in touch with you and seems knowledgable, could you please pass their name on to me, Thanks, Derek N1VIE

5596. Re: frequency standard using GPS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: jdow@BIX.com
Message-ID: <49h75c$1i2@news2.delphi.com>
Source record: 109259

In article <48u4bl$aav@hpscit.sc.hp.com>,
rkarlqu@scd.hp.com (Richard Karlquist) wrote:
>
>Most are not suitable because they don't have 1 pulse per second (1 PPS) outputs.
>However, 1 PPS outputs are available. For example, the Motorola Oncore
>engine has 1 PPS as an extra cost option.
..
>You don't need to tap off a 10.23 MHz. signal. What you do is phase lock
>a crystal oscillator to the 1PPS signal by dividing the oscillator signal
>down to 1 Hz. and comparing to the 1PPS signal. The accuracy you get is
>dependent on how stable your oscillator is, what the time constant of the
>phase locked loop is, and the resolution of your phase detector.

It entirely depends on how this 1PPS signal is derived. If there is software intervention in its generation then there is little or no hope that it is accurate. Most cheap GPS implementations have the entire loop in software. This means the 1PPS output will have VERY good long term stability; but, it will jitter quite a bit pulse to pulse. If the PLL for the Costas loops is implemented in hardware then it can generally give a much better 1PPS signal provided it drives all the mixer LOs.

>In the Hewlett-Packard GPS timing receiver we make at this division, we
>approach an accuracy of 1 part in 10^12 for 1 day averaging.

It was designed with this in mind, I am sure. It is also not a cheap instrument such as the Magellans you find at Fry's or other mass marketing shops.

>If you just want to check the accuracy of your counter, simply measure
>the period of the 1 PPS output with averaging turned on. You can adjust your
>counter's timebase until it reads exactly 1 second.

It'd also allow you to watch the jitter if you have good enough resolution. (It "COULD" be as high as tens of microseconds of jitter for pure software Costas Loops.)

>Yes, a fellow from here left and started a company to do that.
>Theoretically, it should be better.
>The jury is still out on the merits of that architecture.

I am sure it is. Such a receiver would likely be rather expensive.

As another point in the discussion do not look for a short term average to give you an oscillator that is more accurate than about 0.1ppm. (That is "roughly" the range of the dithering on the signals. You ain't gonna do any better than that on a second by second basis. Note - I say "roughly". I think the precise numbers are still quite classified. I do know I designed that stuff so I am not about to use it as a frequency standard reference without at least an hour's

averaging time.)

>Rick Karlquist N6RK
>rkarlqu@scd.hp.com

{^_^} Joanne Dow The Wizardess

5597. Re: Direct Digital Synthesis with the Qualacomm Q2220

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Bill Risch <brisch@skypoint.com>
Message-ID: <49igss$sun@stratus.skypoint.net>
Source record: 109260

I am working on the DDS portion and haven't got the amp running.
Contact me on direct Email.

5598. 40-40 mods, notes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <49ijkm$8j8@peabody.Colorado.EDU>
Source record: 109261

(I know this is a bit late, but...)

I've built the 40-40 QRP 40 meter CW transeiver described in the Nov, 1994 QST, and I've made a few mods and measurements that may be of interest to readers of this group. The receive sensitivity has been increased, QSK is approached, the use of a different final amp is described, and the tuning range has been increased. Birdies present within the band serve as convenient frequency markers.

The receive sensitivity of the 40-40 as built was low: My IC-726 with a 6' whip could hear signals that the 40-40 with a full size dipole couldn't. Two mods cured this: increasing C31, and adding a preamp.

With the antenna connected directly to the RF gain pot, R3, sensitivity was better than with the antenna at the intended place (L6/C30), indicating that loss occured somewhere in the front end. Walking the antenna away from R3 identified C31 as the deafener. Replacing it with a 1000 pF ceramic (it was supposed to be 68 pF) made the thing hear about as well with the antenna connected to antenna port as at R3, indicating there were no more significant front-end losses. This increased coupling did not lead to significantly louder sidetone on transmit; it was still just as much too loud. Increasing the 4.7 megohm TX-audio-shunt resistor interconnecting the drain and source of FET Q1 to 22 meg fixed it.

However, it was still insensitive, so how about a preamp? W1FB's QRP notebook describes "the preamp that ICOM uses" in it's HF transceivers - and sure enough it's in my IC-726 schematic. (I used MPF102s.) It's two grounded-gate JFETs on opposite sides of coupling transformers, with the drains 22 ohms from the plus rail, and the sources 22 ohms from ground, and both resistors bypassed on the transistor side by .047 uF caps, and it went between C31 and R3. It made the 40-40 *just* able to hear atmoshperic noise. It's nice because it's transparent to RF when power isn't applied - you merely give it juice if you want gain. It draws 10 ma - a good candidate for a front panel switch.

I found the hang time for T-R turnaround too long. It's dictated by the 1M resistor and 0.1 uF cap at the gate of FET Q1. A 0.01 for C was fast but gave a loud pop on T-R turnaround; a 0.02 was ideal.

For the final amp I used a 2SC2075, "identical to an MRF476," in place of the called-for 2N3553. (The MRF476 is spec'd for 3 W output at 50 MHz.) With the '2075, my 40-40 maxes out at about 4.5 watts. In contrast to the text "Adjust R2 as needed for 1.5 W key-down power [...] More is *not* better - you'll coax a little more power out at the expense of efficiency!" I found increasing efficiency with greater power, up to 3W, though this probably has more to do with the transistor than with the

circuit. I calculated the efficiency by measuring the supply current to the radio, and measured the RF output by hooking it up to the *antenna* side of my MFJ-949D tuner (so as to make use of the expanded scale on the"reflected" power meter) and terminated the "transmitter" port on the tuner with 50 ohms. With 15 volts on the rail, here's what I got:

0.05 watts output 80 ma TX draw 1.2 W Input 4% eff.
0.5 W 160 ma 2.4 W 21%
1 W 215 ma 3.23 W 31%
2 W 290 ma 4.35 W 46%
3 W 365 ma 5.48 W 55%
4W 510 ma 7.65 W 52%

So with a 2SC2075, it looks like the highest eff. is at 3W, right at the spec of an MRF476. Note also that though it drops up top, it's still more efficient at 4 W out than at 1.5 W out.

Increasing C9 above 68 pF is mentioned as how to get more than 40 kHz of tuning range. I settled on 270 pF for C9, and a MV1162 varactor - 275 pF nominal - for a tuning range of just over 130 kHz. This much added capacitance required reducing C5-C7 to .002 each, with some small NP0 caps (68 and 12 pF in my case - YMMV) in parallel to put the bottom at 6997 kHz. This is enough spread that a ten-turn pot is called for as the freq. knob, but I'm exploring use of two single turn pots, a "coarse" and a "fine," to spare my precious ten-turn pot from permanent imprisonment.

As promised in the text, there is a HUGE birdie right at 7000 kHz - and it makes an excellent marker! The radio is usable within 2 kHz of this birdie, so it doesn't result in much loss of spectrum, and I chose the bottom of the tuning range as 6997 to be sure I could tune across it. In addition, I found two other birdies, a weak one at 7077 kHz, and a strong one at 7117 kHz, and these too were suitable markers, also being unobtrusive and stable. (I wouldn't feel so kindly toward them if there were another means for frequency calibration!)

Next I'll make some KK7B direct - conversion transceivers... I suspect they will make an interesting comparison to the 40-40, at least on RX!

Bruce Tiemann, N6URH

5599. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: daly@eagle.rtc-waterford.IE
Message-ID: <9511291522.AA14547@eagle.rtc-waterford.ie>
Source record: 109262

Hello Everyone,
can anybody tell me where I can obtain varators
for frequency multiplication? say 70cm to 23cm (BAY66????)
Also where you can get Gunn Diodes?????
Can't seem to locate them in europe...maybe somebody in the world
stocks them!!!hi
Warren EI6ETB

5600. help homebrewing 1935 transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: kk5hy@accesscom.net
Message-ID: <49ii8r$psp@dlsn31.dal.mobil.com>
Source record: 109263

Hello to all,
I'm want to build the single tube transmitter that is on the cover of the 1995 CQ radio classics calendar. In the article it says the radio was in a 1935 QST and I was wondering if anyone has this issue or some other construction article on this tx.

Thanks, Jake KK5HY
email via: kk5hy@accesscom.net
Check out the Westside A.R.C. Web page at:
http://www.accesscom.net/~kk5hy

5601. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <49hph7$jcf@news.azstarnet.com>
Source record: 109264

glenne@sr.hp.com (Glenn Elmore) wrote:
>Jeff,
[bunch of numbers deleted]

> While these are generally good numbers, I have found that except in
>the decade centered on about 100 Hz offset, a good vhf crystal
>oscillator locked to a decent 10 MHz reference with a low bw loop can be
>even better. Overtone crystal noise generally falls at -30 dB/ decade and
>can be 'out of sight' at fairly low offsets. If a good reference can
>clean it up below that corner, the result is good indeed.

As the guy who brought up HP's 8662, I will agree with Glenn, after all
he works for them<g> The point I was making though is, the 8662 has the
ability to be used over a wide frequency range and has locking capability,
which Glenn's crystal standard does not.
So it the application under discussion, it is pretty much the "golden standard"
and is used as such in many HP phase noise test sets.

[other good stuff deleted to save BW]

Regards, Wes -- N7WS

5602. Re: Building a 1296Mhz VCO - suggestions

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: your_name <your_name@space.honeywell.com>
Message-ID: <49hru2$f56@spacenns.space.honeywell.com>
Source record: 109265
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Hans,

Check the Oct 3. 94 issue of Electronic Design, I co-authored a design idea titled "Varactorless HF Modulator". This idea is based on using the base charging capacitance of a bipolar transistor to implement a voltage controlled (actually it's current controlled) capacitance. The structure of this oscillator is similar to Pieter Ibelings described above.

Hope this helps,

Mike Wyatt

5603. Re: How to? (was Re: Plate Choke - Where can I find?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <49hs9p$cs1@newsbf02.news.aol.com>
Source record: 109266

In article <49e4vl$kps@cloner3.netcom.com>, mjsilva@ix.netcom.com (michael silva) writes:

>I'm interested -- can we get good results home-winding a plate choke?
>The two potential problems that come to mind are the resonances you
>mention, and the high RF voltage across the choke (what's the
>insulation breakdown rating on magnet wire anyway?). Anybody care to
>give a little tutorial?
>
>73,
>Mike, KK6GM

That's why a small form diameter single layer choke is best. The voltage from turn to turn is minimal.

Series resonance is avoided by: 1.) Using minimum inductance for the application (a few to several times the operating plate resistance) 2.) Space winding or removing turns in the troublesome areas

Winding a good choke is best done using Edisonian methods, cut and try. Series resonance should always be measured with the choke in the operating position and connected at the bottom, but the tank shorted out and the top of the choke floating from the amplifier circuitry.

A grid dip meter can be used by shorting the top of the winding to the bottom, dips indicate trouble.

A small light bulb (or current meter) can be used connected from the top of the choke (no short to bottom now) to the center pin of T connecter between a dummy load and the rig. The rig is moved up through it's range and frequencys where the bulb glows brightly indicate series resonance.

A swept impedance display can be used by the well endowed.

If a series resonance is found, a screwdriver blade can be moved along the winding. The resonance will suddenly move when the hot spot is "touched". Removing turns at that point in the winding will move the series resonance the greatest amount with the least overall inductance change.

73 Tom

5604. Re: Phone lines

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Dave Curtis <david_b_curtis@ccm.sc.intel.com>
Message-ID: <49i398$dlr@bard.sc.intel.com>
Source record: 109267

"Charles W. Doolittle-Scovish" <doolic@rpi.edu> wrote:
>I know this is in the wrong group, sorta, but if anybody could point me in the
>right direction.
>
>I am creating a 2 station internal phone system. I have a 12-volt bias on the
>line. Everything works fine.

Well Charles,
I can't help you directly... but you might one of the telecom groups for
this one... like comp.dcom.telecom.tech ... the gang there knows phones, from
POTS to ISDN
73, Dave NG0X

5605. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <49i5at$1gm@mgate.arrl.org>
Source record: 109268

Keep in mind that it is really important to characterize
the noise-floor of *your* system. We do this by comparing
our two HP 8640s against each other or by looking at a known
clean oscillator.

If you look at the specs for the 8640, they aren't that
great, because they give it for the oscillator before
they divide it down. Done properly, you get 6 dB/octave
improvement on close-in phase noise you as divide it down,
so the HF phase noise is bit better than at 448 MHz.

BTW If you are looking for a challenging project--may I
suggest a computer controlled synthesizer that covers the
HF bands with less phase noise than the HP8640 and spurs
at least 80 dB down? Even better if you can turn it
into a simple construction project for hams to build.

Zack zlau@arrl.org

5606. VHF Communications Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Michael J Wooding <vhf-comm@g6iqm.demon.co.uk>
Message-ID: <657473588wnr@g6iqm.demon.co.uk>
Source record: 109269

Hi There,

Things have changed a little on our WWW site. A few (not too many)
graphics and a small selection of past articles as tempters.

Take a look?

http://www.taynet.co.uk/~gdx/ag/vhfcomm.htm

73 ... Mike
--
Michael J Wooding vhf-comm@g6iqm.demon.co.uk - CompuServe: 100441,377
Web Pages: http://www.taynet.co.uk/~gdx/ag/vhfcomm.htm
Tel: (0)1788 890365 Fax: (0)1788 891883
KM Publications, 5 Ware Orchard, Barby, Nr.Rugby, CV23 8UF, UK
VHF Communications Magazine - Especially Covering VHF, UHF and Microwaves

5607. Re: Hints and pointers to

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Bob.Liesenfeld@f100.n282.z1.fidonet.org
Message-ID: <817693370.AA04434@hamlink.mn.org>
Source record: 109270

PP>Are there any of you who can recommend PC MS-DOS or MS-WINDOWS
PP>programs for PCB layout and/or schematics?
PP>
PP>Forget about the expensive, professional ones - it must be cheap.
PP>Two-layer and netlist support would be nice, though.
PP>
PP>Any hints?
PP>
PP>Regards,
PP>
PP>Peter - oz1qt
PP>
PP>
PP>---
PP> * Origin: HamLink RBBS - 612/HAM-0000 v.34 St. Paul, MN
PP>(1:282/100.0)
Hi Peter,
I have had good luck with EASYTRAX.ZIP It is *freeware*. Somethings
are a bit difficult with it, but what do you want for free? :-)
BTW it runs under DOS

72 Bob WB0POQ

Technology is OUT of control....

5608. Datas MRF 148 ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: ubas@rzstud1.rz.uni-karlsruhe.de
Message-ID: <49ha2p$mg4@nz12.rz.uni-karlsruhe.de>
Source record: 109271

Does anybody know the datas of MOTOROLA MRF 148 ??

73, Ralf

--
Ralf Haueisen *** eMail ubas@rz.uni-karlsruhe.de

5609. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Ed Hare <ehare@arrl.org>
Message-ID: <49iqan$fqq@mgate.arrl.org>
Source record: 109272

jeffa@ix.netcom.com (Jeff Anderson) wrote:

>>Ricks post is most informative on this topic. The operative word
>>in the handbook article is "crude" phase-locked loop. If the
>>oscillator under test is any good, what they are measuring is the
>>performance of the '8640.

>Good point. Interestingly, the Handbook stated that the 8640B "has a
>much cleaner spectral output than most transmitters", and so would be
>adequate in this application. I wonder if the ARRL's Lab has compared
>the results of the 8640B method with those from commercially available
>phase-noise measurement systems? How much worse is this technique? Its
>virtue is that, if you already have an 8640B, it's very simple.

Yes we have. We sent a fairly clean transmitter to one of our Technical
Advisors with a high-end HP phase-noise measurement setup. We found we
were within a dB or two, worst case. I plan to do this once a year or
so, to keep our Lab-built equipment "self calibrated" against a known,
calibrated instrument.

73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor

5610. RF choke values

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: "Colin Schmutter"
Message-ID: <49i5ej$qv8@chopin.bcit.bc.ca>
Source record: 109273

I am a bit unclear as to how the color coding scheme applies to small RF chokes. The type of choke I am refering to look like small resistors and have colored bands around them.

I can see that the first and second band refers to a digit value as in a resistor but the multiplier band confuses me.

For example what value would a choke with the colors brown black and orange represent?

Any help would be appreciated.

cschmutter@bcit.bc.ca

Colin

5611. Re: RF choke values

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <817688979snz@lfheller.demon.co.uk>
Source record: 109274

In article <49i5ej$qv8@chopin.bcit.bc.ca> Colin writes:

> I am a bit unclear as to how the color coding scheme applies to small RF
> chokes. The type
> of choke I am refering to look like small resistors and have colored bands
> around them.
>
> I can see that the first and second band refers to a digit value as in a
> resistor
> but the multiplier band confuses me.
>
> For example what value would a choke with the colors brown black and orange
> represent?

A catalogue I have has a colour photo of a 4.7mH choke, and I think the
bands are yellow, purple, red - 4700uH = 4.7mH. I've actually got a couple
somewhere, but can't find them. Your brown, black, orange example is probably
10000uH=10mH. It seems logical, anyway, and is in line with a section on
colour coding in the ARRL Handbook - it's an EIA standard which can apply
to inductors, it states.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

5612. Re: How to? (was Re: Plate Choke - Where can I find?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-29 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <DIsM4G.tI@news.hawaii.edu>
Source record: 109275

michael silva <mjsilva@ix.netcom.com> wrote:
>w8jitom@aol.com (W8JI Tom)
>writes:

>>The only rub is the choke may have a series resonace that causes it to
>>burn up on some bands. I can suggest a method to test for and cure
>>that problem if you like or need.

>I'm interested -- can we get good results home-winding a plate choke?
>The two potential problems that come to mind are the resonances you
>mention, and the high RF voltage across the choke (what's the
>insulation breakdown rating on magnet wire anyway?). Anybody care to
>give a little tutorial?

Wasn't there a thread over on the Boatanchors list regarding using
the secondary of a transformer in place of hard-to-find plate chokes?
I sorry I didn't pay more attention to the discussion...

Jeff NH6IL

5613. Wanted:Schematic or Info- HP120B CRO

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: paulgren@tbsa.com.au
Message-ID: <49j2ae$jpa@silver.starway.net.au>
Source record: 109276

My old HP 120B (Valve, Rackmount) CRO has stopped and the manual I have, for the 120A, is a bit different. HP doesn't offer any support now. The H.T. seems low at 300V, compared to the schematic for the 120A which says 380V.

Can anyone help with a copy of a manual or a copy of just the schematic or even just info from a 120B schematic ???

TIA
Paul G.

5614. Pipeline USA -- Mail Error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: pipeline-mailer@usa.pipeline.COM
Message-ID: <199511300011.TAA10395@mail1.h1.usa.pipeline.com>
Source record: 109277

```
Some messages that you have sent were damaged in
transmission and were unable to be retrieved by the addressee.

We kindly request that you re-transmit this message. Thank you for your
cooperation.

Damaged Messages
----------------
To -- Subject -- Date

radiogeorge -- Ham-Homebrew Digest V95 #398 -- Thu, 23 Nov 95 05:53:25 PST
radiogeorge -- Ham-Homebrew Digest V95 #403 -- Mon, 27 Nov 95 04:30:26 PST
```

5615. Pipeline USA -- Mail Error

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: pipeline-mailer@usa.pipeline.COM
Message-ID: <199511300011.TAA10392@mail1.h1.usa.pipeline.com>
Source record: 109278

```
Some messages that you have sent were damaged in
transmission and were unable to be retrieved by the addressee.

We kindly request that you re-transmit this message. Thank you for your
cooperation.

Damaged Messages
----------------
To -- Subject -- Date

radiogeorge -- Ham-Homebrew Digest V95 #397 -- Thu, 23 Nov 95 03:20:52 PST
radiogeorge -- Ham-Homebrew Digest V95 #399 -- Thu, 23 Nov 95 17:26:59 PST
radiogeorge -- Ham-Homebrew Digest V95 #400 -- Fri, 24 Nov 95 04:30:23 PST
radiogeorge -- Ham-Homebrew Digest V95 #401 -- Sat, 25 Nov 95 04:30:29 PST
radiogeorge -- Ham-Homebrew Digest V95 #402 -- Sun, 26 Nov 95 04:30:25 PST
```

5616. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: cj@algonet.se
Message-ID: <49l5a1$8f2@prometheus.algonet.se>
Source record: 109279
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something with the BASIC Stamp (big or small)
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@algonet.se

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.algonet.se/~cj/losa.html

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

Mews groups:

comp.robotics.misc
comp.home.automation
sci.electronics
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

[--- cut ---]

=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
New Contribution [ ] Update [ ]
-----------------------------------------------------------------------------
```

Title :
Author: Date:

E-mail: (optional)

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer

5617. Re: Standard Broadcast Antennae

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.240.0010F333@TRL.OZ.AU>
Source record: 109280

>Elektor Electronics, June '94 (pt 1) and July/Aug '94 (pt 2)- "Small Loop
>Antennas for MW, AM BC Band and VLF Reception". Excellent discussion on loop
>antenna theory and practical construction ideas (perhaps the best recent
>article on this subject).

Joseph Carr wrote the excellent Elecktor article above.

My apologies Joseph.

>73, Drew Diamond, VK3XU.

5618. Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: rick@digalogsys.com
Message-ID: <49l0a6$k2f@homer.alpha.net>
Source record: 109281

I'd like to transceive voice via modulated light, but I'm wondering what the best equipment for such a set-up would be? I'd like it to be cheap and generic.

I'm thinking along the lines of something the kids could play with much like toy walkie-talkies... only using light. Visible light would be nice, maybe some high-brightness red LEDs, but IR would be fine. They'd have to have pretty *sloppy* collumation, since they'd be hand aimed "from the hip" as it were.

Some of my thoughts, so far...

o Use multiple LEDs mounted side by side for more power.

o Use the LEDs' own (integral) 'lense', so you'd only have to aim in the recipients' general direction. This would make it possible to "broadcast" in a roughly 90-degree cone.

Would it be better to use PWM instead of straight AM?

Are there any good (read, "tried it and it was fun") plans for similar devices already available?

I'd *really* like to be able to use some local landmarks as passive reflectors. That way, you wouldn't have to know where the other person was, as long as you could both shine your signals on the same target. Scan your horizon... What sticks up? Use it as a communication point. (I realize that for this I'd have to use higher power and collumation, but there's no reason two stations should have to be in direct line of sight if they can bounce their signals off intermediate objects.)

Is anyone already doing this? I'd like to hear from you.

(The entire spectrum of light [IR-UV] is open to experimenters, isn't it?)
--
Rick Miller, Design Engineer (and local "Internet Guy")
Digalog Systems, Inc. <rick@digalogsys.com>
3180 S. 166th St. <Rick.Miller@Linux.org>
New Berlin, WI 53151 USA +1 414 797 8000 x-228

5619. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.236.000A19D3@TRL.OZ.AU>
Source record: 109282

>> I seem to recall the NE604 is a souped up '602. Think pinouts the same.
>> Also have seen '602s in Nuts and Volts ads..surplus houses.
>> 73>> Scott>> W7GSM
>> Alan Wong (wong@PROBLEM_WITH_INEWS_DOMAIN_FILE) wrote:.......
>> : Jim Devenport (jdevenport@lanl.gov) wrote:.................
>The NE604 is a completely different IC than NE602. They have not even the
>same amount of pins. (16 vs 8) Substitute the NE602 with an NE612 which
>is a pin for pin replacement but has a slightly better perfomance.
>Stan

Please do not perpetuate the myth that the '612 is a better (strong signal) performer than the '602. There are very minor differences, but the "602 is the better one (see QST May 1990 Tech Correspondence, p38 excellent and interesting letter from Bob Zavrel, W7SX).

Electrical near equivalents include; NE602D (8-pin plastic SO), NE602FE (8-pin Cerdip), SA602N (8-pin plastic DIP), SA602D (8-pin plastic SO), SA602FE (8-pin Cerdip).

73, Drew Diamond, VK3XU

5620. Re: Standard Broadcast Antennae

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.239.0010D9D9@TRL.OZ.AU>
Source record: 109283

(Jeffrey Hill)>Subject: Standard Broadcast Antennae
>Date: 27 Nov 1995 03:52:28 GMT>Does anyone have any suggestions on building an antenna for the Standard >Broadcast band (you know- AM radio) in the form of a small coil or loop? >I would like to create a deep null so that I can receive WLAC, a cleared->channel station over the noise created by a local station 20 kHz away.>Considerations-
>1) The Zo of the antenna input on my receiver is unknown
>2) Should the turn be concentric or a spiral to be cut by the most lines >of force from the M-field of the signal?
>3) Is noise from local interference generators (like power lines, HID >lamps, SCR devices) mostly static or magnetic?
>Thanks for any comments.>jHill

This is Richard Q. Marris (G2BZQ)'s special subject;
See 73 Amateur Radio Today Sep. '94 P16 - 21. "The Disciminator". Designed for 1.6 to 4.0 MHz (but should be adaptable to your application). Uses loopstick and telescope sense antenna.

Also, if you can get copies of Elecktor, and you are really serious about this;

Elektor Electronics, June '94 (pt 1) and July/Aug '94 (pt 2)- "Small Loop Antennas for MW, AM BC Band and VLF Reception". Excellent discussion on loop antenna theory and practical construction ideas (perhaps the best recent article on this subject).

73, Drew Diamond, VK3XU.

5621. help with a project

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: axn110@psu.edu
Message-ID: <49jcpm$ma1@hearst.cac.psu.edu>
Source record: 109284

Hi, I need help with a project, if you have any engineering expertise, or any experience making homebrew equipment I would appreciate it if you would check out my page.

http://cac.psu.edu/~ktl103/transmitter/schematics.html

I am almost done with the project and basically just need a small amount of guidance as to the proper modifications that need to be made. But you'll learn more when you look at the page won't you...

Adam, KA1VZN

5622. Re: help homebrewing 1935 transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <49l2n5$8o6@newshost.lanl.gov>
Source record: 109285

You might try your local library if it's a good one.
NMSU library in Las Cruces NM used to have a fairly complete
collection of QST's, Ham Radio, Wireless World, and other mags
clear back into the early 1900's that was great for looking up
such projects.
Surely ARRL could provide reprints from their archives?
--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5623. Re: N4TMI on Desoldering: MORE DATA

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: marvin@rain.org
Message-ID: <49jg3l$cn1@news.rain.org>
Source record: 109286
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

Michael Covington (mcovingt@ai.uga.edu) wrote:

<snip>

: (2) There's a lot of solder in each hole of a PC AT board. Each joint
: will need to be melted into copper braid about 3 times, using a fresh
: place on the braid each time.

Since the braid is available in a number of sizes, it may be that you
were using a size too small for what you were desoldering.

: Overall performance: VERY GOOD albeit slow.

Agreed <grin>!!!

5624. Re: Kenwood TS-870

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: n2wks@aol.com
Message-ID: <49lnkq$6jt@newsbf02.news.aol.com>
Source record: 109287

I don't remember all the details but the ts 870 has 4 if stages.

it was reviewed in November CQ

Zev N2WKS

5625. Re: RF choke color codes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.237.001018E0@TRL.OZ.AU>
Source record: 109288

Colin Schmutter writes:
>From: Colin Schmutter
>Subject: RF choke color codes
>I am a bit unclear as to how the color coding scheme applies to small RF chokes. The type>of choke I am refering to look like small resistors and have colored bands around them.>I can see that the first and second band refers to a digit value as in a resistor >but the multiplier band confuses me.>For example what value would a choke with the colors brown black and orange represent?>Any help would be appreciated.>cschmutter@bcit.bc.ca>Colin

Colin, I'm pretty sure that we read them as micro Henries instead of ohms, so your sample choke would be 10,000 uH or 10 milliHenries.

Drew, VK3XU.

5626. Re: WWVB Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: 72770.552@compuserve.com
Message-ID: <49j12i$9ld@opal.southwind.net>
Source record: 109289

jeffa@ix.netcom.com (Jeff Anderson) wrote:

>I'm looking into building a WWVB receiver so that I can have
>(hopefully) an accurate lab frequency reference. As anyone built one
>of these, or can you point me in the direction of literature (I already
>have the "73" magazine article of several years ago)?

>Thanks,

>Jeff, WA6AHL

Jeff,

Have you considered using television network burst processed for an accurate source. Any time your local t.v. station is broadcasting network feeds, their 3.57954545 signal is good out to upteen decimal places. About 10 years ago I phase locked a crystal oscillator to the crystal of a small solid state color receiver on the bench. Divide by 88 and multiply by 63 and you've got 5.000000000 Mhz. Turns out our local NBC affiliate kept the station locked to network black-burst even while they were originating locally . . . made for a rather simple way to get lots of zeros behind the integers . . .

Regards,

Bob, K0DYH

5627. How do I keep my computer from spewing rf?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: morganp@fn1.freenet.edmonton.ab.ca
Message-ID: <49leke$2oq@news.sas.ab.ca>
Source record: 109290

I have tried to use my 2m radio with an antenna about 10' away from my computer and my radio next to my computer, but all I get is static from my computer (I can't even squelch it out)!!! What is the best way to rf proof my computer case? I was thinking of covering all of the plastic parts (front cover, etc.) with metal door screen and spraying with metallic paint (will this work?). I was also going to put torroids on the power connections. Is this a good plan of attack? Thanx in advance.

--
73 & ttyl Morgan Patterson
\\/// Internet: morganp@freenet.edmonton.ab.ca
(o o) Ham Radio: VE6MRP
(_) "Ok, take your best shot. Aim well: I don't die easy"
----oOO-----OOo----------

5628. Help with Kenwood TH-31 TX pll problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <49l2gs$8m8@newshost.lanl.gov>
Source record: 109291

Any Kenwood TH31 experts out there?
I'm having fits with a Kenwood TH31BT wherein it receives fine but does not appear to be maintaining PLL lock when trying to transmit. The TX LED comes on bright for about half a second, then it begins to flicker as though the battery was low or the PLL is not remaining locked. I don't have a manual so all I've been able to do is compare it with another operational radio, check for loose wires/bad solder joints etc. It's not the battery since it's being powered with an external power supply which operates the good TH31 just fine.
The radio died sometime during disassembly to change the broken case, but the only area where I could have trashed something is the small receive board just above the battery area. The only thing I can see there that might affect the transmitter is the dup/minus/reverse switch on that board. This switch works fine so far as receive functions are concerned.
Quick hints would be appreciated and provenance of a service manual would result in cash/swap reward.
--
********** Jim Devenport WB5AOX **********
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5629. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-11-30 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <49krva$5s3@newshost.lanl.gov>
Source record: 109292

Any Kenwood TH31 experts out there?
I'm having fits with a Kenwood TH31BT wherein it receives fine but does not appear to be maintaining PLL lock when trying to transmit. The TX LED comes on bright for about half a second, then it begins to flicker as though the battery was low or the PLL is not remaining locked. I don't have a manual so all I've been able to do is compare it with another operational radio, check for loose wires/bad solder joints etc. It's not the battery since it's being powered with an external power supply which operates the good TH31 just fine.
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Quick hints would be appreciated and provenance of a service manual would result in cash/swap reward.
--
********** Jim Devenport WB5AOX **********
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* http://nis-www.lanl.gov/~jdport/ *
****

5630. Re: Anyone know a source for Yagi antenna parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <49mq2s$j9o@info4.rus.uni-stuttgart.de>
Source record: 109293
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

>I want to find a source for element-to-boom fittings so
>I can build some 2-Meter and 70-cm yagi antennas. Is there
>any place or person that sells these?

Doug,

Suppliers of (amateur) antennas sell these over here. Maybe they do it also
at your end. However, one thing: you have too use exactly the type
of mounting specified in your design (through the boom, on top of the
boom, isolated or connected..). There are correction factors to the element
lengths for each method. A successful method is mounting the elements
isolated through the boom with nylon rivets.

73, Moritz DL5UH

5631. PACKARD BELL >>WILL<< SCREW YOU!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: Bruce Herder <bherder@netport.com>
Message-ID: <49mqnu$eca@netport.com>
Source record: 109294
Cross-posted to: rec.radio.amateur.antennna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb

> BE FORWARNED!!! BEFORE YOU BUY A PACKARD BELL
> COMPUTER, KNOW THAT THEY WILL TAKE YOUR MONEY, BUT IF
> ANYTHING GOES >>WRONG<< WITH IT, YOU >>WILL<< BE
> IGNORED!!!!
> I bought a Packard Bell computer in Dec.94'. Every-
> ting was fine until a few months ago when the hard-drive
> started to go south. It was a Seagate 720 mb (which I
> later found out that PB had a whole bunch of them with
> problems) that started to lose sectors. 13 mb's worth
> and growing.
> I took the hard-drive into the local "Packard Bell
> factory authorized service center" to have it
> warrenty repaired/replaced. I had even bought the 3-year
> extended warrenty at time of purchase.
> It has now been >>12 WEEKS<< and I have heard
> NOTHING. I stopped by the "service center" to find out what
> was going on, and THE GOD-DAMN HARD-DRIVE WAS STILL
> SITTING ON THEIR SHELF, WAITING FOR A "RETURN AUTHORIZATION
> NUMBER".....>>>>12 WEEKS!!!!!!<<<< FOR A FREEKING
> >>>NUMBER!!!!!<<<< And then who knows how long the idiots
> at PB would have it before they "did" anything about it???
> I have tried for 12 solid days to get ahold of someone
> on one of their "800" numbers. Yeah right......
> I have also sent E-mail with NO response of course.
> PACKARD BELL DOSN'T GIVE A SHIT ABOUT THEIR CUSTOMERS!!
> THEY ARE MORE THAN HAPPY TO TAKE YOUR MONEY, BUT IF YOU HAVE
> A PROBLEM, IT'S "SCREW-YOU PAL..."
> If you are in the market for a new computer...make
> damn sure they are going to back it up! Packard Bell WON'T!!
>
> Bruce Herder
> bherder@netport.com
> Palmdale, Ca.
>

5632. Re: PACKARD BELL >>WILL<< SCREW YOU!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: ve7zvz@dowco.com
Message-ID: <ve7zvz-0112951126580001@ppp39.dowco.com>
Source record: 109295
Cross-posted to: rec.radio.amateur.antennna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb

In article <49mqnu$eca@netport.com>, Bruce Herder <bherder@netport.com> wrote:

-> > BE FORWARNED!!! BEFORE YOU BUY A PACKARD BELL
-> > COMPUTER, KNOW THAT THEY WILL TAKE YOUR MONEY, BUT IF
-> > ANYTHING GOES >>WRONG<< WITH IT, YOU >>WILL<< BE
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-> > SITTING ON THEIR SHELF, WAITING FOR A "RETURN AUTHORIZATION
-> > NUMBER".....>>>>12 WEEKS!!!!!!<<<< FOR A FREEKING
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-> > at PB would have it before they "did" anything about it???
-> > I have tried for 12 solid days to get ahold of someone
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-> > A PROBLEM, IT'S "SCREW-YOU PAL..."
-> > If you are in the market for a new computer...make
-> > damn sure they are going to back it up! Packard Bell WON'T!!

If you really want to get their attention post this message to some of the comp.sys hierarchy. In the great scheme of things there just are not that many hams!

good luck

--
Scott Leaf VE7ZVZ CN89os
ve7zvz@dowco.com
Port Coquitlam, British Columbia, Canada
Mountain DX Club VA7SM - "To boldy VHF where no ham has VHFed before"
Coquitlam Radio Club VE7SCC - "The Satellite Seniors"

5633. Re: Surface-mount JFETs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DIvupL.8o5@nsc.nsc.com>
Source record: 109296

You can get SOT23 surface mount JFETs from National Semiconductor my distributor Future Electronics (in Canada) readily. They also have a smaller retail / mail order operation. They are in most major cities and headquartered in Montreal (Pointe Claire).
Regards, Al

5634. receive overload with ts-520s

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: tomas@ra.cgd.ucar.edu
Message-ID: <49n9v2$9bj@ncar.ucar.edu>
Source record: 109297

Hello all,

I have an old ts-520s and live in a neighborhood in which several other amateurs operate. Unfortunately, the ts-520s receiver doesn't like it when there are strong signals present on the band it is tuned to. It gets mad and the agc kicks in with a vengeance---even if the strong signal is several 100 kHz away.

I've tried using the attenuator button (20 db); not surprisingly, this helps a little. I've also tried turning of the noise blanker (thanks to the reader who provided the suggestion); not sure if this helps or not yet. The less than acceptable solution I've found is to disable the agc when it starts throwing a tantrum. I am in search of suggestions/answers:

1) Is this a well known problem with these old rigs?
2) Is there a mod that will/may help?
3) If my poor uncle were to leave me several hundred dollars, are there used rigs out there that deal with strong signals better?
4) If my rich aunt were to leave me several thousand dollars, are there new rigs out there that deal with strong signals better?

By the way, I operate cw almost exclusively (as do my neighbors) and the rig does not have the cw filter installed.

bob
n7nd

5635. Re: receive overload with ts-520s

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: ignacy@misz.animal.uiuc.edu
Message-ID: <49nc79$bc6@vixen.cso.uiuc.edu>
Source record: 109298

In <49n9v2$9bj@ncar.ucar.edu>, tomas@ra.cgd.ucar.edu (Bob Tomas) writes:
>
>Hello all,
>
>I have an old ts-520s and live in a neighborhood in which several other
>amateurs operate. Unfortunately, the ts-520s receiver doesn't like
>it when there are strong signals present on the band it is tuned to.
>It gets mad and the agc kicks in with a vengeance---even if the strong
>signal is several 100 kHz away.

We had TS-520 and IC-735 side by side during the 1994 field day.
TS-520 showed strong intermods at 80m in the evening while 735 had
none, even with RF preamplifier on.

Most likely, the overloading element in TS-520 is the mixer. If the
mixer is base on MOSFET, perhaps substituting a different type with
higher power would help.

It is also possible that the quartz filter has insufficient
out-of-band attenuation.

One solution would be to rewind the RF input coils for higher Q. I
have seen it done on FT-101ZD, and the difference in intermods on 40m
was spectacular. This modification may not help you much if your
neighbors operate close to your frequency.

Perhaps the best choice would be to sell your TS-520 and buy
something more resistant to overloading, e.g., TS-830 or IC-735.

Ignacy Misztal Ham radio: NO9E, SP8FWB
E-mail: ignacy@uiuc.edu
University Of Illinois 1207 W. Gregory Dr., Urbana, IL 61801, USA
tel. (217) 244-3164 Fax: (217) 333-8286

5636. Re: How do I keep my computer from spewing rf?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <49ngis$c5r@mack.rt66.com>
Source record: 109299

Most effective way to prevent computer from generating RF:

Find switch on computer marked I O: move it to the O position.
This has also been shown to markedly improve domestic relationships,
and has been successfully applied to a host of electronic devices such
as televisions, and tranceivers. When applied to telephones it
produces an indiscribable sensation of tranquility and calm.

OK,OK...couldn't resist.

Ferrite chokes can't hurt.. but one thing often lacking is good
bonding between pieces of case.

Yes the power cable can act as an antenna for noise generated inside
of case..same for vid cable, keyboard, printer, modem, mouse, etc. It
can't hurt to insure that the outlet you connect to has a good
connection to your station ground.

Make sure you screw down all those connectors...a lot of experimentor
types tend to leave them loose, and that is often the connection for
the cable shields.

I once resorted to installing pieces of clad board in the empty
drive-slot covers, and bonding them electrically to the rest of the
case. (though the problem I was fixing was that the computer was being
crashed by RF from a commercial broadcaster....PC was used in his
station's studio)

Make sure you have the covers on all your unused expansion slots.

Aluminum foil and spray contact cement are cheaper than fancy
conductive paint.

Also try pulling out accessorys (inc. keyboard and monitor) and see
if you can narrow down the problem..

If computer has "turbo" switch, see if problem goes away at low speed
setting.

Try everything you can think of....Be sure to post story if you lick
this problem.

-73-
-KO0B

5637. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <49nbhm$n6k@newsbf02.news.aol.com>
Source record: 109300

>Would it be better to use PWM instead of straight AM?

Yes, definitely.

>Are there any good (read, "tried it and it was fun") plans for similar
devices already available?

Check your library for a) back issues of popular electronics, b) back
issues of Radio Electronics, c) books by Forrest Mims.

/===/
/ PFZouave@aol.com
/
/
/
/ The absurdity of a claim is not a valid measure of its probability
/
/
/
/===/

5638. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.817843643.32252.jwicklun@mycroftxxx.halcyon.com>
Source record: 109301

I built some units about 15 years ago that did just that, using IR leds. You can use a simple VCO like the NE566, and use your audio to modulate it. As I remember it, I used a freq. of 455KHz, built a simple receiver using 455KHz IF transformers and a standard FM demod chip from Motorola. You can indeed get more range with multiple LEDs. Its easiest to run them in series, but the ir ones take about 2v each so the number you can put in series depends upon your supply voltage.

As a second thought there might even be some kits available -- I'll keep my eyes open.

Good luck....Jay (KI7RH)

> I'd like to transceive voice via modulated light, but I'm wondering what
> the best equipment for such a set-up would be? I'd like it to be cheap
> and generic.
>
> I'm thinking along the lines of something the kids could play with much
> like toy walkie-talkies... only using light. Visible light would be
> nice, maybe some high-brightness red LEDs, but IR would be fine. They'd
> have to have pretty *sloppy* collumation, since they'd be hand aimed
> "from the hip" as it were.
>
> Some of my thoughts, so far...
>
> o Use multiple LEDs mounted side by side for more power.
>
> o Use the LEDs' own (integral) 'lense', so you'd only have to aim
> in the recipients' general direction. This would make it possible
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> Would it be better to use PWM instead of straight AM?
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> reflectors. That way, you wouldn't have to know where the other
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> was, as long as you could both shine your signals on the same
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> Scan your horizon... What sticks up? Use it as a communication
point.
> (I realize that for this I'd have to use higher power and
collumation,
> but there's no reason two stations should have to be in direct
line of
> sight if they can bounce their signals off intermediate objects.)
>
> Is anyone already doing this? I'd like to hear from you.
>
> (The entire spectrum of light [IR-UV] is open to experimenters,
isn't it?)
> --
> Rick Miller, Design Engineer (and local "Internet Guy")
> Digalog Systems, Inc. <rick@digalogsys.com>
> 3180 S. 166th St. <Rick.Miller@Linux.org>
> New Berlin, WI 53151 USA +1 414 797 8000 x-228
>

5639. Re: How do I keep my computer from spewing rf?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: morganp@freenet.edmonton.ab.ca
Message-ID: <49o074$kol@news.sas.ab.ca>
Source record: 109302

Thanx for all the replies. I have a plastic front on my case so I will shield that. I will also replace all of the screws that are missing (8 of them I think (there's actually on 1 screw holding the cover on!). I will start with putting toroids on just the power cords and if doesn't cure it I will put a toroid on ever single on of those cables (9 of 'em, I just counted). Thanx again

--
73 & ttyl Morgan Patterson
\\/// Internet: morganp@freenet.edmonton.ab.ca
(o o) Ham Radio: VE6MRP
(_) "Ok, take your best shot. Aim well: I don't die easy"
----oOO-----OOo---

5640. Tripp Lite Corp. info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: robertso@csc.mc.edu
Message-ID: <49o8dg$isj@csc.mc.edu>
Source record: 109303
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I am looking for the telephone number and address to Tripp Lite.
Any info would be of help.

Thank you

--
Chad Robertson
Box 4862 inet:robertso@csc.mc.edu
Mississippi College (601)925-3033
Clinton, MS 39058

5641. Re: NE602 sources ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: bosley@bev.net
Message-ID: <49nfht$gpa@solaris.cc.vt.edu>
Source record: 109304

In article <ddiamond.236.000A19D3@TRL.OZ.AU>, ddiamond@TRL.OZ.AU (Drew Diamond) says:
> Substitute the NE602 with an NE612 which
>>is a pin for pin replacement but has a slightly better perfomance.
>>Stan
>
>Please do not perpetuate the myth that the '612 is a better (strong signal)
>performer than the '602. There are very minor differences, but the "602 is the
>better one (see QST May 1990 Tech Correspondence, p38 excellent and
>interesting letter from Bob Zavrel, W7SX).
>
>Electrical near equivalents include; NE602D (8-pin plastic SO), NE602FE
>(8-pin Cerdip), SA602N (8-pin plastic DIP), SA602D (8-pin plastic SO),
>SA602FE (8-pin Cerdip).
>
>73, Drew Diamond, VK3XU
>

Drew is right... I've got the specs right here. The NE612 is
a "low power VHF monolithic double-balanced mixer with on board
regulator" (like the 602 but with the following differences:
612 is capable of signal frequencies of up to 500 MHz with a
gain of 14 dB at 49 MHz.
Whereas the 602 is capable of operation only to 200 MHz with a
spec. gain of 18 dB at 45 MHz. So it depends on what frequency you
want.

You can get NE602AN in small qty. from JDR Microdevices for $1.95 (old
catalog price may have changed).
JDR sales # 1-800-538-5000

73
Ryan Bosley (bosley@bev.net) (N4ONS)

5642. Computer Repair Web Site

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: aolsz@ritz.mordor.com
Message-ID: <DIx3nn.3IJ@ritz.mordor.com>
Source record: 109305

COMPUTERCRAFT!
http://www.mordor.com/aolsz/

Dedicated to tech notes on the repair, maintenance, and upgrade of PCs.

The site is maintained by Anthony Olszewski, a professional technicain
with over ten years of experience with all makes and models of the IBM
systems and compatibles - from the original 8088 to the Pentium!

E-mail is aolsz@mordor.com

The physical address is 470 Grand Street, Jersey CIty, NJ 07302 USA

The phone numbers are 201-795-0909 and 201-946-1178

5643. Re: help homebrewing 1935 transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.243.000F10A4@TRL.OZ.AU>
Source record: 109306

>Subject: help homebrewing 1935 transmitter
>Date: Wed, 29 Nov 1995 21:06:58 GMT>Hello to all,
>I'm want to build the single tube transmitter that is on the cover of
>the 1995 CQ radio classics calendar. In the article it says the radio
>was in a 1935 QST and I was wondering if anyone has this issue or some
>other construction article on this tx.>Thanks, Jake KK5HY>email via:
kk5hy@accesscom.net>Check out the Westside A.R.C. Web page at:
>http://www.accesscom.net/~kk5hy

Jake, I have not seen the Nov. issue of CQ. However, my bet is that it's the "RK-20 Tri-Tet Transmitter for Three Band Operation " by George Grammar, QST April 1935, P41 to 44. Uses a big fat RK-20 tetrode in a rock-crushing single tube 50 W power oscillator. Also see, if you can find a copy of;

"What's a Circuit" by George Grammar, QST Oct. 1935 P19 - 23 & 78.
George discusses "some problems encountered in building a simple oscillator amplifier transmitter".

BTW, IMHO the material written years ago by George Grammer must be some of the most lucid, well researched, easy to understand, and enjoyable technical material ever to appear in radio journals.

73, Drew Diamond, VK3XU.

5644. Wanted: Specs for VHF-power tube Philips YD1303

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: Trummer Egon <ntrume@hasler.ascom.ch>
Message-ID: <1995Dec1.131852.10985@hasler.ascom.ch>
Source record: 109307
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hallo

a friend has got a Philips VHF power tube YD1303 and he would
like to have some data sheet or hints where to find further information.
This tube was possibly intended for a PLISCH TV transmitter with
a few hundred watts at 400MHz.

Further informations would be appreciated very much.

73 de HB9HVI, Egon

5645. Re: help homebrewing 1935 transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: jgoecks <jgoecks@pacifier.com>
Message-ID: <49ltjl$6qt@news.pacifier.com>
Source record: 109308

kk5hy@accesscom.net (Jake Hellbach) wrote:
>
> Hello to all,
> I'm want to build the single tube transmitter that is on the cover of
> the 1995 CQ radio classics calendar. In the article it says the radio
> was in a 1935 QST and I was wondering if anyone has this issue or some
> other construction article on this tx.

The transmitter was probably also published in the ARRL Amateur's
Handbook for a number of years, libraries are more likely to have
that than the old QST.

Jim

5646. How To Repair Ceramic Switch?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <49p361$6p3@crash.microserve.net>
Source record: 109309

I have a ceramic switch wafer that I need to repair. One of the fingers is badly burned and melted away where it used to contact the rotor. The rotor itself looks OK.

The wafer is a standard size, a little over 2" diameter, and I have other wafers I could salvage a finger from. It's easy enough to drill the head off the rivet and remove the finger, but how to mount the new finger on the wafer?

Does anyone know if there's a specific size screw or other type of hardware that can be used for this?

Tnx & 73,

Jack WB3U

5647. Re: How do I keep my computer from spewing rf?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: jgoecks <jgoecks@pacifier.com>
Message-ID: <49lu0s$6qt@news.pacifier.com>
Source record: 109310

morganp@fn1.freenet.edmonton.ab.ca () wrote:
>
> I have tried to use my 2m radio with an antenna about 10' away from my
> computer and my radio next to my computer, but all I get is static from
> my computer (I can't even squelch it out)!!! What is the best way to rf
> proof my computer case? I was thinking of covering all of the plastic
> parts (front cover, etc.) with metal door screen and spraying with
> metallic paint (will this work?). I was also going to put torroids on the
> power connections. Is this a good plan of attack? Thanx in advance.
>
> --
> 73 & ttyl Morgan Patterson

The most likely cause of computer interference is the cabling. I use
my 2m radio next to my computer all the time with no trouble. Try
a large ferrite bead on each cable going into the computer.

Make sure all computer case screws are tight. If the screws are missing
like they are on 90% of computers that someone has been into several
times, the computer may spew forth vast quantities of RF.

If the computer passed the FCC Class B requirements in the US or
whatever you have as an equivalent, you should have no trouble.

Most IBM clone cases are metal, so further shielding shouldn't help
much. I don't know about other types of computers.

If your 2m rig is a plug into the power outlet type, you may need to
use a different power circuit than the computer uses.

Cheers,

Jim Goecks WA7UKS

5648. Re: Mass Production of P.C. boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DIvus5.8t0@nsc.nsc.com>
Source record: 109311

An outfit called Data Circuits in San Jose, CA probably can help.
(408) 280-0422
Regards, Al

5649. Re: How do I keep my computer from spewing rf?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <49lufp$mrn@server.iadfw.net>
Source record: 109312

morganp@fn1.freenet.edmonton.ab.ca () wrote:

>I have tried to use my 2m radio with an antenna about 10' away from my
>computer and my radio next to my computer, but all I get is static from
>my computer (I can't even squelch it out)!!! What is the best way to rf
>proof my computer case? I was thinking of covering all of the plastic
>parts (front cover, etc.) with metal door screen and spraying with
>metallic paint (will this work?). I was also going to put torroids on the
>power connections. Is this a good plan of attack? Thanx in advance.

>--
>73 & ttyl Morgan Patterson
> \\/// Internet: morganp@freenet.edmonton.ab.ca
> (o o) Ham Radio: VE6MRP
> (_) "Ok, take your best shot. Aim well: I don't die easy"
>----oOO-----OOo---

Morgan,
The toroids are a good idea, put them on every cable coming in or
out of your machine. Put them as close to the computer end of the
cable as you can get them. If you have anything else with a computer
in it (tnc, etc.) put them on it, too. Not sure about screening the
case, but a good metal case would probably help too. Mine got a lot
quieter when I went from a plastic case to an all-metal case. Maybe
if you screen it real tight and ground the screen to the case it
might help.
Good luck and 73,
Kerry Miller - WD5ABC
kmiller@airmail.net

5650. Re: The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <49nftf$on6@hpscit.sc.hp.com>
Source record: 109313

In article <49mbgn$ffd@aztec.co.za>, Wouter de Waal <wrm@aztec.co.za> wrote:
>
>
>I often use a small profane torch to remove 244s and 245s from blown up
^^^^^^^

>PC multi-io cards. I don't care if the board gets scorched. (It does,
>lemme tell you, I've had boards igniting, do this outside.)
>
>Wouter ZS1KE

Here we have coined a new technical term "profane" describing the
language used by the torch operator when the board catches on fire!

Rick N6RK :-)

5651. Re: AirDux coil source?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.242.000B1F1F@TRL.OZ.AU>
Source record: 109314

In article <49fld7$1egp@chnews.ch.intel.com> cmoore@vegas.ch.intel.com (Cecil A. Moore~) writes:
>From: cmoore@vegas.ch.intel.com (Cecil A. Moore~)
>Subject: AirDux coil source?
>Date: 28 Nov 1995 18:45:59 GMT>Anybody know a source for AirDux coils? Any other brand>of large coils?>thanks and 73, Cecil, KG7BK, OOTC (not speaking for my employer)

Cecil; Last time I ordered B&W coils (like AirDux) from Ocean State Electronics RI, they were out of stock- although they are listed in my current catalog. Ph 1-800-866-6626.

If you want to make your own; see if you can look up QST Dec. 1934 (yes, 1934) p41 - 42; "Low-Loss Low-Cost Transmitting Coils" by A. Muldoon W1FRQ. Muldoon desribes how to make AirDux style coils from ordinary materials. He uses a split wood mandrel for the winding former, and plastic supports.

73, Drew Diamond, VK3XU.

5652. Re: The N4TMI Desoldering Contest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: wrm@aztec.co.za
Message-ID: <49mbgn$ffd@aztec.co.za>
Source record: 109315

Michael Covington (mcovingt@ai.uga.edu) wrote:
: THE N4TMI DESOLDERING CONTEST

: The goal in each case was to remove some ICs, undamaged, from a
: double-sided circuit board (part of an IBM PC AT); this is the most
and (hot air)
: I just thought of this technique today and was delighted to see it work
: so well. A similar technique with a propane torch is sometimes
: suggested, but it is more likely to scorch the board.

I often use a small profane torch to remove 244s and 245s from blown up PC multi-io cards. I don't care if the board gets scorched. (It does, lemme tell you, I've had boards igniting, do this outside.)

My philosophy is - if you're repairing the board, i.e. NO SCORCHING, cut the legs off the IC and remove individually. If you manage to pull out just one through hole, you'll be sorry. If you want the IC, not the board, wothehell, use the torch.

I heat the IC leads, then whack the board against the concrete floor.

Wouter ZS1KE

5653. Re: Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DIvv1F.95t@nsc.nsc.com>
Source record: 109316

National Semiconductor has a variety of IC audio amps that can drive
speakers from a few 100 milliwats to 75 watts. Maybe LM4861 will do ya.
Regards, Al

5654. VHF Communications Magazi

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.6516.546@acenet.com>
Source record: 109317

From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

I am curious about WWW sites. Is it possible to do anything interactive with a Webpage? Most of them I have seen (only tried browsing once!) seem to just be ads with a few branches. Isn't there some way to leave a MESSAGE at the Website for the operator of the Website? Or to mail each other directly AT the Website? How does that work? Can you send and receive files at a Website?

Cheers - Brian, AF4K, ex- G3XLQ

VH>Hi There,

VH>Things have changed a little on our WWW site. A few (not too many)
VH>graphics and a small selection of past articles as tempters.

VH>Take a look?

VH>http://www.taynet.co.uk/~gdx/ag/vhfcomm.htm

VH>VHF Communications Magazine - Especially Covering VHF, UHF and Microwaves
---
 SLMR 2.1a Wot? I'm ENGLISH, mate - we don't feel the cold!

5655. Grammer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <49mtec$jca@flood.weeg.uiowa.edu>
Source record: 109318

>BTW, IMHO the material written years ago by George Grammer must be some of
>the most lucid, well researched, easy to understand, and enjoyable
>technical articles to appear in radio journals.
>
>73, Drew Diamond, VK3XU.

That is certainly true, Drew Diamond. I grew up with all of those
articles and have recently been reviewing many of them. He did make
a small number of errors, just as we all do, but he did do a *fine* job.

5656. 800 for Kenwood?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-01 00:00:00 UTC
From: daniel.lacasse@com18.com
Message-ID: <RERAAMHO.B949@com18.com>
Source record: 109319

Anyone know a 800 number for Kenwood? There is absolutly no number in any
of my two users manual and I never got any reply from kenwwod@kenwood.net.

It's been over two months that I have a defective radio now and for a radio
over 1000$ I think I can have a better way to reach the company.

If you have a secret number you don't want to post in public then
reply me at: Daniel.Lacasse@com18.com

Thank you very much.

Internet: Daniel.Lacasse@com18.com
Packet: VE2DLX@VE2SJC.#QBC.PQ.CAN.NA

5657. Need REAL Cash??? Look Here!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-02 00:00:00 UTC
From: nycactor@inx.net
Message-ID: <30C0C401.77E6@inx.net>
Source record: 109174
Body handling: 2 inline base64-encoded payload blocks were not displayed

[Inline base64-encoded payload not displayed]

Content-Type: plain/text; name="CASH! CASH! CASH!"

Content-Disposition: inline; filename="CASH! CASH! CASH!"

[Inline base64-encoded payload not displayed]

5658. PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-02 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <49q846$j1u@hg.oro.net>
Source record: 109175

I'd like to get a thread started on the cheap and easy ways to do prototype PC boards. I started asking questions on the CAD newsgroups and those folks are so bound up with workstations and thousand dollar autorouter programs that they just don't understand those of us using laser printers and fishtank etchers. I've gotten some damned good advice and some absolute trash.

My proposal is to start three threads: PCB software, PCB resists, and PCB etching. If anybody objects to me starting these threads in this newsgroup, say so now. If anybody has other major topics they'd like to add to the threads, say so now.

Otherwise on Monday morning...

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

5659. custom chassis/panels/cabinets built

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-02 00:00:00 UTC
From: ka9egw@aol.com
Message-ID: <49otou$aqt@newsbf02.news.aol.com>
Source record: 109176

Will build chassis, panels, cabinets, enclosures to your specifications
for your homebrew project. Quality work, reasonable prices, 15 years'
experience building electronic prototypes.

Brian Sherwood KA9EGW
KA9EGW@aol.com
TEL (708) 487-5424
FAX (708) 487-5359

5660. Re: GE MASTER II Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-02 00:00:00 UTC
From: Chris Boone <72732.2610@CompuServe.COM>
Message-ID: <49q9fegs2@mhafn.production.compuserve.com>
Source record: 109177

WHich mods do you want? How to tune them and use them on voice or
as rptr or what????

The MSTR IIs can be easily retuned into the 2mtr band.....after
that, there are LOT of things you can do with them...

73
Chris

--
Senior Telecommunications Technician 72732.2610@CompuServe.com
ENTERGY/Gulf States Utilities 1:106/4267 FIDOnet
WB5ITT PG-9-5322 FCC Commercial

5661. Re: Kenwood TS-870

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-02 00:00:00 UTC
From: y100y100@aol.com
Message-ID: <49qocm$rca@newsbf02.news.aol.com>
Source record: 109178

...And I'm sure CQ gave it a fair, and unbiased review. Yeah, kind of like the emphatic review I read by Paul Carr on the TS-950SD a few years ago. I bought the rig based on CQ's review. The result? I unloaded it six months later after suffering a BIG financial loss on it. I suspect the reason CQ isn't honest in their reviews is the thought of loosing a major advertsing client.

The ARRL may have their faults, but they've got the confidence to give an unbiased review of products in QST.

-Paul, N9AZ

5662. Info on Ten-Tec 6M xverter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-02 00:00:00 UTC
From: markem@primenet.com
Message-ID: <markem.180.0006FDE8@primenet.com>
Source record: 109179
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Does Ten-Tec still sell the 6M transverter kit they offerred a couple years ago? Does anyone have any experience with it? I believe it uses a 20M IF, right? I'm thinking it might be an interesting companion to a 20M SSB QRP rig.

Comments? Opinions?

73... Mark AA7TA

5663. Re: How do I keep my computer from spewing rf?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-02 00:00:00 UTC
From: lekollar@nyx10.cs.du.edu
Message-ID: <49rcsq$o6q@nyx10.cs.du.edu>
Source record: 109180

Thus spake Morgan Patterson (VE6MRP):
>I have tried to use my 2m radio with an antenna about 10' away from my
>computer and my radio next to my computer, but all I get is static from
>my computer (I can't even squelch it out)!!! What is the best way to rf
>proof my computer case?

An easier solution might be to move the antenna. Sometimes that's all
it takes.

If that doesn't work (or isn't feasible), ferrite chokes on all cables
exiting the computer might help. That includes the power cord, BTW.

73 de KC4WZK
--
Larry Kollar, Dawsonville GA | *** Hatred is murder *** (1 Jn 3:15)
lekollar@nyx10.cs.du.edu | http://nyx10.cs.du.edu:8001/~lekollar/
"His third dimension done been re-VOKED!"

5664. Re: PACKARD BELL >>WILL<< SCREW YOU!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-02 00:00:00 UTC
From: jdear@mail.bayou.com
Message-ID: <49q0ve$8a8@news.dx.net>
Source record: 109320
Cross-posted to: rec.radio.amateur.antennna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb

In article <ve7zvz-0112951126580001@ppp39.dowco.com>, ve7zvz@dowco.com says...
>
>In article <49mqnu$eca@netport.com>, Bruce Herder <bherder@netport.com> wrote:
>
>-> > BE FORWARNED!!! BEFORE YOU BUY A PACKARD BELL
>-> > COMPUTER, KNOW THAT THEY WILL TAKE YOUR MONEY, BUT IF
>-> > ANYTHING GOES >>WRONG<< WITH IT, YOU >>WILL<< BE
>-> > IGNORED!!!!

I sold computers at a local dealership for about a year.
We also built custom computers as well. I was hired because
I had experience building computers from scratch. In March
of '95 we picked up the PB Line and man was I amazed. We
discovered that PB was putting very slow hard drives, very
slow video cards, and other parts that were not what I would
call "current". Our 486 DX2-66 computers would exceed the
performance of PB's Pentium systems up to 75 Mhz. We also
built 486 DX4 80 & 100 systems that blew the socks off PB's
Pentium 90 & 100 systems. What gives??? Their poor
supporting hardware (HDD, HDD controller, Video controller)
seems to bottleneck what is otherwise a fantastic processor.
As far as service was concerned, when someone had a problem,
we simply exchanged the computer for up to 1 year!! We were
the #1 PB dealer in the area so we could easily make PB eat
it or drop their line!

My suggestion to computer buyers is to build your own!! If
you don't know how, find someone that does. You can then
hand pick each piece that goes into it and get a good
performance machine. Another rule of thumb I use is to NEVER
buy a computer based on the software packaged with it. It is
only a sales gimmick!

Price wise custom built computers run a little higher but the
performance advantage is worth it in the future. And by
hand picking good, brand-name parts, you'll have less service
problems.

btw...we commonly referred to the PB as our best POS (Piece of
$hit) computers!

Jim Dear, KG5VE
jdear@mail.bayou.com

5665. Re: AirDux coil source?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-02 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <49pm7s$hid@newsbf02.news.aol.com>
Source record: 109321

In article <49fld7$1egp@chnews.ch.intel.com>, cmoore@vegas.ch.intel.com (Cecil A. Moore~) writes:

>Anybody know a source for AirDux coils? Any other brand
>of large coils?
>
>thanks and 73, Cecil, KG7BK, OOTC (not speaking for my employer)
>
>

I have some Cecil.

Tom

5666. Re: Kenwood TS-870

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-02 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <49po03$vaq@server.iadfw.net>
Source record: 109322

jkbe@zeus (John_Bednar) wrote:

>Can anyone offer some information on the new Kenwood TS-870 that
>uses DSP at the IF frequency.

>What's the IF frequency? Has it been reviewed in any of the
>magazines yet? Inpressions? Strong signal performance, etc.?

John,
I believe the IF is way down at 11KHz, that's how they get the
DSP to work. Lew McCoy did a good review of it in a recent magazine,
I think CQ, but it may have been 73. Heard one on the air last week,
the guy sounded clean, but real bassy. The dsp on transmit may take
more fine tuning than some people are willing to learn how to do. I
know there is a similar option on my Yaesu FT-990 and if I set it up
wrong, I can sound pretty bad. Looks like a great rig, though.
Wonder if the next generation will have the dsp in the 9 MHz IF???
Kerry, WD5ABC
kmiller@airmail.net

5667. DB6NT HEMT-PA for 24 Ghz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-02 00:00:00 UTC
From: howse@cleo.murdoch.edu.au
Message-ID: <49p40pINNeog@newsman.murdoch.edu.au>
Source record: 109323

Advice is sought about the HEMT-PA design (10-93) by DB6NT and published by DC0DA which uses a BAT15 diode to monitor power output.

Can anyone provide information about the impedance of the meter attached to the BAT15 output monitor (eg 20 Kohm/volt) and what the range of typical readings might be for particular power levels?

I am also chasing any Australian source of calibration of a waveguide detector to get a better idea of where we are in the power stakes and of a directional coupler suitable for measuring return loss. Can any Aussie reader please help?

Thanks

73

Wal
--
==========
=
Dr Walter J Howse | howse@cleo.murdoch.edu.au
4 Renton St | Phone + 61 9 317 2967
Melville | Fax + 61 9 317 3113
WA Australia 6156 |
Amateur Radio Station VK6KZ located OF77vw Local time UTC + 8
==========
=

5668. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <49r2f7$6d9@hpscit.sc.hp.com>
Source record: 109181

In article <49gbcc$ih3@mgate.arrl.org>, Ed Hare <ehare@arrl.org> wrote:
>Wes Stewart <N7WS@azstarnet.com> wrote:
>
>>jeffa@ix.netcom.com (Jeff Anderson) wrote:
>
>>>I was just skimming the Handbook and came across an interesting article
>>>discussing oscillator phase-noise, and a simple technique for measuring
>>>it by phase-locking an HP-8640B generator to the oscillator signal.
>
>>Rick's post is most informative on this topic. The operative word
>>in the handbook article is "crude" phase-locked loop. If the
>>oscillator under test is any good, what they are measuring is the
>>performance of the '8640.
>
>While this is certainly true, unfortunately, we haven't yet seen an
>oscillator in amateur equipment that is better than 10 dB worse than our
>HP8640s. If they ever do get better, we will have to switch over to
>
>>If they had an '8662, it would be a different story.
>
>73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor

In terms of free standing oscillators (not phase locked to anything),
yes indeed you would be doing very well to even get within 10 dB. of the
8640's cavity oscillator, since the Q of the cavity is so much higher
than any tank circuit you are likely to be using. This is important
if you are interested in phase noise at say 20 kHz. offset from the
carrier. Note that at that offset, the 8662 is *not as good*!. BTW,
if you are worried about phase noise at say several MHz. from the
carrier, then the HP 608 is better than anything else that has ever
been made in a general purpose signal generator, because it has a
tuned amplifier stage following the oscillator. Close in, at 1 kHz.,
the 8662 is very well phase locked to a low noise crystal oscillator,
hence is much better than the 8640 could ever hope to be.

So how do we solve this dilemma? Simply build two copies of whatever
it is you are testing and compare them against each other. Then you
don't have to come up with a reference source. This is the way most
measurements in industry are done.

Rick Karlquist
rkarlqu@scd.hp.com

5669. Re: frequency standard using GPS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <49r387$6mv@hpscit.sc.hp.com>
Source record: 109182

In article <49h75c$1i2@news2.delphi.com>, Joanne Dow <jdow@BIX.com> wrote:
>In article <48u4bl$aav@hpscit.sc.hp.com>,
>
>It entirely depends on how this 1PPS signal is derived. If there is software
>intervention in its generation then there is little or no hope that it is
>accurate. Most cheap GPS implementations have the entire loop in software. This

In any event, the Motorola Oncore engine (a few hundred dollars) is
quite adequate.

>It was designed with this in mind, I am sure. It is also not a cheap instrument
>such as the Magellans you find at Fry's or other mass marketing shops.

Well, yes, you could buy a whole Magellan at retail for what we OEM the Motorola
engine for.

>>If you just want to check the accuracy of your counter, simply measure
>>the period of the 1 PPS output with averaging turned on. You can adjust your
>>counter's timebase until it reads exactly 1 second.
>
>It'd also allow you to watch the jitter if you have good enough resolution. (It
>"COULD" be as high as tens of microseconds of jitter for pure software Costas
>Loops.)

We've never seen anything even as high as a whole microsecond.

Note that I said to turn averaging on on the counter!

>As another point in the discussion do not look for a short term average to give
>you an oscillator that is more accurate than about 0.1ppm. (That is "roughly"
>the range of the dithering on the signals. You ain't gonna do any better than
>that on a second by second basis. Note - I say "roughly". I think the precise
>numbers are still quite classified. I do know I designed that stuff so I am not

What is known is this: the US Naval Research Laboratory tested our receiver
and measured an average error of 50 nsec. compared to UTC. This is the best
performance that they have measured, at least in the unclassified domain.

>about to use it as a frequency standard reference without at least an hour's
>averaging time.)

Precisely. We average for around an hour when using quartz oscillators.
We suggest a day or two of continuous operation before expecting maximum
accuracy. For our cesium based GPS systems, we average for a week! to remove SA.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5670. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: bart@wb6hqk.ampr.org
Message-ID: <DIznBn.2Ay@wb6hqk.ampr.org>
Source record: 109183

Rick Miller <rick@digalogsys.com> wrote:
>I'd like to transceive voice via modulated light, but I'm wondering what
>the best equipment for such a set-up would be? I'd like it to be cheap
>and generic.
>
>I'm thinking along the lines of something the kids could play with much
>like toy walkie-talkies... only using light. Visible light would be
>nice, maybe some high-brightness red LEDs, but IR would be fine. They'd
>have to have pretty *sloppy* collumation, since they'd be hand aimed
>"from the hip" as it were.

HP makes a family of super bright red LED's with beam widths as low
as 3 degrees which results in a photometric intensity of 15 candlepower
and is quite visible, even in the daytime. Short wave IR devices are
cheaper for a given intensity but may not be as much fun to use since
the beam is invisible. You will find such a device to be quite
interesting to fool around with as you learn the 'sounds' of various
light emitters such as streetlights, car headlamps reflecting off
the pavement, aircraft propellers reflecting sunlight and the beating
of insect wings. You will defiantly want to provide a tone modulation
source for alignment and optical 'radar' (lidar officially) experiments.
>
>Some of my thoughts, so far...
>
> o Use multiple LEDs mounted side by side for more power.

You will always want more power :-)

> o Use the LEDs' own (integral) 'lense', so you'd only have to aim
> in the recipients' general direction. This would make it possible
> to "broadcast" in a roughly 90-degree cone.

There is a tradeoff between beamwidth and irradiance. You trade off
convenience for range and signal to noise ratio.

>Would it be better to use PWM instead of straight AM?

Probably not. PWM will occupy a greater bandwidth than AM and therefore
have poorer SNR for weak signals. PWM can provide processing gain and
an enhanced detected SNR for strong signals but most likely is a poor
tradeoff in your application. The linearity of the LED's to AM modulation
is certainly adequate for this application and the detectors are quite
linear over a dynamic range of greater than 10^8! Here are some useful
guidelines based on the assumption you are using ordinary components
widely available and you are trying to keep the project reasonably simple:

At night you will be limited by the preamplifier noise figure unless
you have street lamps to deal with in which case you would defiantly
benefit from a Single Sideband (SSB) scheme with a suppressed carrier
frequency of at least 15 kHz. Not as hard as it sounds but probably
not worth it in your case.

During the day you will be shot noise limited due to the current generated
from background light falling on the detector. This will improve dramatically
as you reduce the detector field of view.

An optical bandpass filter such as red cellophane gel will significantly
improve the performance during the daytime by reducing background light
falling on the detector but will reduce performance at night by attenuating
the signal. Obviously the narrower the optical bandpass the better but
any practical filter (even big $ interference filters) will result in
a system substantially shot noise limited during the daytime, unless
the receiver design is really horrible.

You won't do much better for a preamp than an ordinary JFET input
op-amp such as an LF-353 with as large a feedback resistor as you
can manage. About 100K ohms for daytime operation and at least
10M ohm for nighttime. Resistor should be low noise, defiantly not
a carbon composition but a metal film is OK. Just about any 1% tolerance
resistor will be reasonably low noise.

Operate the detector with at least 5 volts of reverse bias.

Use a collecting lens for the receiver. It will both greatly concentrate
the received signal and reduce the background illumination reaching
the detector. Radio shack sells a plastic magnifier for about a buck which
is around an inch and a half in diameter and has a focal length of about
two inches; just about perfect for a starter!

Roll of the audio response below 200 Hz or so to stop most of the
1/f crud generated by the preamp and detector, especially if it's
a crummy one.

>I'd *really* like to be able to use some local landmarks as passive
>reflectors. That way, you wouldn't have to know where the other person
>was, as long as you could both shine your signals on the same target.

This will require a pretty decent setup, even at night. Consider using
a laser to cheaply generate illumination with a narrow beamwidth; no
sense in having most of the light miss the reflector! You will also
want to use tone (CW) signalling and a narrow audio bandpass filter
to improve the SNR. A receive aperture of several inches is in
order for reflectors more than a couple of hundred yards away. BTW,
reflective stop signs and car tailights work pretty well up to a few
hundred yards.

>Scan your horizon... What sticks up? Use it as a communication point.
>(I realize that for this I'd have to use higher power and collumation,
>but there's no reason two stations should have to be in direct line of
>sight if they can bounce their signals off intermediate objects.)

The math and physics required to do a decent job of system engineering such a system are fairly simple and really do quite a good job of predicting real world performance, at least at night. Email me if you're interested in further discussion.

>Is anyone already doing this? I'd like to hear from you.

Ok.

>(The entire spectrum of light [IR-UV] is open to experimenters, isn't it?)

Yes, as long as you don't annoy or frighten anyone :-)

bart wb6hqk

bart@wb6hqk.ampr.org

5671. Need transistor data!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: "Sandy Blaize", W5TVW <70401.134@CompuServe.COM>
Message-ID: <49rbk0$32l$1@mhadg.production.compuserve.com>
Source record: 109184
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

I need some data on the following RF transistors. All have
"house"
numbers on them. They are in the "helicopter" type package.
185-4104P1 or 4104P1
185-104P1 OR 104P1
185-4164P2 OR 4164P2
185-9181P4 OR 9181P4
185-9181P3 OR 9181P3

I need Power input/output, frequency ratings, typical collector
voltage,
and Class of operation [Class C (FM) or linear service] I think
these
are "GE" house numbers but I'm not sure. Have several of each
type
unused.

73,
Sandy W5TVW
70401.134@compuserve.com

5672. Re: TRADE UP TO 42MB OF RAM FOR ?? VHF/UHF EQ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: kmims@ix.netcom.com
Message-ID: <49re0b$qv@cloner3.netcom.com>
Source record: 109185
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap,rec.radio.scanner

THATS ALL THE MEMORY I OWN AND ITS MOSTLY 72PIN 70NS OR FASTER. I WILL
CONSIDER ANY AND ALL TRADES FOR CLEAN AND WORKING
EQUIPMENT.(2M,440,220,SCANNERS,ECT...)

KELVIN

KE6CRK

5673. Note for Users of FilDes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: blombard@iu.net
Message-ID: <49sm2a$4uj@cc.iu.net>
Source record: 109186

Users of my program FDS (FilDes) may be interested in knowing about
a program that I just uploaded to the archives at ftp.ee.ualberta.ca,
the main archive where I keep FDS124.

The program is a companion utility called TS2ARD. It is in a zipped
archive with a DOC file called TS2ARD.ZIP. It is available in
the directory /pub/cookbook/softw/ibm.

TS2ARD converts the Touchstone files written by FilDes into ARRL Radio
Designer format. That allows you to analyze these filters using ARD.
Why? You can display attenuation vs frequency, group delay, input/output
match, or anything else you might want to know about the filter. You
can optimize the filter's cap values, given a coil you might have
already available (or coils based on an available caps...). In short,
you can use the combination of FDS and ARD to make sure you can build
the filter, and that the filter you can build is the one you need.

As with FDS, this program is freeware.

73,
Bob

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

5674. Re: MGF 1402 noise figure. (And S param)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <49sq21$6um@news.azstarnet.com>
Source record: 109187

elendir@enst.fr (Elendir) wrote:
>Hi,
>I'm always looking for my noise figure info.
>
>This time, I'd like to know if anybody has the NF of the MGF 1402 at
>150 MHz, together with its s or y param and the optimal source imped.
>
>I simply don't have any kind of info on this GaAsFET.
>

It's unclear as to whether you have the S parameters for the
MGF 1402 at other frequencies or not.

The data sheet I have lists them down to only 500 MHz.
You might extrapolate these data down to 150 MHz by curve
fitting, but it would be very crude. In fact, I tried it
with the S11 data and a cubic fit and get a reflection
coefficient greater than 1. This of course, is possible,
but not good news.

The best approach is heuristic, ie cut-and-try. My approach:
Build the lowest loss input circuit you can. Load the hell out of
the drain circuit (4:1 transformer for load). Adjust the input
network, drain voltage and current for best NF. Enjoy.

73, Wes -- N7WS

5675. Info Requested - 2Mbps/10Ghz Data Link Project.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: wx2l@ix.netcom.com
Message-ID: <49sovq$lvo@ixnews2.ix.netcom.com>
Source record: 109188

If anyone has had ANY experience constructing or tuning, or administering a setup as described in the 1994 ARRL Handbook regarding the 2 Mbps Microwave Data Link for 10Ghz, please share WHATEVER you know with me.

I am about to attempt this project, and would love to hear from anyone who has successfully, or even unsuccessfully completed or attempted this same project. Your achievements, and failures via email or phone would be an outstanding benefit to me.

Best Regards,

Happy Holidays,

Email to: WX2L @ ix.netcom.com
PHone: 603-837-9679

Tim Havens
WX2L

5676. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <49sqe7$lkj@newsbf02.news.aol.com>
Source record: 109189

I've got a few suggestions but I'll wait for you to begin......

Carl
The2x4

5677. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: jbaltz@namaste.cc.columbia.edu
Message-ID: <49r07e$4nt@apakabar.cc.columbia.edu>
Source record: 109190

In article <49l0a6$k2f@homer.alpha.net>,
Rick Miller <rick@digalogsys.com> wrote:
>I'd like to transceive voice via modulated light, but I'm wondering what
>the best equipment for such a set-up would be? I'd like it to be cheap
>and generic.

From my point of view, you can use a standard
Kenwood/Yaesu/Icom/Alinco/what-have-you transceiver, and modulate light
with your voice. I'm a physicist...

What frequency are you looking at? Visible light? IR? UV? UHF works fine for
me :-)

You could take apart one of your TV remote controls (IR) and modulate the IR
LED there.

>Rick Miller, Design Engineer (and local "Internet Guy")

//jbaltz
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

5678. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <49t4fn$5d3@hpscit.sc.hp.com>
Source record: 109191

In article <49hph7$jcf@news.azstarnet.com>,
Wes Stewart <N7WS@azstarnet.com> wrote:
>
>he works for them<g> The point I was making though is, the 8662 has the
>ability to be used over a wide frequency range and has locking capability,
>which Glenn's crystal standard does not.
>So it the application under discussion, it is pretty much the "golden standard"
>and is used as such in many HP phase noise test sets.
>
>Regards, Wes -- N7WS

My impression of the role the 8662 plays in the HP 3048 phase noise
test set is that it interfaces with the 11729 down converter. It supplies
clean 640 MHz. to it from a special rear panel output available as
an option. The 640 is multiplied to microwave frequencies and used
to down convert the microwave signal source to be measured down to
the 640 to 1280 MHz. band. The 8662 is then locked to the
down converted signal. In most cases, the 8662 is cleaner
than the down converted microwave source, so it is a good match.

When measuring HF sources, the 8662 is relatively useless. Either
the source is too good for it, or the source is so noisy you can
measure it with a spectrum analyzer or modulation domain analyzer,
which is far easier.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5679. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <49t3sd$53u@hpscit.sc.hp.com>
Source record: 109192

In article <49i5at$1gm@mgate.arrl.org>, Zack Lau <zlau@arrl.org> wrote:
>
>If you look at the specs for the 8640, they aren't that
>great, because they give it for the oscillator before
>they divide it down. Done properly, you get 6 dB/octave
>improvement on close-in phase noise you as divide it down,
>so the HF phase noise is bit better than at 448 MHz.

At offsets like 20 kHz., you reach the noise floor
after a few octaves and no longer go down 6 dB/octave.

>BTW If you are looking for a challenging project--may I
>suggest a computer controlled synthesizer that covers the
>HF bands with less phase noise than the HP8640 and spurs
>at least 80 dB down? Even better if you can turn it
>into a simple construction project for hams to build.
>
>Zack zlau@arrl.org
>

Such a project is in process as you speak. Stay tuned.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5680. WTB: 60 Khz X-tals

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: lrware@aol.com
Message-ID: <49sltt$jtt@newsbf02.news.aol.com>
Source record: 109193

```
WTB: 60Khz x-tals any mount/package, need two or three...
e-mail lrware@aol.com
```

5681. Re: Note for Users of FilDes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <30C220D1.66ED@netaxs.com>
Source record: 109194

This site won't accept my anonymous login...any suggestions?

5682. Re: AirDux coil source?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-03 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951203174154.3100C-100000@biggulp.callamer.com>
Source record: 109195

Tom, most of the reamining Lumintronics coils that were built in
Sunnyvale, CA were purchased by B and W. Only the popular ones remain so
the selection is somewhat slim, but available. Cliff Buttschardt W6HDO

On 2 Dec 1995, W8JI Tom wrote:

> In article <49fld7$1egp@chnews.ch.intel.com>, cmoore@vegas.ch.intel.com
> (Cecil A. Moore~) writes:
>
> >Anybody know a source for AirDux coils? Any other brand
> >of large coils?
> >
> >thanks and 73, Cecil, KG7BK, OOTC (not speaking for my employer)
> >
> >
>
> I have some Cecil.
>
> Tom
>
>

5683. Need interconnection cable for HP 8505 Network Analizer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: pieter.ibelings@sciatl.com
Message-ID: <49v57q$15mc@firehose.mindspring.com>
Source record: 109196
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I am in desperate need of a pair of cables that go between the display unit and the RF unit on the HP 8505 Network Analizers. I just purchased 2 of these and cannot use them because I don't have the cables. Please point me to where I can get these. The cable has 5 or 6 coax connections and around 17 other connectors.

73's
Thanks
AC4OP
Pieter Ibelings

5684. Re: 800 for Kenwood?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: garyn@tir.com
Message-ID: <49u996$co9@ramp2.lisp.com>
Source record: 109197

daniel.lacasse@com18.com wrote:

>Anyone know a 800 number for Kenwood? There is absolutly no number in any
>of my two users manual and I never got any reply from kenwwod@kenwood.net.

>It's been over two months that I have a defective radio now and for a radio
>over 1000$ I think I can have a better way to reach the company.

>If you have a secret number you don't want to post in public then
>reply me at: Daniel.Lacasse@com18.com

>Thank you very much.

> Internet: Daniel.Lacasse@com18.com
> Packet: VE2DLX@VE2SJC.#QBC.PQ.CAN.NA

Try 1-800 Kenwood, for repair locations/parts .... you ever like look
at their ads in QST, 73 ?

Gary

--
garyn@tir.com <Gary>

5685. Re: WWVB Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-041295092822@160.205.101.24>
Source record: 109198

In article <49j12i$9ld@opal.southwind.net>, 72770.552@compuserve.com
(Robert L. Nuckolls, III) wrote:
>
> Jeff,
>
> Have you considered using television network burst processed for an
> accurate source. Any time your local t.v. station is broadcasting
> network feeds, their 3.57954545 signal is good out to upteen decimal
> places. About 10 years ago I phase locked a crystal oscillator to the
> crystal of a small solid state color receiver on the bench. Divide by
> 88 and multiply by 63 and you've got 5.000000000 Mhz. Turns out our
> local NBC affiliate kept the station locked to network black-burst
> even while they were originating locally . . . made for a rather
> simple way to get lots of zeros behind the integers . . .
>
> Regards,
>
> Bob, K0DYH

Bob, what you were able to do back in the mid-'80s may not be possible
today...a lot of (if not most) broadcast stations resync everything to
their local master oscillator, which may not be a rubidium oscillator
and/or may not be held to the old network frequency tolerances (but are
within FCC Part 73 tolerances). I've observed consistent differences of
several parts in 10E-7 between the burst signals broadcast by the network
affiliates in my area, and I suspect this is true elsewhere. Without
detailed info on a given station's engineering practice, I'm not sure you
can count on a standard derived from TV color burst being much better than
what you could get from WWV or WWVH derived standards.

FWIW to Jeff, I'm on the verge of building the WWVB receiver and comparator
from
the 73 magazine articles. I'm holding off on the ovenized oscillator
portion, as I do have an old GR1115B crystal frequency standard which I
plan to use instead. If you're looking for general info on WWVB, you can
look for a copy of NIST Special Publication 432 (Revised 1990) which you
ought to be able to obtain from your local GPO bookstore.

TGB

\\ The opinions expressed herein are my own. //

5686. PC Board Prototyping

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <49vep0$dhe@hg.oro.net>
Source record: 109199

This is merely the announcement that I am starting three new threads in this newsgroup. There will be:

PC Board Proto: Software
PC Board Proto: Resist/Developer
PC Board Proto: Etching & Plating

If you all run across a question in another newsgroup about PC board prototype construction, would you please refer them over to this group? I've been collecting information for about three months from half a dozen newsgroups and can't remember from day to day where the threads all went.

Thanks for sharing your expertise.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

5687. PC Board Proto: Etching & Plating

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <49veup$dhe@hg.oro.net>
Source record: 109200

This is the header for the PC Board prototype group interested in
etching and plating.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

5688. Re: Code practice oscillator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: Vance Campbell <vcampbell@novell.com>
Message-ID: <49vkt1$37u@grok.provo.novell.com>
Source record: 109201

There is a fairly simple circuit in the Boy Scout Radio Merit Badge book. I haven't tried it so I can't comment, however...

73
Vance WA7ROI

5689. Re: PC Board Proto: Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: Vance Campbell <vcampbell@novell.com>
Message-ID: <49vlbv$3bn@grok.provo.novell.com>
Source record: 109202

It seems like this issue was debated in this newsgroup a month or two ago, but I missed the conclusion. My employer thinks I should work during business hours instead of read newsgroups :-{

I am interested in some shareware layout and or schematic software that is supported on the major platforms so that everyone can use it.

73
Vance WA7ROI

5690. Re: 40-40 mods, notes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <49vrnn$4fs@mksrv1.dseg.ti.com>
Source record: 109203

Bruce:

Thanks for all of this info! I'll try some of these tricks
on my NE-4040 and see if I can match your successes.

73 / 72 de Dean, KC5NG (QRP-ARCI # 8204)

5691. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: smason@agt.net
Message-ID: <4a00tq$5r5@news.agt.net>
Source record: 109204

In article <49q846$j1u@hg.oro.net>, rst-engr@oro.netï¿½ says...
>
>
>I'd like to get a thread started on the cheap and easy ways to do
>prototype PC boards.

Funny you should ask, your timing is impeccable.
I just posted this yesterday on sci.electronics,
here we go....
By the way, for anyone not familiar with the product, PnP Blue is a plastic 8.5x11 sheet similar to a transparency, but with a blue coating which also transfers to the copper. It's made by Techniks Inc, Ringoes NJ, and available from All Electronics.

There's been some talk about making boards with various toner transfer methods lately, so I thought I'd post my experience.

I just finished my first PC board using the PnP Blue toner transfer sheets.
I'm quite happy with the results.
Here's how it went:

Did the artwork with Easytrax, did some test prints on the HP LaserJet 4+ and determined the
minimum size paper it would feed.

Cut a piece of PnP Blue to the same size, and printed. The printer had no trouble feeding, and printing on the sheet. So far so good.

Cleaned the board, used an SOS pad, rinsed, then cleaned with isopropyl alchohol.

Heated up the iron to the middle range of steam.
Placed sheet on board and applied the iron. Big problem!
The sheet wrinkled, crinkled and did everything but melt (probably would have had I continued)
I decided I was using too much heat.

Cleaned board again (it was a bit harder this time, due to some of the toner transferring.

Cut another sheet and printed, again printer performed beautifully.

This time, I set the iron at half the temp (just below the steam setting)
Aligned sheet, applied iron, and it worked. I ironed for about 1 minute, which might have been a tad to little, as one of the 30 mil traces didn't quite transfer in one spot. An easy touch up with a Staedler 313 Permanent pen, and I was ready to etch.

Earlier, I had made a bubble etching tank out of an old narrow square plastic container, an aquarium pump and a flat aquarium bubble rock. The local electronics shops want $130.00 for
a

bubble etcher! And it's not that much different from what I made.

I mixed up a batch of ammonium persulfate 250G/1L of hot tap water, and etched away.
The result was a very good looking board for my first attempt!
Drilling was tougher than I thought, I used my Dremel tool in a Dremel drill press stand with a #68 bit. I found the bit would wander a bit as it came into contact with the board, but that if I pressed faster, the bit wandered less.
The 20pin DIP will be a bit tough to insert, as a few of the holes are off a tad, but the 8 pin DIP, and the rest of the holes are close enough.

If anybody has any drilling tips, I would like to hear them.

I don't know if the circuit will work, but the board sure looks good.

Sorry for rambling,

Steve VE6STV
smason@agt.net

5692. Help on homebrew 2 meter 6 element yagi beam

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: kc6twi@ix.netcom.com
Message-ID: <49torm$5v7@ixnews2.ix.netcom.com>
Source record: 109205

Just recently made a 2m 6 element yagi beam (two of them). The sliding choke or balun is giving me trouble. One has a SWR of 1.5 and the other 1.7 . Both are cut exactly the same utilizing metal jigs. Holds are drilled exactly the same via metal jig. Floow who helped me said can be used either vertical or hirizontal.

If we can't get SWR better, how could we redevelop a new/different matching devise without a plan ? It is supposed to tune to a 1.1 SWR, and have a 9+db gain.

Also, used my MFJ cross needle meter, and also my MFJ antenna system analyzer...both sho slightly different SWR..Any comments or ideas. I probably have not explained myself properly. Thanks for reading this. Merry Christmas and Happy Holidays To All, and Peace On Earth.

73, Al KC6TWI e-mail add kc6twi@ix.netcom.com

5693. PC Board Proto: Resist/Developer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <49vetk$dhe@hg.oro.net>
Source record: 109206

This is the header for the pc board prototype group interested in
resist and developer.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

5694. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: ed@fore.com
Message-ID: <49vdlc$a90@baleen.fore.com>
Source record: 109207

I did some playing some years ago as a data transmission link.

Checkout Radio Shack experimenter guides / engineers notebook perhaps its called,
couple of nifty experimenter circuits in there.

A few things I did find out.
IR leds put out better and IR filtered detectors are easy to come by and have
the advantage of filtering out some of the external light.

Cheap kids binoculars can also be used as a alignment and receiving aid.

Use 2 pairs, modify right side for the photo detector and then the other side can
be used to 'scope' in on the signal source. This will provide some optical gain,
but you may want to play with the focus, too sharp of a focus and it will be hard
to get the image to fall on the detector reliably.

I came up with a gimmic to collimate and align the IR beam. Use 3 leds, red,IR,
and green. Put these in a small tube or box that uses a fresnel lens at the
front to focus them. I was able to project spots for miles with this method
and some hi power leds.
rIg
*** Put the leds in a row, close together. Red, IR, Green.

|*----}--------- Beam
leds lens

You can project the images on a wall 3 feet or so, and adjust the focal distance
or view it from the front and adjust the focus until you see red & green both
in the lens (the leds will look huge and bright) Do this until the red and green
just start to get cut off on the sides of the lens, this will provide the best
brightness at a distance. Then you will be able to find the center of the beam
at a distance by knowing if you see all green, go left, all red, go right, both
red & green, you will be center in the IR beam.

What this does at a distance....

R IR G
/ | \

/ | \

/ | \

/ | \

_
O_O < binocular detector

P.S. Paint or line the LED box with white paper or something non flammable if you use it outside in the sun, fresnel lenses are very good heat focusers in sunlight.

73

Ed N3SDO

5695. Re: Info Requested - 2Mbps/10Ghz Data Link Project.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: pe1cig@sys2.pe1cig.ampr.org
Message-ID: <49uk7a$bo0@sys2.pe1cig>
Source record: 109208
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital

Timothy R. Havens (wx2l@ix.netcom.com) wrote:
: If anyone has had ANY experience constructing or tuning, or
: administering a setup as described in the 1994 ARRL Handbook regarding
: the 2 Mbps Microwave Data Link for 10Ghz, please share WHATEVER you
: know with me.
: I am about to attempt this project, and would love to hear from anyone
: who has successfully, or even unsuccessfully completed or attempted
: this same project. Your achievements, and failures via email or phone
: would be an outstanding benefit to me.

We (me and Rob PE1KHX, a fellow ham in the area) are about to start with this experiment also. We're in the phase of collecting/buying the needed components now, and already have the PCB's and Gunnplexers.

One thing is rather unclear to us: What type of (PC-LAN) interface cards (2Mb/s) are suitable to connect to the Data Link transceivers? I have ever seen any 2Mb/s LAN cards, except ARCnet but these don't have "AUI" interface.
Would it be possible to just use plain 10Mb/s ethernet cards (AUI or 10base-T interface), can they be "brought down in speed" to match the data link transceiver capabilities.

We don't need to cross large distances, 2 miles at most.

Anyway, we'd appreciate to share any experiences too.

Please post to this newsgroup or Email me direct at my QRL.

Thanks es 73' Eddy van Loo PE1CIG
--
Eddy van Loo in Oost-Souburg, JO11TL Amateur Radio Station PE1CIG
AMPR-IP: 44.137.28.35 / 44.137.27.42 AMPR-Mail: pe1cig@pe1cig.ampr.org
URL: http://www.HZeeland.nl/~eddy Inet mail: eddy@HZeeland.nl

5696. 800 for Kenwood?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: EUGENE.WELCOME@rook.wa.com
Message-ID: <52170742@rook.wa.com>
Source record: 109209

To:daniel.lacasse@com18.com

> Anyone know a 800 number for Kenwood?

Hi Dan; Here is what I have listed

Kenwood USA Corporation Info 800-536-9663: Service 310-639-5300
P.O Box 22745. 2201 E. Dominguez St. National Parts 800-262-1312.
Long Beach, Ca 90801-5745: Amateur Radio and Consumer Equipment .

Kenwood USA Corporation 800-637-0388 East coast use only
^^^^^^^^^^^^
Not sure this is valid--||||||||||||--anymore.

Factory Rep in Virginia. 804-340-1702
^^^^^^^^^^^^
I got this # from the --||||||||||||--West Coast Rep. when I called
them for any phone # updates.

_ /|
\'o 0'
73, Gene, K7"EEK" !! a =(_"_)= ?? He ate my Mouse !
U
eugene.welcome@rook.wa.com

5697. VHF Intermod filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: dony@cyberstation.net
Message-ID: <49vou0$756@quartz.cyberstation.net>
Source record: 109210

I am suffering from VHF intermod problems.

I've seen intermod filters advertised in various magazines, but I
don't wish to purchase one. I am interested in building my own.

Any info would be helpful.

First is it possible to build this filter so that it is in line during
transmit? My rig puts out 50 watts.

At the moment I'm only interested in 144 to 148 Mhz.

Any help Info or guidance would be greatly appreciated.

Don Young KA2IMX
dony@cyberstation.net

5698. MFJ QRP SSB Rigs - Worth the $$?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: DICENSODJ%DFL@pcmail.usafa.af.mil
Message-ID: <49voub$kvj@usafa2.usafa.af.mil>
Source record: 109211

Anybody had experience with the MFJ QRP rigs?

I'm looking for a portable rig for Rocky Mountain 4x4 camping trips.
How good an idea is the MFJ QRP SSB rig?

Are the MFJ rigs worthwhile, or should I just mount my trusty,
bullet-proof, reliable old Atlas 210 under the dash and forget about
MFJ?

Also, is 20m too crowded (General portion) for the MFJ QRP SSB rig's
primitive receiver, or is it selective enough to be useful?

Should I go with a 15m MFJ rig instead, due to limitations of the rig
itself?

Thanks for your comments!

-- Dave

5699. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: rfarmer@mindspring.com
Message-ID: <rfarmer.30.001DA27E@mindspring.com>
Source record: 109212

In article <49q846$j1u@hg.oro.net> rst-engr@oro.net (Jim Weir) writes:

>My proposal is to start three threads: PCB software, PCB resists, and
>PCB etching. If anybody objects to me starting these threads in this
>newsgroup, say so now. If anybody has other major topics they'd like
>to add to the threads, say so now.
>Otherwise on Monday morning...

Hmm. Well Jim you seem hell bent on STARTING A NEW GROUP. FYI UNIX no longer has the lock on the capture/layout market. The top 2 UNIX player are now releasing NT version, one of which I'll probably buy. The really big problem though is the parts. Have you ever "homebrewed" a board that takes TSOPs? Just wait until BGA goes mainstream, theres no way in hell you can whip up a prototype board to eval those things in an afternoon. I don't want to sound discouraging but I have no problem with 50 mil SOICs or 0805 discretes. Its just that you can't route them very tight or run them very fast without your internal layers.

Rick Farmer | Ratio DesignLab
Electrical Engineer | 3040 Peachtree Rd.
rick@ratio.com | Atlanta, Ga. 30305 USA

5700. Re: Info Requested - 2Mbps/10Ghz Data Link Project.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4a0j8u$70e@newsbf02.news.aol.com>
Source record: 109213

I only built the dish and feed. It works like a champ. I have not done any side lobe
measurements, but I can tell you that the forward gain is definately better than the penny splasher I previously used with the same 2 foot dish. I also wouldn't be too hung up on the gunnplexer they recommend in the article. I think you could do just fine with an alpha or door opener one seen at flea markets. Hope this helps somewhat..

-Viny N1VC

5701. HP 8660 Synthesizer parts needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: dsweeney@vt.edu
Message-ID: <dsweeney.7.0014D4C2@vt.edu>
Source record: 109214

I need the "pretune assembly" and the "VCO and amplifier assembly" for the 350-450 MHz HF loop in an HP 8660C synthesizer. Thanks for your help.

Dennis Sweeney WA4LPR
dsweeney@vt.edu

5702. Re: PC Board Proto: Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <818146489.12251@pinetree.microserve.com>
Source record: 109215

Vance Campbell <vcampbell@novell.com> wrote:

>I am interested in some shareware layout and or schematic software that
>is supported on the major platforms so that everyone can use it.

Same here. I downloaded a copy of easytrax.zip and it looks pretty
interesting. Unfortunately, it won't print to my HP inkjet. Anyone
know a freeware/shareware layout program that will? Alternately, is
software available to allow an inkjet to emulate a laserjet?

73,
Jack WB3U

5703. Re: Hams please read ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: smason@agt.net
Message-ID: <4a00l7$5r5@news.agt.net>
Source record: 109216
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio

In article <znr817238843k@Digex>, croaker@access.digex.netï¿½ says...

>Internet lore: the term was derived from the Monty Python skit, were 'spam'
>was said/sung numerous times. It was a really funny skit, too.

Bloody Vikings!!

I guess Nye Vikings to get back on topic...

Steve

5704. Re: FSK Demodulator schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: schroeder.pad@sni.de
Message-ID: <49ug56$2oq@nervous.pdb.sni.de>
Source record: 109217

rudykevy@aol.com (RudyKEVY) wrote:

>The op amp circuit you describe is not the one I am after. That is a
>"comparator" type demodulator and feeds a squared up audio signal to the
>computer where the software does the rest of the job. This works quite
>well for SSTV and (I am told) fairly well for RTTY, etc. However I want
>to do the frequency to voltage conversion outside the computer and feed
>some really promising software for the commercial and amateur TOR modes.

HamComm 3.0 supports AMTOR ARQ & FEC modes. As AMTOR is almost the same as
SITOR it also copies SITOR-A/B and NAVTEX which uses SITOR-B.

Here is a sample NAVTEX transmission i copied last week (11/28/95):

20:53:20 UTC ZCZC GA22
20:53:22 UTC WZ 1809
20:53:23 UTC ENGLAND, SOUTHEAST COAST. RAMSGATE APPROACHES. EAST BRAKE
20:53:33 UTC LIGHTBUOY 51-19N 01-29E MISSING FROM STATION.
20:53:41 UTC
20:53:42 UTC NNNN
20:53:48 UTC
20:53:48 UTC ZCZC GA02
20:53:50 UTC WZ 1769
20:53:51 UTC SCOTLAND, EAST COAST. OUTER APPROACHES TO FIRTH OF FORTH. BERWICK
20:54:02 UTC BANK NORTHWARD. AIRCRAFT WRECKAGE LOCATED VICINITY 56-17N 01-10W.
20:54:14 UTC SALVAGE OPERATIONS IMMINENT. ALL VESSELS REQUESTED TO GIVE AREA
20:54:24 UTC WIDE
20:54:25 UTC BERTH. CANCEL WZ 1752 (GA94).
20:54:31 UTC
20:54:31 UTC NNNN
20:54:51 UTC
20:54:56 UTC CUL
20:54:57 UTC
20:54:57 UTC
20:54:57 UTC ZCZC GE15
20:54:59 UTC CULLERCOATSRADIO
20:55:02 UTC SHIPPING FORECAST
20:55:05 UTC
20:55:05 UTC 2048 ON TUESDAY 28 NOVEMBER 1995
20:55:11 UTC
20:55:12 UTC THE GENERAL SYNOPSIS AT MIDDAY
20:55:17 UTC LOW SOLE 994 EXPECTED 180 MILES SOUTHWEST OF SHANNON 998 BY
20:55:27 UTC MIDDAY
20:55:28 UTC TOMORROW. LOW SHANNON 998 EXPECTED 80 MILES WEST OF SOLE 998
20:55:39 UTC BY

20:55:40 UTC SAME TIME. NEW LOW EXPECTED TRAFALGAR 998 BY THAT TIME. HIGH
20:55:50 UTC 80
20:55:51 UTC MILES SOUTHWEST OF ICELAND 1028 EXPECTED NORTH UTSIRE 1031 BY
20:56:01 UTC MIDDAY TOMORROW
20:56:03 UTC
20:56:04 UTC THE AREA FORECASTS FOR THE NEXT 24 HOURS ISSUED BY THE MET.
20:56:13 UTC OFFICE
20:56:15 UTC AT 281900 GMT
20:56:17 UTC
20:56:17 UTC VIKING NORTH UTSIRE SOUTH UTSIRE
20:56:23 UTC SOUTHEASTERLY 4 OR 5, OCCASIONALLY 6 AT FIRST. OCCASIONAL RAIN.
20:56:34 UTC MODERATE OR GOOD
20:56:37 UTC
20:56:37 UTC FORTIES CROMARTY FORTH TYNE DOGGER FISHER GERMAN BIGHT
20:56:46 UTC SOUTHEASTERLY 4 OR 5, OCCASIONALLY 6. MAINLY FAIR. GOOD, BECOMING
20:56:58 UTC MODERATE OR POOR IN FISHER AND GERMAN BIGHT
20:57:05 UTC
20:57:05 UTC HUMBER THAMES DOVER WIGHT
20:57:09 UTC SOUTHEASTERLY 4 OR 5, OCCASIONALLY 6 IN WIGHT AT FIRST. SHOWERS.
20:57:21 UTC GOOD
20:57:22 UTC
20:57:22 UTC FAIR ISLE
20:57:24 UTC EASTERLY VEERING SOUTHEASTERLY 4 OR 5, OCCASIONALLY 6. SHOWERS.
20:57:35 UTC GOOD
20:57:36 UTC
20:57:36 UTC FAEROES
20:57:37 UTC NORTHEASTERLY 6 OR 7 VEERING SOUTHEASTERLY 5. MAINLY FAIR. GOOD
20:57:48 UTC
20:57:49 UTC NNNN

Regards
W.F.Schroeder
DL5YEC
(HamComm expert :-)

5705. Re: Panel Mount Air Variable Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: William Kresl <wmkresl@townsquare.net>
Message-ID: <49tvif$b0o@spectator.cris.com>
Source record: 109218

Hi Rick, I saw your post and thought I'd jump in.
I don't own stock or anything but for what you
need you can try contacting the technician at
RADIO RECYCLERS in Milwaukee, WI. They have a
good deal of old parts like that in there bins.
They do tear apart a lot of old radios and such
and gather all the remnants. They also buy up
lots of inventory of parts (I saw a complete
line of B&W mini-ductors, pilot lamps, tubes
and ceramic/phenolic rotary switches). The owner
Neil Lawton will patch you thru to the right
person to talk to you to determine the part
you need (they should be able to measure the
capacitance as well). You can find there ad in
ham magazine classified (I don't have number
handy)....good luck and 73....
Wm Kresl - WB9BBC @KD9JK.WI.USA.NOAM

5706. Re: MGF 1402 noise figure. (And S param)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <591414320wnr@ifwtech.demon.co.uk>
Source record: 109219

elendir@enst.fr (Elendir) wrote:
: Hi,
: I'm always looking for my noise figure info.
:
: This time, I'd like to know if anybody has the NF of the MGF 1402 at
: 150 MHz, together with its s or y param and the optimal source imped.
:
: I simply don't have any kind of info on this GaAsFET.
:

Here are the S-parameters of the MGF1302 (same chip), measured down
to 100MHz.

```
!MGF1302-15 S-Parameters
!Vds=3V Ids=10mA Measured by DG6GC. Ref: DUBUS-Info, 2/1993, p.54
#GHZ S MA R 50
1 1.000 359.000 3.740 178.00 0.0018 88.00 0.695 358.00
15 1.000 357.60 3.733 176.85 0.002 87.04 0.693 358.00
2 0.999 356.50 3.726 175.80 0.004 83.94 0.691 357.20
3 0.999 354.00 3.713 173.70 0.006 84.65 0.690 355.30
4 0.998 351.76 3.694 171.42 0.008 83.31 0.687 354.03
5 0.996 349.29 3.693 169.32 0.011 81.36 0.688 352.63
6 0.993 346.93 3.697 167.03 0.013 79.94 0.686 351.05
7 0.991 344.60 3.695 164.82 0.015 78.42 0.684 349.48
8 0.988 342.13 3.686 162.45 0.018 76.99 0.682 347.84
9 0.986 339.92 3.680 160.43 0.020 75.06 0.682 346.34
1.0 0.982 337.49 3.662 158.01 0.022 73.57 0.679 344.76
1.1 0.977 335.18 3.564 155.80 0.025 71.95 0.677 343.14
1.2 0.975 332.91 3.642 153.63 0.027 70.54 0.676 341.75
1.3 0.970 330.53 3.633 151.48 0.029 68.85 0.674 340.19
1.5 0.961 325.90 3.605 147.08 0.033 65.70 0.669 337.09
2.0 0.937 314.66 3.544 136.53 0.043 58.22 0.654 329.66
2.5 0.907 303.11 3.476 125.76 0.052 50.70 0.637 322.12
! Merge with Mitsubishi data for higher frequencies
```

Sorry, there are no formal noise data so you'll have to do it by
cut-and-try as Wes, N7WS suggests. The MGF1302/1402 is still one
of the lowest-noise GaAsFETs for use at lower VHF and UHF.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

5707. FS Millen Grid Dip Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: pgerba@crl.com
Message-ID: <49ubp4$5ej@crl14.crl.com>
Source record: 109220

Model 90651: 1) sn 3629 fair/good, crack in meter glass, works well,
w/coil set $75; 2) sn355 fair, w/coils, working, $65; 3) sn4399 meter
complete, no coils, ac cord cut, $20;
4) 90651 Kit sn (), in case,w/coils very good cond. $165

pete
pgerba@crl.com

5708. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DJ2IMt.9sD@hpqmoea.sqf.hp.com>
Source record: 109221

Ed Hare (ehare@arrl.org) wrote:
: jeffa@ix.netcom.com (Jeff Anderson) wrote:

: >>Ricks post is most informative on this topic. The operative word
: >>in the handbook article is "crude" phase-locked loop. If the
: >>oscillator under test is any good, what they are measuring is the
: >>performance of the '8640.

It looks like I've missed some interesting posts while our newsfeed's
been broken. I've not seen the earlier parts of the discussion so my
comments could miss the target somewhat...

The above is true of all phase noise test systems!

: >Good point. Interestingly, the Handbook stated that the 8640B "has a
: >much cleaner spectral output than most transmitters", and so would be
: >adequate in this application. I wonder if the ARRL's Lab has compared
: >the results of the 8640B method with those from commercially available
: >phase-noise measurement systems? How much worse is this technique? Its
: >virtue is that, if you already have an 8640B, it's very simple.

The 8640 isn't some wonder gold-standard, but they're a lot easier to
get hold of than 8662s and 8663s !

In considering phase noise testing, the offset freq range of interest
has to be decided on carefully, the 8640 is particularly good far from
the carrier... incidentally, don't forget the old valved 606 which had a
tracking tank on its output stage - gives very low broadband noise floor.
I modified one for FM so I could lock it back in the days before "off the
peg" phase noise testers.

Of course, a really good vcxo custom designed for a spot frequency can
always be made, and should be able to outperform all phase noise testers.
you pay in several ways for frequency coverage.

: Yes we have. We sent a fairly clean transmitter to one of our Technical
: Advisors with a high-end HP phase-noise measurement setup. We found we
: were within a dB or two, worst case. I plan to do this once a year or
: so, to keep our Lab-built equipment "self calibrated" against a known,
: calibrated instrument.

I've plenty of experience with both approaches, and the IC765 plot
was done on one of our fully traceable, calibrated, phase noise systems.

For HF radios, the 8640 is plenty good enough to outperform existing
radio's synthesisers. A few VCXOs could be built for less than an 8640 for
state of the art performance at spot freqs - when testing synths, you can

take the mountain to mohammad.
With the VCOs you can always build a pair and measure their JOINT
phase noise as a proof of performance, as Zack suggested for a pair of
8640s. The only way to prove a state of the art clean source may be to
build a pair...

: 73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor

Cheers
David GM4ZNX

5709. Re: MGF 1402 noise figure. (And S param)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-04 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <49uqjs$bbr@tempo.univ-lyon1.fr>
Source record: 109222

Zack Lau (zlau@arrl.org) wrote:

[...]
: The French representative to contact for back issues is
: Patrick Magnin, F6HYE. Rus, N7ART is the person to contact
: in the USA.

Okay, thanks for the info. I'll try to do that.

Thanks !

Vince
--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

5710. 900 Mhz Homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: mattstr@primenet.com
Message-ID: <4a07gl$kod@nntp3.news.primenet.com>
Source record: 109074

Does anyone have any schematics for easy to build 902-928 Mhz receivers and/or
transmitters?? I just bought a 900 Mhz repeater but nobody in Arizona
has 900 yet...i'm going to tune the repeater down to the 33 cm ham band.
If anyone has schematics for these things, i would pay for copies of it
and postage costs to mail them to me. Please help, if you can.

Thanks
Matt

--

```
------------------------------------------------------------------------------
mattstr __ __ ____ ___ ___ ____
mattstr@primenet.com /__)/__) / / / / /_ /\ / /_ /
/ / \ / / / / /__ / \/ /___
/------------------------------------------------------------------------------
```

5711. Re: MGF 1402 noise figure. (And S param)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4a0678$bo2@news.azstarnet.com>
Source record: 109075

Ian G3SEK <G3SEK@ifwtech.demon.co.uk> wrote:
>
[bandwidth reduction]

>Here are the S-parameters of the MGF1302 (same chip), measured down
>to 100MHz.
>
>!MGF1302-15 S-Parameters
>!Vds=3V Ids=10mA Measured by DG6GC. Ref: DUBUS-Info, 2/1993, p.54
>#GHZ S MA R 50
>1 1.000 359.000 3.740 178.00 0.0018 88.00 0.695 358.00
>15 1.000 357.60 3.733 176.85 0.002 87.04 0.693 358.00
>2 0.999 356.50 3.726 175.80 0.004 83.94 0.691 357.20
>3 0.999 354.00 3.713 173.70 0.006 84.65 0.690 355.30
>4 0.998 351.76 3.694 171.42 0.008 83.31 0.687 354.03
>5 0.996 349.29 3.693 169.32 0.011 81.36 0.688 352.63
>6 0.993 346.93 3.697 167.03 0.013 79.94 0.686 351.05
>7 0.991 344.60 3.695 164.82 0.015 78.42 0.684 349.48
>8 0.988 342.13 3.686 162.45 0.018 76.99 0.682 347.84
>9 0.986 339.92 3.680 160.43 0.020 75.06 0.682 346.34

[other data snipped]

Ian:

I believe some decimal points are missing from the frequency column, yes?

Also, it's unusual to see the angles expressed > =/- 180 deg. Also interesting to see that my curve fitting predicted these data pretty well:-) Thanks for the info.

73

Wes -- N7WS

5712. Re: Source of silver plated wire ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: peter@suburbia.net
Message-ID: <4a2ah6$lhj@core.apana.org.au>
Source record: 109076
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

jtw2@NIOSR1.EM.CDC.GOV (Wassell, James T., Ph.D.) wrote:
>use silver plated no. 10 or no. 8 wire. Does anyone know where to buy

I find easiest is to get the wire and take it to silver platers (see
in phone book)

Peter Dettmann

5713. Re: Info on Ten-Tec 6M xverter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: jayk@fc.hp.com
Message-ID: <4a251l$1b0@fcnews.fc.hp.com>
Source record: 109077
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Mark Monninger (markem@primenet.com) wrote:
: Does Ten-Tec still sell the 6M transverter kit they offerred a couple years
: ago? Does anyone have any experience with it? I believe it uses a 20M IF,
: right? I'm thinking it might be an interesting companion to a 20M SSB QRP rig.
: Comments? Opinions?
: 73... Mark AA7TA

I bought a new one (assembled) from TenTec back in June. Its a great little
unit. Puts out ~10 watts and has good RX. I use the xverter with a FT-1000D
and its much better selectivity wise than my older 6m multi mode.

73, Jay K0GU jayk@fc.hp.com

5714. Re: Need interconnection cable for HP 8505 Network Analizer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: pieter.ibelings@sciatl.com
Message-ID: <4a2dhg$11ae@stealth.mindspring.com>
Source record: 109078
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I am in desperate need of a pair of cables that go between the display unit and the RF unit on the HP 8505 Network Analizers. I just purchased 2 of these and cannot use them because I don't have the cables. Please point
me to where I can get these. The cable has 5 or 6 coax connections and around 17 other connectors.

73's
Thanks
AC4OP
Pieter Ibelings

5715. Re: Info on Ten-Tec 6M xverter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: landers@dbsun.vitek.com
Message-ID: <4a2ehm$ati@dbsun.vitek.com>
Source record: 109079
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <markem.180.0006FDE8@primenet.com> markem@primenet.com (Mark Monninger) writes:
>Does Ten-Tec still sell the 6M transverter kit they offerred a couple years
>ago? Does anyone have any experience with it? I believe it uses a 20M IF,
>right? I'm thinking it might be an interesting companion to a 20M SSB QRP rig.
>
>Comments? Opinions?

I bought a Ten Tec 1208 20 meter to 6 meter transverter at Dayton'95.

Costs $90.00 and works real well. Goes together pretty easy. Has 6-8 watts
out for 5 watts in.

73, Rod WI0T

5716. Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: ghansen@accessone.com
Message-ID: <ghansen.398.30C40223@accessone.com>
Source record: 109080

I need to build an attenuator to drop my transceivers' 10 watts to less than 5 watts. I plan on using a pi-network resistive attenuator, I know the values but I don't know what type/kind of resistor to use. Looking through my Mouser catalog I see axial lead vitreous enamel coated, lug a lead fixed resistors and such animals. I don't have a clue what to use.

Thanks

Glenn KB7PKC

5717. Re: Datas MRF 148 ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4a1i6a$51a@news.iii.net>
Source record: 109081

What specs do you need?

Did you try http//:motorola.com ?

MRF148
30 Watts
2 - 175 Mhz
50 VDC
18 db gain @ 30 Mhz.

Enjoy
Tom

5718. Re: Drilling PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9511058181.AA818183100@mails.imed.com>
Source record: 109082

A friend of mine (KA3NLV) is a machinist. I was aghast when he showed me how to keep a drill bit from wandering (me being a sparky type)! He chucked the drill bit all the way down to within 1/4 inch of the end of the bit in the drill press. He explained that bits are made of hardened steel and the cutting edge is quite strong and will not be harmed. Besides, in this application you are never going to use that bit for more that 1/8 inch or so depth anyway.

Another neat device he showed me was a drilling device (I don't what is called,but I seem to recall seeing one at the local hardware store) that has a shank about 3/16 inch but it tapers down and has a VERY short drill bit that is considerable smaller in diameter (about the right size for PC board holes).

Ray Mack
WD5IFS
mack@mails.imed.com

5719. Re: PCB Etching Question???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: Jerry Roush <jroush@p03.az75.az.honeywell.com>
Message-ID: <4a1r51$lid@moon.src.honeywell.com>
Source record: 109083

ag722@ccn.cs.dal.ca (Chris Findley) wrote:
>I was wondering is if anyone could give any pointers as to what temp
>(if you use ferric chloride) the solution should be maintained at >during the etching process???

I find that it works well at about 105 F (~33 C).

> Also, and most important: What can I use to mask
>large areas of the board with??? I am familiar with the photo etch,the
>lazer toner thing,and resist ink pens. the only one i can use in my
>current situation is resist ink.Could I use masking tape or some sort
>of mac-tac(TM) material to mask these large portions of the board???
>
>I would waste an entire ink pen on just one board,i'm sure.It's not >really practical to use it!

I have used many methods, but I have found that plain ol'
black electrical tape works well for large areas (> 1x1 cm).
For smaller "large" areas, some electrical parts houses
sell a black paper tape, almost like narrow masking tape.
It is very similar to artwork tape for drafting. However,
if the ferric chloride gets too hot, the adhesive has a
tendency to soften, causing _problems_.

Good Luck,

.Jerry <><

5720. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: w9gr@psyber.com
Message-ID: <4a1rv9$fid@warez.psyber.com>
Source record: 109084

> rst-engr@oro.net (Jim Weir) writes:
>
> I'd like to get a thread started on the cheap and easy ways to do
> prototype PC boards. I started asking questions on the CAD newsgroups
> and those folks are so bound up with workstations and thousand dollar
> autorouter programs that they just don't understand those of us using
> laser printers and fishtank etchers. I've gotten some damned good
> advice and some absolute trash.
>
> My proposal is to start three threads: PCB software, PCB resists, and
> PCB etching. If anybody objects to me starting these threads in this
> newsgroup, say so now. If anybody has other major topics they'd like
> to add to the threads, say so now.
>
> Otherwise on Monday morning...
>
> Jim
>
>
>
> Jim Weir VP Engineering | "We seem to be standing on
> RST Engineering | the foreskin of technology."
> Grass Valley CA 95945 | (Gen Chuck Yeager)
> voice/fax 916/272-1432 |
> rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ
>
>
>>>>
There are several of us here in the area who are using EAGLE
for PC board design and schematic capture. It is a low cost
package ($500 for 16 bit , $1197 for 32 bit versions) with a
really excellent autorouter - the best I have seen. It is the #1
PC-based PC board design package in Europe. (It is a German
import, but you would never know it.) It's main weakness is
the lack of heirarchical schematic design. I have used it to
do my DSP boards (see the '96 ARRL Handbook).

I bought it after looking at a lot of different packages, and I
don't regret it.

At the time, I almost bought the Orcad package with their
router which would have cost $3000. But, Orcad has a $600
annual "maintenance fee." So for $1200 for Eagle, I figured
I could buy it, use it for two years, and if I didn't like it, throw
it away, buy Orcad, and not be out any money. In other words,

two years' worth of "maintenance fees" pay for Eagle, which
has free support.

EAGLE is distributed by Cadsoft, 800-858-8355

73,

Dave Hershberger, W9GR
Principal Engineer
Continental Electronics, Inc.
Nevada City, California
internet: w9gr@psyber.com

5721. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4a1859$p6i@info4.rus.uni-stuttgart.de>
Source record: 109085

> o Use multiple LEDs mounted side by side for more power.

OK, but remember that you have to increase the number of LED's
by four to double the range.

5722. Re: Drilling PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Dec5.124638.414@nad.com>
Source record: 109086

In article <9511058181.AA818183100@mails.imed.com>, mack@mails.imed.COM writes:
> A friend of mine (KA3NLV) is a machinist. I was aghast when he showed me how to
> keep a drill bit from wandering (me being a sparky type)! He chucked the drill
> bit all the way down to within 1/4 inch of the end of the bit in the drill
> press. He explained that bits are made of hardened steel and the cutting edge
> is quite strong and will not be harmed. Besides, in this application you are
> never going to use that bit for more that 1/8 inch or so depth anyway.
And you don't cut on the side of a drill anyway :)
>
> Another neat device he showed me was a drilling device (I don't what is
> called,but I seem to recall seeing one at the local hardware store) that has a
> shank about 3/16 inch but it tapers down and has a VERY short drill bit that is
> considerable smaller in diameter (about the right size for PC board holes).
>
> Ray Mack
> WD5IFS
> mack@mails.imed.com

It's a center drill. Also when going for best accuracy it's best not to have
the workpiece too far from the drill point when it's at rest.
(Bring the table up to the tool) This will reduce wandering caused by spindle
and colunm flex and slop.

73,
Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

5723. Re: PC Board Prototyping

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: James Mills <jmills>
Message-ID: <1995Dec5.125042.48953@ucl.ac.uk>
Source record: 109087

Dear Jim,

I have found that using PCB software like Easy-PC Plus, then outputting to a laser printer using OHP transparencies it is quite simple to get artwork good enough to produce PCBs using a UV light box. The keys is to dramatically reduce the exposure time, by experimentation. One or two tips,

1) Always put some writing onto the artwork, so that it is easy to work out which way round its supposed to be as you look at it the wrong way round, if you see what I mean.

2) If you want the artwork to be a be more permenant and prevent scratching, spray with Scotchguard or hairspray or similar, note the hairspray trick works for Letraset as well.

3) For artwork requiring higher density black, ie microwave stuff, print it twiceand overlay carefully.

4) PCB Photoresist you can by from RS etc, is a waste of time and money cause youï¿½can't apply it thin or even enough.

Just a few tips from my experience.

Cheers.

James Mills

jmills@ee.ucl.ac.uk

5724. RAMSEY TV-6

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: Jon Himsel <102115.2754@CompuServe.COM>
Message-ID: <4a1hpoobj1@mhade.production.compuserve.com>
Source record: 109088
Cross-posted to: rec.radio.amateur.homebrew,alt.radio.pirate

Can anyone tell me how to modify the Ramsey TV-6 so it only Xmits on channel 3?? The thing drifts so much that this mod (if possible) would make it much easier to tune. Thanks for any help!

5725. Re: 2 meter linear desired

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: dony@cyberstation.net
Message-ID: <DJ4M7r.1x6@news.zippo.com>
Source record: 109089

kuhl@acsu.buffalo.edu wrote:

>I currently have a two meter HT and would like to buy or build a linear for
>it. If anyone could point me in the direction of a supplier and/or plans, it
>would be appriciated.

>Thanks,
>Kevin

Ramsey Electronics sells a decent Kit

Don Young
KA2IMX

5726. Re: High Voltage Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: peter@suburbia.net
Message-ID: <4a2a7l$lhj@core.apana.org.au>
Source record: 109090

kennedy@aol.com (kennedy) wrote:
>Can anyone tell me of a vendor who can supply a 2000WVDC capacitor
>with a value of at least 1000ufs??

I guess you dont really mean 1000uf @2kv as this would smooth the
output of the dc supply for a whole town.

Peter Dettmann

5727. JFET Source Resistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: ian.mitchell@research.utas.edu.au
Message-ID: <4a2jvk$nn6@franklin.cc.utas.edu.au>
Source record: 109091

Hi,

I'm trying to build an IF amplifier using JFETs. It's a common source configuration with a parallel LC tuned circuit in the drain circuit to VCC.

Naturally the source resistor goes to ground, but how do I calculate its resistance?

I've seen how to calculate source and drain resistances but not when there is a tuned circuit in the drain.

The resonant frequency of the LC circuit is 50MHz.

Any help would be most gratefully accepted, thanks.
Ian

5728. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: clifto@indep1.chi.il.us
Message-ID: <DJ4vp3.I9G@indep1.chi.il.us>
Source record: 109092

In article <49r07e$4nt@apakabar.cc.columbia.edu> jbaltz@namaste.cc.columbia.edu (Jerry B Altzman) writes:
>You could take apart one of your TV remote controls (IR) and modulate the IR
>LED there.

Yeah, but the fun part is biasing it for linear operation. For the most part, our options in trying to get low distortion with such toys are:

1. Go out and buy a hyper-expensive IR LED for which spec sheets are available (and reasonably accurate).

2. Use junkbox LEDs and tweak obsessively until linearity is achieved.

3. Build ten times as much circuitry and go digital.

--
Cliff Sharp There are days when no matter which
WA9PDM way you spit, it's upwind.
clifto@indep1.chi.il.us --The First Law of Reality

5729. Re: MGF 1402 noise figure. (And S param)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <702229088wnr@ifwtech.demon.co.uk>
Source record: 109093

In article: <4a0678$bo2@news.azstarnet.com> Wes Stewart <N7WS@azstarnet.com>
writes:
:
: Ian G3SEK <G3SEK@ifwtech.demon.co.uk> wrote:
: >
: [bandwidth reduction]
:
: >Here are the S-parameters of the MGF1302 (same chip), measured down
: >to 100MHz.
: >
: >!MGF1302-15 S-Parameters
: >!Vds=3V Ids=10mA Measured by DG6GC. Ref: DUBUS-Info, 2/1993, p.54
: >#GHZ S MA R 50
: >1 1.000 359.000 3.740 178.00 0.0018 88.00 0.695 358.00
: >15 1.000 357.60 3.733 176.85 0.002 87.04 0.693 358.00
:
: Ian:
:
: I believe some decimal points are missing from the frequency column, yes?
:
: Also, it's unusual to see the angles expressed > =/- 180 deg. Also
: interesting to see that my curve fitting predicted these data pretty well:-)
: Thanks for the info.
:

Sorry about that glitch. There should indeed be decimal points at
the beginning of each line below 1.0GHz. It seems that many types of mailer
software will ignore a period at the beginning of a line.

Yes, the angles >=180deg are unusual, but I thought it better to copy them
exactly as printed in DUBUS. All respectable software should be able to handle
them correctly.

The values should extrapolate quite smoothly to lower frequencies, because the
device itself tends towards simple "triode" behaviour at LF. Still, it's good
to have some genuine measured values for a change.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

5730. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: rfarmer@mindspring.com
Message-ID: <rfarmer.31.000D5989@mindspring.com>
Source record: 109094

This one screams out for a laser diode IMHO. They're actually getting petty cheap too. ~$30US out of digi-key ought to do it. Of course lasers systems have their saftey problems if not designed right, but you'll get great range!

Rick Farmer | Ratio DesignLab
Electrical Engineer | 3040 Peachtree Rd.
rick@ratio.com | Atlanta, Ga. 30305 USA

5731. Re: MFJ QRP SSB Rigs - Worth the $$?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: Stephan Rashkin <stever@raven.cybercom.com>
Message-ID: <4a2dgp$kde@crow.cybercomm.net>
Source record: 109095

40 mtr QRP is excellent practically all hours day and night..
great throughout all sunspot cycles..I work 5 watt qrp stations
there continously..

Steve, wa2nhz

5732. Re: MFJ QRP SSB Rigs - Worth the $$?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: Stephan Rashkin <stever@raven.cybercom.com>
Message-ID: <4a2dmb$kde@crow.cybercomm.net>
Source record: 109096

OOOPS! sorry I was thinking CW again..

Stephan Rashkin <stever@raven.cybercom.com> wrote:
>40 mtr QRP is excellent practically all hours day and night..
>great throughout all sunspot cycles..I work 5 watt qrp stations
>there continously..
>
>Steve, wa2nhz
>
>

5733. Re: PC Board Proto: Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: khadfw@onramp.net
Message-ID: <4a292m$1ut@news.onramp.net>
Source record: 109097

>know a freeware/shareware layout program that will? Alternately, is
>software available to allow an inkjet to emulate a laserjet?

Have you tried using the postscript output option to create a postscript file, Then use ghostscipt to print it to the inkjet. This should do the job nicely...

Walt KD4KIL

5734. Mail failure

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: POSTMASTER@MSPO1.MED.UTMB.EDU
Message-ID: <199512050041.QAA28228@UCSD.EDU>
Source record: 109098
Body handling: 2 inline base64-encoded payload blocks were not displayed

FROM: Adminstrator
TO: Ham-Homebrew@ucsd.edu DATE: 12-04-95
TIME: 18:39
SUBJECT: Mail failure

This corrupt message cannot be delivered. Contact administrator.

Ham-Homebrew Digest Mon, 4 Dec 95 Volume 95 : Issue 416

Today's Topics:
FSK Demodulator schematic?
Measuring phase-noise with HP 8640B (2 msgs)
MGF 1402 noise figure. (And S param) (2 msgs)
Need interconnection cable for HP 8505 Network Analizer
Need REAL Cash??? Look Here!!!
PC Board Proto: Etching & Plating
PC Board Proto: Resist/Developer
PC Board Prototyping
Voice via Light? (2 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 04 Dec 1995 09:47:38 GMT
From: schroeder.pad@sni.de (W.F.Schroeder)
Subject: FSK Demodulator schematic?

rudykevy@aol.com (RudyKEVY) wrote:

>The op amp circuit you describe is not the one I am after. That is a
>"comparator" type demodulator and feeds a squared up audio signal to the
>computer where the software does the rest of the job. This works quite
>well for SSTV and (I am told) fairly well for RTTY, etc. However I want
>to do the frequency to voltage conversion outside the computer and feed
>some really promising software for the commercial and amateur TOR modes.

HamComm 3.0 supports AMTOR ARQ & FEC modes. As AMTOR is almost the same as
SITOR it also copies SITOR-A/B and NAVTEX which uses SITOR-B.

Here is a sample NAVTEX transmission i copied last week (11/28/95):

20:53:20 UTC ZCZC GA22
20:53:22 UTC WZ 1809
20:53:23 UTC ENGLAND, SOUTHEAST COAST. RAMSGATE APPROACHES. EAST BRAKE
20:53:33 UTC LIGHTBUOY 51-19N 01-29E MISSING FROM STATION.
20:53:41 UTC
20:53:42 UTC NNNN
20:53:48 UTC
20:53:48 UTC ZCZC GA02
20:53:50 UTC WZ 1769
20:53:51 UTC SCOTLAND, EAST COAST. OUTER APPROACHES TO FIRTH OF FORTH. BERWICK
20:54:02 UTC BANK NORTHWARD. AIRCRAFT WRECKAGE LOCATED VICINITY 56-17N 01-10W.
20:54:14 UTC SALVAGE OPERATIONS IMMINENT. ALL VESSELS REQUESTED TO GIVE AREA
20:54:24 UTC WIDE
20:54:25 UTC BERTH. CANCEL WZ 1752 (GA94).
20:54:31 UTC
20:54:31 UTC NNNN
20:54:51 UTC
20:54:56 UTC CUL
20:54:57 UTC
20:54:57 UTC
20:54:57 UTC ZCZC GE15
20:54:59 UTC CULLERCOATSRADIO
20:55:02 UTC SHIPPING FORECAST
20:55:05 UTC
20:55:05 UTC 2048 ON TUESDAY 28 NOVEMBER 1995
20:55:11 UTC
20:55:12 UTC THE GENERAL SYNOPSIS AT MIDDAY
20:55:17 UTC LOW SOLE 994 EXPECTED 180 MILES SOUTHWEST OF SHANNON 998 BY
20:55:27 UTC MIDDAY
20:55:28 UTC TOMORROW. LOW SHANNON 998 EXPECTED 80 MILES WEST OF SOLE 998
20:55:39 UTC BY
20:55:40 UTC SAME TIME. NEW LOW EXPECTED TRAFALGAR 998 BY THAT TIME. HIGH
20:55:50 UTC 80
20:55:51 UTC MILES SOUTHWEST OF ICELAND 1028 EXPECTED NORTH UTSIRE 1031 BY
20:56:01 UTC MIDDAY TOMORROW
20:56:03 UTC
20:56:04 UTC THE AREA FORECASTS FOR THE NEXT 24 HOURS ISSUED BY THE MET.
20:56:13 UTC OFFICE
20:56:15 UTC AT 281900 GMT
20:56:17 UTC
20:56:17 UTC VIKING NORTH UTSIRE SOUTH UTSIRE
20:56:23 UTC SOUTHEASTERLY 4 OR 5, OCCASIONALLY 6 AT FIRST. OCCASIONAL RAIN.
20:56:34 UTC MODERATE OR GOOD
20:56:37 UTC
20:56:37 UTC FORTIES CROMARTY FORTH TYNE DOGGER FISHER GERMAN BIGHT
20:56:46 UTC SOUTHEASTERLY 4 OR 5, OCCASIONALLY 6. MAINLY FAIR. GOOD, BECOMING
20:56:58 UTC MODERATE OR POOR IN FISHER AND GERMAN BIGHT
20:57:05 UTC
20:57:05 UTC HUMBER THAMES DOVER WIGHT

20:57:09 UTC SOUTHEASTERLY 4 OR 5, OCCASIONALLY 6 IN WIGHT AT FIRST. SHOWERS.
20:57:21 UTC GOOD
20:57:22 UTC
20:57:22 UTC FAIR ISLE
20:57:24 UTC EASTERLY VEERING SOUTHEASTERLY 4 OR 5, OCCASIONALLY 6. SHOWERS.
20:57:35 UTC GOOD
20:57:36 UTC
20:57:36 UTC FAEROES
20:57:37 UTC NORTHEASTERLY 6 OR 7 VEERING SOUTHEASTERLY 5. MAINLY FAIR. GOOD
20:57:48 UTC
20:57:49 UTC NNNN

Regards
W.F.Schroeder
DL5YEC
(HamComm expert :-)

Date: 3 Dec 1995 02:36:23 GMT
From: rkarlqu@scd.hp.com (Richard Karlquist)
Subject: Measuring phase-noise with HP 8640B

In article <49gbcc$ih3@mgate.arrl.org>, Ed Hare <ehare@arrl.org> wrote:
>Wes Stewart <N7WS@azstarnet.com> wrote:
>
>>jeffa@ix.netcom.com (Jeff Anderson) wrote:
>
>>>I was just skimming the Handbook and came across an interesting article
>>>discussing oscillator phase-noise, and a simple technique for measuring
>>>it by phase-locking an HP-8640B generator to the oscillator signal.
>
>>Rick's post is most informative on this topic. The operative word
>>in the handbook article is "crude" phase-locked loop. If the
>>oscillator under test is any good, what they are measuring is the
>>performance of the '8640.
>
>While this is certainly true, unfortunately, we haven't yet seen an
>oscillator in amateur equipment that is better than 10 dB worse than our
>HP8640s. If they ever do get better, we will have to switch over to
>
>>If they had an '8662, it would be a different story.
>
>73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor

In terms of free standing oscillators (not phase locked to anything),
yes indeed you would be doing very well to even get within 10 dB. of the
8640's cavity oscillator, since the Q of the cavity is so much higher
than any tank circuit you are likely to be using. This is important
if you are interested in phase noise at say 20 kHz. offset from the
carrier. Note that at that offset, the 8662 is *not as good*!. BTW,
if you are worried about phase noise at say several MHz. from the
carrier, then the HP 608 is better than anything else that has ever

been made in a general purpose signal generator, because it has a tuned amplifier stage following the oscillator. Close in, at 1 kHz., the 8662 is very well phase locked to a low noise crystal oscillator, hence is much better than the 8640 could ever hope to be.

So how do we solve this dilemma? Simply build two copies of whatever it is you are testing and compare them against each other. Then you don't have to come up with a reference source. This is the way most measurements in industry are done.

Rick Karlquist
rkarlqu@scd.hp.com

Date: Mon, 4 Dec 1995 15:20:53 GMT
From: dstock@hpqmdla.sqf.hp.com (David Stockton)
Subject: Measuring phase-noise with HP 8640B

Ed Hare (ehare@arrl.org) wrote:
: jeffa@ix.netcom.com (Jeff Anderson) wrote:

: >>Ricks post is most informative on this topic. The operative word
: >>in the handbook article is "crude" phase-locked loop. If the
: >>oscillator under test is any good, what they are measuring is the
: >>performance of the '8640.

It looks like I've missed some interesting posts while our newsfeed's been broken. I've not seen the earlier parts of the discussion so my comments could miss the target somewhat...

The above is true of all phase noise test systems!

: >Good point. Interestingly, the Handbook stated that the 8640B "has a
: >much cleaner spectral output than most transmitters", and so would be
: >adequate in this application. I wonder if the ARRL's Lab has compared
: >the results of the 8640B method with those from commercially available
: >phase-noise measurement systems? How much worse is this technique? Its
: >virtue is that, if you already have an 8640B, it's very simple.

The 8640 isn't some wonder gold-standard, but they're a lot easier to get hold of than 8662s and 8663s !

In considering phase noise testing, the offset freq range of interest has to be decided on carefully, the 8640 is particularly good far from the carrier... incidentally, don't forget the old valved 606 which had a tracking tank on its output stage - gives very low broadband noise floor. I modified one for FM so I could lock it back in the days before "off the peg" phase noise testers.

Of course, a really good vcxo custom designed for a spot frequency can always be made, and should be able to outperform all phase noise testers. you pay in several ways for frequency coverage.

: Yes we have. We sent a fairly clean transmitter to one of our Technical
: Advisors with a high-end HP phase-noise measurement setup. We found we

: were within a dB or two, worst case. I plan to do this once a year or
: so, to keep our Lab-built equipment "self calibrated" against a known,
: calibrated instrument.

I've plenty of experience with both approaches, and the IC765 plot
was done on one of our fully traceable, calibrated, phase noise systems.

For HF radios, the 8640 is plenty good enough to outperform existing
radio's synthesisers. A few VCXOs could be built for less than an 8640 for
state of the art performance at spot freqs - when testing synths, you can
take the mountain to mohammad.
With the VCOs you can always build a pair and measure their JOINT
phase noise as a proof of performance, as Zack suggested for a pair of
8640s. The only way to prove a state of the art clean source may be to
build a pair...

: 73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor

Cheers
David GM4ZNX

Date: 4 Dec 1995 12:46:52 GMT
From: elendir@enst.fr (Elendir)
Subject: MGF 1402 noise figure. (And S param)

Zack Lau (zlau@arrl.org) wrote:

[...]
: The French representative to contact for back issues is
: Patrick Magnin, F6HYE. Rus, N7ART is the person to contact
: in the USA.

Okay, thanks for the info. I'll try to do that.

Thanks !

Vince
--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

Date: Mon, 04 Dec 1995 13:59:16 +0000
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Subject: MGF 1402 noise figure. (And S param)

elendir@enst.fr (Elendir) wrote:
: Hi,
: I'm always looking for my noise figure info.
:
: This time, I'd like to know if anybody has the NF of the MGF 1402 at
: 150 MHz, together with its s or y param and the optimal source imped.
:
: I simply don't have any kind of info on this GaAsFET.
:

Here are the S-parameters of the MGF1302 (same chip), measured down
to 100MHz.

```
!MGF1302-15 S-Parameters
!Vds=3V Ids=10mA Measured by DG6GC. Ref: DUBUS-Info, 2/1993, p.54
#GHZ S MA R 50
1 1.000 359.000 3.740 178.00 0.0018 88.00 0.695 358.00
15 1.000 357.60 3.733 176.85 0.002 87.04 0.693 358.00
2 0.999 356.50 3.726 175.80 0.004 83.94 0.691 357.20
3 0.999 354.00 3.713 173.70 0.006 84.65 0.690 355.30
4 0.998 351.76 3.694 171.42 0.008 83.31 0.687 354.03
5 0.996 349.29 3.693 169.32 0.011 81.36 0.688 352.63
6 0.993 346.93 3.697 167.03 0.013 79.94 0.686 351.05
7 0.991 344.60 3.695 164.82 0.015 78.42 0.684 349.48
8 0.988 342.13 3.686 162.45 0.018 76.99 0.682 347.84
9 0.986 339.92 3.680 160.43 0.020 75.06 0.682 346.34
1.0 0.982 337.49 3.662 158.01 0.022 73.57 0.679 344.76
1.1 0.977 335.18 3.564 155.80 0.025 71.95 0.677 343.14
1.2 0.975 332.91 3.642 153.63 0.027 70.54 0.676 341.75
1.3 0.970 330.53 3.633 151.48 0.029 68.85 0.674 340.19
1.5 0.961 325.90 3.605 147.08 0.033 65.70 0.669 337.09
2.0 0.937 314.66 3.544 136.53 0.043 58.22 0.654 329.66
2.5 0.907 303.11 3.476 125.76 0.052 50.70 0.637 322.12
! Merge with Mitsubishi data for higher frequencies
```

Sorry, there are no formal noise data so you'll have to do it by
cut-and-try as Wes, N7WS suggests. The MGF1302/1402 is still one
of the lowest-noise GaAsFETs for use at lower VHF and UHF.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

Date: 4 Dec 1995 15:48:10 GMT
From: pieter.ibelings@sciatl.com (Pieter Ibelings)
Subject: Need interconnection cable for HP 8505 Network Analizer

I am in desperate need of a pair of cables that go between the display
unit and the RF unit on the HP 8505 Network Analizers. I just purchased 2
of these and cannot use them because I don't have the cables. Please point
me to where I can get these. The cable has 5 or 6 coax connections and
around 17 other connectors.

73's
Thanks
AC4OP
Pieter Ibelings

Date: Sat, 02 Dec 1995 17:24:17 -0400
From: nycactor@inx.net
Subject: Need REAL Cash??? Look Here!!!

[Inline base64-encoded payload not displayed]

Content-Type: plain/text; name="CASH! CASH! CASH!"

Content-Disposition: inline; filename="CASH! CASH! CASH!"

[Inline base64-encoded payload not displayed]

Date: Mon, 04 Dec 1995 18:34:59 GMT
From: rst-engr@oro.net (Jim Weir)
Subject: PC Board Proto: Etching & Plating

This is the header for the PC Board prototype group interested in
etching and plating.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

Date: Mon, 04 Dec 1995 18:34:23 GMT
From: rst-engr@oro.net (Jim Weir)
Subject: PC Board Proto: Resist/Developer

This is the header for the pc board prototype group interested in
resist and developer.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

Date: Mon, 04 Dec 1995 18:31:54 GMT
From: rst-engr@oro.net (Jim Weir)
Subject: PC Board Prototyping

This is merely the announcement that I am starting three new threads
in this newsgroup. There will be:

PC Board Proto: Software
PC Board Proto: Resist/Developer
PC Board Proto: Etching & Plating

If you all run across a question in another newsgroup about PC board
prototype construction, would you please refer them over to this
group? I've been collecting information for about three months from
half a dozen newsgroups and can't remember from day to day where the
threads all went.

Thanks for sharing your expertise.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

Date: 1 Dec 1995 11:46:46 -0500
From: pfzouave@aol.com (PFZouave)
Subject: Voice via Light?

>Would it be better to use PWM instead of straight AM?

Yes, definitely.

>Are there any good (read, "tried it and it was fun") plans for similar
devices already available?

Check your library for a) back issues of popular electronics, b) back
issues of Radio Electronics, c) books by Forrest Mims.

/===/
/ PFZouave@aol.com
/
/
/
/ The absurdity of a claim is not a valid measure of its probability
/
/
/
/===/

Date: 4 Dec 1995 13:11:56 -0500
From: ed@fore.com (Ed Bathgate)
Subject: Voice via Light?

I did some playing some years ago as a data transmission link.

Checkout Radio Shack experimenter guides / engineers notebook perhaps its
called,
couple of nifty experimenter circuits in there.

A few things I did find out.
IR leds put out better and IR filtered detectors are easy to come by and have
the advantage of filtering out some of the external light.

Cheap kids binoculars can also be used as a alignment and receiving aid.

Use 2 pairs, modify right side for the photo detector and then the other side
can
be used to 'scope' in on the signal source. This will provide some optical
gain,
but you may want to play with the focus, too sharp of a focus and it will be
hard
to get the image to fall on the detector reliably.

I came up with a gimmic to collimate and align the IR beam. Use 3 leds,
red,IR,
and green. Put these in a small tube or box that uses a fresnel lens at the
front to focus them. I was able to project spots for miles with this method
and some hi power leds.
rIg
*** Put the leds in a row, close together. Red, IR, Green.

|*----}--------- Beam
leds lens

You can project the images on a wall 3 feet or so, and adjust the focal

or view it from the front and adjust the focus until you see red & green both
in the lens (the leds will look huge and bright) Do this until the red and
green
just start to get cut off on the sides of the lens, this will provide the
best
brightness at a distance. Then you will be able to find the center of the
beam
at a distance by knowing if you see all green, go left, all red, go right,
both
red & green, you will be center in the IR beam.

What this does at a distance....

R IR G
/ | \

/ | \

/ | \

/ | \

_
O_O < binocular detector

P.S. Paint or line the LED box with white paper or something non flammable if
you use it outside in the sun, fresnel lenses are very good heat focusers in
sunlight.

73

Ed N3SDO

End of Ham-Homebrew Digest V95 #416
****

5735. Re: How do I keep my computer from spewing rf?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8182008499401@lss.humnet.humberc.on.ca>
Source record: 109099

> I have tried to use my 2m radio with an antenna about 10' away from my
> computer and my radio next to my computer, but all I get is static from
> my computer (I can't even squelch it out)!!! What is the best way to rf
> proof my computer case? I was thinking of covering all of the plastic
> parts (front cover, etc.) with metal door screen and spraying with
> metallic paint (will this work?). I was also going to put torroids on the
> power connections. Is this a good plan of attack? Thanx in advance.
>
> --
> 73 & ttyl Morgan Patterson
> \\/// Internet: morganp@freenet.edmonton.ab.ca
> (o o) Ham Radio: VE6MRP
> (_) "Ok, take your best shot. Aim well: I don't die easy"
> ----oOO-----OOo---
>

I'd say that you're best bet would be to relocate the antenna at a
distance greater than 10 feet away from the computer.
Some computers spew out less RF trash than others, not only due to the
quality of the case but the motherboard design (quality and number of
layers/ground planes) and speed.
If there's an alternate place where the antenna can be relocated to
which is a lot further away then that should be your first step.

Regards...Hugh Duff VA3TO

• NFX v1.3 [000]

5736. Re: High Voltage Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30C51692.5239@jpaw.com>
Source record: 109100

P Dettmann wrote:
>
> kennedy@aol.com (kennedy) wrote:
> >Can anyone tell me of a vendor who can supply a 2000WVDC capacitor
> >with a value of at least 1000ufs??
>
> I guess you dont really mean 1000uf @2kv as this would smooth the
> output of the dc supply for a whole town.
>
> Peter Dettmann1/2 C V^2 = 2000 joules stored energy. That's big but not outrageous. Also, not cheap. Try:
Chicago Condenser 312-774-6666
Condenser Products Corp. 904-796-3561
High Energy Corp. 215-593-2800
Plastic Capacitors 312-489-2229

There are others, look in your EEM catalog. The above are some that I have had satisfactory dealings in the past. High Energy Corp, in particular, made me a 6000 J capacitor. Their one off prices are pretty good. some of the others want as much for the first one as the do for the first two on specials. All of them will need to know details about the application since there are many tradeoffs on terms of performance and cost.

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5737. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-05 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4a07jb$c51@news.azstarnet.com>
Source record: 109223

rkarlqu@scd.hp.com (Richard Karlquist) wrote:
>In article <49hph7$jcf@news.azstarnet.com>,
>Wes Stewart <N7WS@azstarnet.com> wrote:
>>
>>he works for them<g> The point I was making though is, the 8662 has the
>>ability to be used over a wide frequency range and has locking capability,
>>which Glenn's crystal standard does not.
>>So it the application under discussion, it is pretty much the "golden standard"
>>and is used as such in many HP phase noise test sets.
>>
>>Regards, Wes -- N7WS

>My impression of the role the 8662 plays in the HP 3048 phase noise
>test set is that it interfaces with the 11729 down converter. It supplies
>clean 640 MHz. to it from a special rear panel output available as
>an option. The 640 is multiplied to microwave frequencies and used
>to down convert the microwave signal source to be measured down to
>the 640 to 1280 MHz. band. The 8662 is then locked to the
>down converted signal. In most cases, the 8662 is cleaner
>than the down converted microwave source, so it is a good match.

True as far as it goes. The 640 MHz is used to drive the 11729/A/B/C
harmonic generator. The 640 MHZ is generated from the internal 10 MHz
standard by multiplication. There are, however, crystal filters at
40 and 160 MHz to clean up some of the multiplied junk. Harmonics of this
signal are used to downconvert a microwave signal to the range of
5-1280 MHz where the phase detector operates, using the synthesized
output of the 8662 as the reference.

When the input frequency is less than 1280 MHz, it drives the phase
detector directly and the multiplied output/harmonic multiplier is unused.

>When measuring HF sources, the 8662 is relatively useless. Either
>the source is too good for it, or the source is so noisy you can
>measure it with a spectrum analyzer or modulation domain analyzer,
>which is far easier.

Hmmm. We have some missile applications where it isn't good enough
at microwave either. But then, neither is the 11729. However, is there
no in-between at HF? Both the spectrum analyzers and modulation analyzers
use synthesized LOs. Are these better than high performance HF oscillators?
How do you measure phase with a spectrum analyzer? How do you achieve the
required dynamic range with a spectrum analyzer. This info would be very
useful to me.

73, Wes

5738. Schema-PCB design output

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: cozzi@nd.edu
Message-ID: <4a2pb0$b14@news.nd.edu>
Source record: 109101

I have been using a combination of Omation's Schema and
WinTek's Smartwork for schematic and PCB design for several
years. Now we are looking at the Schema-PCB package for
generating printed circuit boards. Up to now we have been using
a Houston pen plotter with fairly good results.
What I would like to know is what other people are using for PCB
layout. All the way from Omation/Tango Schema to the photo resist.

Is it possible to use laser printers on mylar/vellum?
Should I be looking for 600 DPI printers instead of 300 DPI
Is HP's Enhanced Resolution worth it
and on and on...

Any suggestions welcome.

Thanks

Marc Cozzi
Univ. of Notre Dame cozzi@nd.edu

5739. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: source@netcom.com
Message-ID: <sourceDJ51ox.6Iu@netcom.com>
Source record: 109102

In article <4a00tq$5r5@news.agt.net>, Steve Mason <smason@agt.net> wrote:
>Drilling was tougher than I thought, I used my Dremel tool in a Dremel drill press stand >with a #68 bit. I found the bit would wander a bit as it came into contact with the >board, but that if I pressed faster, the bit wandered less.

Did you leave a hole in the middle of each pad to help start the drill? I usually don't have too much trouble with the drill wandering if I do that. Easytrax has an option to adjust the size of the hole.

There are steel drills and carbide drills. Carbide drills are supposed to stay sharp longer while drilling abrasive material like fiberglass reinforced board. But they break so easily that I've never had a chance to find out if it's true. I get more use from the cheaper steel drills.

5740. Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: Brian Webb <102670.1206@CompuServe.COM>
Message-ID: <4a383p$a74$1@mhadg.production.compuserve.com>
Source record: 109103
Cross-posted to: de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

I'm trying to find either an IC or a schematic for converting serial-parallel.

I own a solid state radioteletype decoder (circa 1980) designed to work with serial printers. However, my printer, like virtually all others is parallel.

Regards,

Brian Webb, KD6NRP

5741. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: Don Rotolo <rotolo@mercedes-benz.com>
Message-ID: <NEWTNews.24832.818280924.Rotolo@ppp06907.mercedes-benz.com>
Source record: 109104
Cross-posted to: sci.electronics,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,de.comm.ham

In article <4a383p$a74$1@mhadg.production.compuserve.com>,
> I'm trying to find either an IC or a schematic for converting
> serial-parallel.

Brian,
Don't bother building one when you can buy one - about $90 from
Global Computer Supplies 800-845-6225.

Of course, a used serial printer at a hamfest would be cheaper than that.

Don N2IRZ

5742. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: ldesot@atl.com
Message-ID: <1995Dec6.103431@atl.com>
Source record: 109105
Cross-posted to: de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

In article <4a383p$a74$1@mhadg.production.compuserve.com>, Brian Webb
<102670.1206@CompuServe.COM> writes:
> I'm trying to find either an IC or a schematic for converting
> serial-parallel.
>
> I own a solid state radioteletype decoder (circa 1980) designed
> to work with serial printers. However, my printer, like virtually
> all others is parallel.

You need a Universal Asynchronous Receiver Transmitter (UART). One
entirely satisfactory device I've used is a Giant AY-1013. This is
an old device and I don't know if they are still being manufactured.
If you can get one, it is easy to use in that it requires minimal
support (a clock and maybe a level converter for the serial line).

--
Larry **************************
* *
* Speaking for myself *
* *
****

5743. Re: PACKARD BELL >>WILL<< SCREW YOU!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: rawiley@blue.weeg.uiowa.edu
Message-ID: <rawiley.818221685@blue.weeg.uiowa.edu>
Source record: 109106
Cross-posted to: rec.radio.amateur.antennna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb

.

I heard on a stock market report last week that Intel's
stock had dropped because a major customer was way
behind on invoice payments. Rumor was the customer
was PB.

NE0R

5744. Re: Ham-Homebrew Digest V95 #421

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <199512060708.RAA15724@dyson.brisnet.org.au>
Source record: 109107

```
--------------------------
>
>Date: Mon, 04 Dec 95 18:50:10 GMT
>From: jackl@pinetree.microserve.com (WB3U)
>Subject: PC Board Proto: Software
>
> Vance Campbell <vcampbell@novell.com> wrote:
>
>>I am interested in some shareware layout and or schematic software that
>>is supported on the major platforms so that everyone can use it.
>
>Same here. I downloaded a copy of easytrax.zip and it looks pretty
>interesting. Unfortunately, it won't print to my HP inkjet. Anyone
>know a freeware/shareware layout program that will? Alternately, is
>software available to allow an inkjet to emulate a laserjet?
>
>73,
>Jack WB3U
>
Hello all, I thought I would put in my 2 cents worth.
EASYTRAX is a cut down version of PROTEL AUTOTRAX which I use. The Laserjet
driver works fine with my HP Deskjet 540 printer. Alternatively you can
plot to a HP plotter and set the output device to a file, ie create a HPGL
plotter file. I have seen a few shareware programs which claim to print
these on a printer eg prtgl128.zip available by ftp
ftp.ee.ualberta.ca/pub/cookbook/softw/ibm/index.html - I havent used it, I
use a commercial program called PRINTIT which will also do the colour overlays.
Try exposing your PCB direct from a paper print - IT WORKS around double
exposure.
Regarding photo resists I have used ELECTROLUBE PRA200H for a number of
years with a mild caustic soda solution as developer. It works a treat, no
nasties in its use and exposes in sunlight or a Suntan lamp in 3-5 minutes,
not critical, I have forgotten some up to 25 minutes and still ok when
developed. Cost around AUST$35 for a 200mL spray can which lasts for years.
73 Peter L. Williamson VK4AWP peterw@dyson.brisnet.org.au
```

5745. Re: RAMSEY TV-6

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: jgolenia@aol.com
Message-ID: <4a3rbd$il0@newsbf02.news.aol.com>
Source record: 109108

In article <4a1hpoobj1@mhade.production.compuserve.com>, Jon Himsel
<102115.2754@CompuServe.COM> writes:

>Can anyone tell me how to modify the Ramsey TV-6 so it only Xmits on
>channel 3?? The thing drifts so much that this mod (if possible)
>would make it much easier to tune. Thanks for any help!
>
>

I can't tell you that, but I can tell you that I put a 75 ohm resistor
between ground and the antenna pad (as suggested in a book on Virtual
Reality I had). Up to that point I thought the xmitter was a peice of
s___. This little mod cleaned up the signal so well, it is better than the
local cable company's. I plan on making a filter for it some day, but I
don't know what freq to make it for. Anyone?

Jeff

5746. PC Board - Drilling Tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: james@osdc.sps.mot.com
Message-ID: <james.500.000EDBCD@osdc.sps.mot.com>
Source record: 109109

In article <4a00tq$5r5@news.agt.net> smason@agt.net (Steve Mason) writes:
...
>Drilling was tougher than I thought, I used my Dremel tool in a Dremel drill
>press stand
>with a #68 bit. I found the bit would wander a bit as it came into contact
>with the
>board, but that if I pressed faster, the bit wandered less.
>The 20pin DIP will be a bit tough to insert, as a few of the holes are off a
>tad, but the
>8 pin DIP, and the rest of the holes are close enough.
>If anybody has any drilling tips, I would like to hear them

I had the same problems - Now I make all my through hole pads like donuts.
I etch-out a small hole in the center of the pad and this makes a perfect
starter. I usualy make this hole about 0.4mm and drill holes at 0.8mm
A small drill press in mandatory as are extra drills.

Thats All,
James

P.S. BEST WAY TO REACH ME: npm261@paccvm.sps.mot.com
---
this is one lousy sig.

5747. PCB Manufacture

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <199512060708.RAA15726@dyson.brisnet.org.au>
Source record: 109110

Hello all, I thought I might add my experiences making Photo PCB'S.
First,Easytrax is a shareware version of PROTEL's AUTOTRAX which has a laserjet driver which works fine with my HP DESKJET 540. Alternatively you can output a HPGL file to disk and use one of the many HPGL to printer programs. I use a commercial one called PRINTIT which allows printing of the colour overlays as well. Try your local BBS as I have seen many but didnt bother as PRINTIT did everything I needed.
I have had great success printing directly to PCB through the PAPER PRINT -- YEP! it works great, just increase exposure time around double.
I have used ELECTROLUBE PRA200H positive photo resist for years with great success.
I have 200ML spray cans which cost AUST$35 a can, although they do make a 100 mL can.
A little goes a long way so is not expensive. For developer I use a mild Caustic soda solution, about a level teaspoon to 1 Liter of water, no expensive developer needed although ELECTROLUBE sells on which doesn't work any better.
I hiope this is of some help, 73's from the mad homebrewer (both types)
Peter L. Williamson VK4AWP peterw@dyson.brisnet.org.au

5748. Re: RE : PCB Debate

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: "James P. Meyer" <jimbob@acpub.duke.edu>
Message-ID: <Pine.SOL.3.91.951206103939.1436A-100000@godzilla6.acpub.duke.edu>
Source record: 109111

On Tue, 5 Dec 1995, James Mills wrote:

> Does anybody know what the dielectric constant of normal fibre-glass PCB that
> you can by from RS etc, interested for microwaves and things!!

I've seen 3.2 listed somewhere. I made my own measurements and
came up with a figure closer to 4.0

Since you'll probably need to tweak and tune anyway, those
figures should be close enough to get your design started.

Jim

5749. Sugarloaf Brewfest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: chip@sugarloaf.com
Message-ID: <chip.410.0000F1FF@sugarloaf.com>
Source record: 109112

Sugarloaf's annual brewfest is this Saturday Dec 9 features 8 of Maine's micro's. There will be live music and dancing plus some great sampling. Call 207-237-2000 for more info.

by the way the skiing is fantastic snowfields are already open.

C2

5750. Re: Schema-PCB design output

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4a4h4h$c0@hg.oro.net>
Source record: 109113

cozzi@nd.edu (Marc D. Cozzi) wrote:

>I have been using a combination of Omation's Schema and
>WinTek's Smartwork
[snip in consideration of bandwidth]

This question would really go well in PC Proto: Software in this
newsgroup.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

5751. Re: 800 for Kenwood?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: David Bashaw <dbashaw>
Message-ID: <4a4ihp$4k5@inn>
Source record: 109114

Also checkout www.kenwood.net.

Dave
WA6QWL

5752. Re: PC Board Proto: Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4a518o$ap1@hg.oro.net>
Source record: 109115

I had been using a cheap commercial package called Easy-PC from an outfit called Number One Systems (hq in the UK with a representative in the SF Bay area). It only cost $100, but there were some bugs with it that made me send it back. I don't know if those bugs have been fixed, but it seemed as though it was an old program that was the design platform for their "professional" version at $400 and they just didn't want to do any more messing around with the cheap version. Just for grins, here are some of the deficiencies I've found. If anybody has later information that contradicts what I've written here, PLEASE leave a thread post so that everybody has the new info.

1. The manual did not document all of the commands. Instead of some sort of logical alphabetic or numerical reference to the commands, you got a twenty-page tutorial that takes you on the design of a "typical" board but doesn't give you a complete index as to where to find things. And, the tutorial wasn't complete in that it didn't use all of the commands. Oh, yes, there was a one-page matrix with all the commands listed, but not the syntax for the commands. On a $20 shareware program this kind of documentation is acceptable, but not on a $100 commercial package. And, the question is always in the back of my mind on a deal like this -- is the documentation on the rest of the programs from this outfit as abysmal as this one.

2. There was no "info" command. That is, if you wanted to know the thickness of a line on the board, there was no way to click on the line and have the program tell you that the line is .015" or .032" or whatever thickness the line really is. Ditto for pad sizes. Ditto for lettering heights.

3. The printed output (at least on the laser printer output, I didn't have a chance to check the Gerber output) would print diagonal lines thinner (30% ?) than orthogonal lines of the same design width.

4. The line edit command works on a "home node" "end node" basis without any apparent visual indication of which was which. You would go to erase one segment of line only to find that the erased segment was at the other corner of the board. God forbid that you err and lay down the same track twice from different ends of the board; you get into an infinite "erase" loop from which abandon hope all ye who err here.

5. It would be nice to have a couple of other colors than white, blue, and red. Yes, you can change these colors, but you have a total of three colors to work with.

6. You can't edit symbols per se. You can call the symbol in, modify it, manually erase the old symbol from memory, and then add the new symbol using the same name as the erased symbol. Only about ten commands to do what the clever program does with one.

7. The laser printer driver is extremely poorly behaved. It doesn't like even the generic Microsoft VGA driver loaded when it goes to work. Unfortunately, it doesn't just refuse to load. It loads and jams the system tight; not even ctrl-alt-del gets you out of it. Cold boot time.

8. Pads have "widths" or diameters numbered 1-16. Tracks have "widths" numbered 1-8. The only way to see what (for example) width #5 is is to go into the "user defaults" area and look it up. There is no way to print out this chart so you can paste it up over the computer to save time.

9. Each pad has a center hole definition that tells the drill program what size drill to use. You might suspect that changing the pad diameter or drill hole size on the user defaults for a layout would "globally" change all pads on the layout to the new diameter/hole. You would be wrong. You have to change each #$%@@**&S pad individually if you want the new diameters.

10. Ditto trace width. Even if the program wouldn't universally change a track width if you changed the user defaults, you'd expect one of the "block" commands to be able to change track widths within the block. You would be wrong. You change each and every #$%**&%$# line in the layout manually. God forbid you made the line out of two segments. You get to change each segment manually.

11. You can't keep drawings in a separate subdirectory from the symbol libraries. It all gets jumbled in together.

12. Rotating a drawing for 90° (laser landscape) output is a real trip. Even rotating an A-size (8° x 11) on the 17 x 17 "drawing area" requires geometry of the first kind and second order to keep from getting the dreaded "out of draughting area" error message. I tried it a dozen ways and it always meant moving the drawing to the center of the screen, rotating it through some jumble of math coordinates, and then moving it back to the target area. I never tried moving a B-size (11 x 17) on the 17 x 17 screen; I suspect I'd have a long grey beard by the time I figured out how to do it.

Anybody else tried this program? Any comments?

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

5753. Re: Sugarloaf Brewfest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4a51bf$ap1@hg.oro.net>
Source record: 109116

chip@sugarloaf.com (Chip Carey) wrote:

>Sugarloaf's annual brewfest is this Saturday Dec 9 features 8 of Maine's
>micro's. There will be live music and dancing plus some great sampling.
>Call 207-237-2000 for more info.

>by the way the skiing is fantastic snowfields are already open.

>C2

Do you all suspect this spammer doesn't have a clue what
rec.radio.amateur.homebrew is all about?

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

5754. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <30C64707.5F4B@arrl.org>
Source record: 109117

> jtw2@NIOSR1.EM.CDC.GOV (Wassell, James T., Ph.D.) wrote:
> >use silver plated no. 10 or no. 8 wire. Does anyone know where to buy

You might try asking for Teflon insulated wire.

Allied Electronics sells 500 ft of no. 10 silver plated copper wire
(37 strands of no. 26) for $445. Phone 1-800-433-5700

Zack KH6CP/1 zlau@arrl.org

5755. Re: JFET Source Resistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Dec6.161856.62026@ucl.ac.uk>
Source record: 109118

In article nn6@franklin.cc.utas.edu.au, ian.mitchell@research.utas.edu.au (Ian Mitchell) writes:
> Hi,
>
> I'm trying to build an IF amplifier using JFETs. It's a common
> source configuration with a parallel LC tuned circuit in the
> drain circuit to VCC.
>
> Naturally the source resistor goes to ground, but how do I calculate
> its resistance?
>
> I've seen how to calculate source and drain resistances but not
> when there is a tuned circuit in the drain.
>
> The resonant frequency of the LC circuit is 50MHz.
>
> Any help would be most gratefully accepted, thanks.
> Ian
>
>

Assuming the gate is at ground as far is DC is concerned, it's easy. Deceide on the drain current Id, by checking on the data sheet what gives optimum performance. The best Id will depend on whether you want low-noise, or good strong signal performance. Now find from the data sheet what gate bias V will give this drain current. Then R=Id/V. If the gate is not at DC, you will have to make allowances. In practice, the required gate bias is not too well defined, so if the Id is critical, I would make the source resistor adjustable.

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

5756. VLF detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: bailey@osb1.wff.nasa.gov
Message-ID: <4a47cp$6v@post.gsfc.nasa.gov>
Source record: 109119

Hello...I am trying my hand at building a VLF (5 Khz) RF detector.
Because of the extremely long wavelength, an LC resonant circuit
takes LARGE values of either L or C. Does anyone have any suggestions?
Is there an easier way to do this? Might there be an amateur book on
the subject?

Thanks, Steve

==========
Steven A. Bailey Observational Science Branch
bailey@osb1.wff.nasa.gov NASA
(804) 824-1429 Bldg. N-159, Rm. E-120
(804) 824-1036 (Fax) Wallops, VA 23337

5757. Re: * Free Newsletter on Passion & Romance *

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4a4ahp$ni8@newsbf02.news.aol.com>
Source record: 109120

In article <4a2jsi$f34@lantana.singnet.com.sg>, majordomo@singnet.com.sg writes:

>1 SIZZLING love tip

Hmmm, define tip. I'm not sure I want one. Most of us males aren't inclinded or equipped to enjoy such things, SIZZLING or not!.

Tom

5758. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: rfarmer@mindspring.com
Message-ID: <rfarmer.34.0060D386@mindspring.com>
Source record: 109121

>In article <4a00tq$5r5@news.agt.net>, Steve Mason <smason@agt.net> wrote:
>Drilling was tougher than I thought, I used my Dremel tool in a Dremel
>drill press stand with a #68 bit. I found the bit would wander a bit as
>it came into contact with the board, but that if I pressed faster, the
>bit wandered less.

I have an elegant solution to that problem.
Flow solder over the pad. The trick is to put enough down to form a doughnut of solder on the pad without it doming over the whole pad. The "doughnut" of solder acts as a guide for the bit and protects the pad. It's a lot easier if you flux up the copper first. I used to be a fan of brush on alcohol based flux but the water soluble flux pens & solder you get out of digi-key work great once you get the nack of it. They clean up easily too, no HAZMAT to worry about.
Rick Farmer | Ratio DesignLab
Electrical Engineer | 3040 Peachtree Rd.
rick@ratio.com | Atlanta, Ga. 30305 USA

5759. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: rfarmer@mindspring.com
Message-ID: <rfarmer.35.006FE857@mindspring.com>
Source record: 109122

In article <4a00tq$5r5@news.agt.net> smason@agt.net (Steve Mason) writes:
> Funny you should ask, your timing is impeccable.
<snip>
>By the way, for anyone not familiar with the product, PnP Blue is a plastic 8.5x11 sheet
<snip>
>There's been some talk about making boards with various toner transfer methods lately,
>so I thought I'd post my experience.
<snip>
>Placed sheet on board and applied the iron. Big problem!
>The sheet wrinkled, crinkled and did everything but melt (probably would have had I
continued)
>I decided I was using too much heat.

Indeed you were.

I use a paper base system at work to pump out quick and dirty proto
boards for testing before I release by stuff to the board house. The paper
doesn't shrink or warp as much as the plastic based stuff. Even with the paper
and a good press I'd say 5x7 inches is the limit for double sided boards
before registration errors get too bad. Good news SMT parts are now pretty
much standard, use them, no drilling! Use 1206 zero ohm resistors to
"jump" over a trace instead of a set of vias.

Rick Farmer | Ratio DesignLab
Electrical Engineer | 3040 Peachtree Rd.
rick@ratio.com | Atlanta, Ga. 30305 USA

5760. Re: Drilling PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: smason@agt.net
Message-ID: <4a4k6j$fkb@news.agt.net>
Source record: 109123

In article <1995Dec5.124638.414@nad.com>, landisj@nad.com says...

:>> keep a drill bit from wandering (me being a sparky type)! He chucked the drill
:>> bit all the way down to within 1/4 inch of the end of the bit in the drill
:>> press.

:>It's a center drill. Also when going for best accuracy it's best not to have
:>the workpiece too far from the drill point when it's at rest.
:>(Bring the table up to the tool) This will reduce wandering caused by spindle
:>and colunm flex and slop.

Great tips, thanks!

5761. RADAR DETECTOR DETECTOR??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: howell@vms1.tamu.edu
Message-ID: <4a4t96$htr@news.tamu.edu>
Source record: 109124

I saw a Radio Shack ad for a speed radar dectector with "ghost" technology. This "ghost technology" will defeat radar dectector dectectors. I know you can locate a receiver by its local oscillator, but do the police use something like this? What is the range of these radar detector detectors? Is it so short ranged that the police carry them up to the suspect vehicle/

Thanks for your input.
Harry in TX KA5IMO

5762. Re: Drilling PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <4a53br$248i@lamar.ColoState.EDU>
Source record: 109125

I use a Dremel Moto Tool, a Dremel drill press adapter and a very fine bit. Like other postings on this subject, I go along with having as * SHORT * a drill bit as possible. I break the little things off at about 3/4 inch and have about 3/16 sticking out of the chuck.

Galen, KF0YJ

5763. if amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: wayneb@on-ramp.ior.COM
Message-ID: <m0tNOCv-000RufC@on-ramp.ior.com>
Source record: 109126

I'm trying to build an IF amplifier using JFETs. It's a common
source configuration with a parallel LC tuned circuit in the
drain circuit to VCC.

Naturally the source resistor goes to ground, but how do I calculate
its resistance?

I've seen how to calculate source and drain resistances but not
when there is a tuned circuit in the drain.

The resonant frequency of the LC circuit is 50MHz.

Any help would be most gratefully accepted, thanks.
Ian

An interesting question, would like to know myself. Could you assume that DC
ignors the tank circuit therefore all the DC bias, Vds, must come from the
source. If so then compute the resistance to provide the required drain
current. I donno, will be watching for an answer.

Wayne Barnhart WB7WHI Dirt is good!
Spokane, Wa.

5764. Source for chip-capacitors (mail order)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: ernie@netvision.net.il
Message-ID: <4a538u$m4@news.netvision.net.il>
Source record: 109127

Hi
I'm looking for chip-capacitors in the 200-1000 Pf
value. I want to order by mail to ISRAEL.
Any ideas ?
Tks in advance de Isaac, 4Z4TL
--
Good bye from:
Tsachy Lindenbaum, P.O.B 21224 Tel-Aviv 62195, Israel
<ernie@netvision.net.il>
4Z4TL @ 4Z4AAA.ISR.MDLE
972-9-582959

5765. Re: MFJ QRP SSB Rigs - Worth the $$?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: aga@mandalay.corp.sun.com
Message-ID: <4a59nc$4a@jethro.Corp.Sun.COM>
Source record: 109128

With most Mobile signals down several s-units from the home station antenna it hardly seems worthwhile to run qrp from the mobile. Unless of course you use the MFJ to feed a long wire once you camp. Then the Atlas will still be at least two s-units above the qrp rig. BTW I think the old Atlas is a pretty decent rig albeit simple. Sure was simple to fix too. I run a 210x in the car and don't worry too much about theft since I got it for 100 bucks at a flea market.

Tony WA6LZH

"Another happy Atlas user.....Don where are those new rigs anyway????"

5766. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951206161839.17073B-100000@biggulp.callamer.com>
Source record: 109129

There have been three requests for simple IR communicators in the last few weeks. I wanted to reply with what I saw in SOME magazine in the last six months, in which a subcarrier of 40 KHz was used. Further, the article proported to use easily available Radio Shack parts. The reason this has become so hard to find is that is was part of some monthly column such as Hints and Kinks. Has anyone a better memory than I to reference this to the original requestors and me? Cliff Buttschardt W6HDO

5767. Re: Source of silver plated wire ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: hudakjm@mcmaster.ca
Message-ID: <hudakjm.101.000B15A4@mcmaster.ca>
Source record: 109130
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Wire with teflon insulation is silver plated. Apparently they can't put the teflon directly on to the copper without silver plating it first.

5768. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4a4gsn$c0@hg.oro.net>
Source record: 109131

Jay Wicklund <jwicklun@mail.halcyon.com> wrote:

>I built some units about 15 years ago that did just that, using IR
>leds. You can use a simple VCO like the NE566, and use your audio
>to modulate it. As I remember it, I used a freq. of 455KHz, built a
>simple receiver using 455KHz IF transformers and a standard FM demod
>chip from Motorola.

I like the idea of using a 455 kHz. carrier on the light, so I'll
complicate up the situation and ask for your considered opinion.

You have four kids, each sitting in a separate corner of the room.
Each of the kids needs to be able to talk to each of the other kids
either directly or through a "box" sitting in the center of the room.
You can't use the same frequency for each of the kids or you will get
capture effect on the strongest signal and/or heterodyning between the
slight difference in the vco center frequencies. Yet you can only get
cheap parts for 455 and a few kHz on either side, hardly enough
separation to put everybody on their own channel. Time share?
First-talk inhibitor on the rest of the receivers? The mind boggles
with the possibilities.

Your thoughts would be appreciated.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

5769. Re: if amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: James Garland <garland@ohstpy.mps.ohio-state.edu>
Message-ID: <4a4qfl$36j@pacific.mps.ohio-state.edu>
Source record: 109132

I think Wayne, WB7WHI, has the correct answer. The source resistance is computed on the basis of the desired bias point (or, equivalently, drain current) for the JFET, the tradeoff being noise figure vs. dynamic range. SInce the gate is grounded to dc, via a gate leak resistor or input transformer winding, the full bias voltage Vgs is developed across the source resistor. In my experience, Rs isn't critical, and it is best to fiddle with various values in order to find the optimum value. Rs is usually bypassed for r.f. so that gain isn't sacrificed.
Jim W8ZR

5770. PCB's the easy way?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: Dick G0BPS <dick@kanga.demon.co.uk>
Message-ID: <818247798snz@kanga.demon.co.uk>
Source record: 109133

Hi Gang,

I have all my PCB's made professionally, but occasionally I have to make a 'one off'. These can be made with the aid of a laser printer or photocopier. Using your CAD program draw out the circuit you require and flip it. So that you are looking at it from the component side. Print it on the laser printer, or if other printer, photocopy the result. This is because you want a thin plastic film such as these use. Place the laser print or copy on your PC board and wait for the wife to go shopping. Take the family iron and set it to its highest heat setting.

Wait a few minutes, and then iron the the print onto the board. The outline will be transferred to the board.

OK the edges will be a little rough, but the result will work providing the tracks are not too thin, or too close.

Then etch as usual.

TTFN de Dick G0BPS

(Kanga Products)

5771. http://www.burnabyradio.com/ham/brc.html

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: donb@Direct.CA
Message-ID: <4a3epb$9qs@grid.direct.ca>
Source record: 109134
Cross-posted to: rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.packet

Hello to all who read this message.

I am letting you all know that the Burnaby Radio communications WWW page is
now running stable, you should be able to check it out at any time.

Some of you had problems before accessing our WWW page, but that problem
should be over now. We have changed servers so our WWW Page should work all
the time now.

The page is at "http://www.burnabyradio.com/ham/brc.html"

We are: Burnaby Radio Communications Ltd.
4257 E. Hastings Street
Burnaby, B.C. Canada
V5C 2J5
Phone: (604)298-5444
Fax: (604)298-5455
BBS: (604)298-3283

WWW: http://www.burnabyradio.com/ham/brc.html

Please visit us!!!

And please fill out our form, and you will receive our latest price list.

Thanks.

Don Boekenkruger
ve7cbt@intergate.bc.ca

5772. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4a2vu8$ouk@cc.iu.net>
Source record: 109135

In article <4a07jb$c51@news.azstarnet.com>, N7WS@azstarnet.com says...
>
>rkarlqu@scd.hp.com (Richard Karlquist) wrote:
>>In article <49hph7$jcf@news.azstarnet.com>,
>>Wes Stewart <N7WS@azstarnet.com> wrote:
>>>
>>>he works for them<g> The point I was making though is, the 8662 has the
>>>ability to be used over a wide frequency range and has locking capability,
>>>which Glenn's crystal standard does not.
>>>So it the application under discussion, it is pretty much the "golden standard"
>>>and is used as such in many HP phase noise test sets.
>>>
>>>Regards, Wes -- N7WS
>
>>My impression of the role the 8662 plays in the HP 3048 phase noise
>>test set is that it interfaces with the 11729 down converter. It supplies
>>clean 640 MHz. to it from a special rear panel output available as
>>an option. The 640 is multiplied to microwave frequencies and used
>>to down convert the microwave signal source to be measured down to
>>the 640 to 1280 MHz. band. The 8662 is then locked to the
>>down converted signal. In most cases, the 8662 is cleaner
>>than the down converted microwave source, so it is a good match.
>
>True as far as it goes. The 640 MHz is used to drive the 11729/A/B/C
>harmonic generator. The 640 MHZ is generated from the internal 10 MHz
>standard by multiplication. There are, however, crystal filters at
>40 and 160 MHz to clean up some of the multiplied junk. Harmonics of this
>signal are used to downconvert a microwave signal to the range of
>5-1280 MHz where the phase detector operates, using the synthesized
>output of the 8662 as the reference.

I was under the impression that the 640 MHz is a from a SAW oscillator,
phase-locked to the 10 MHz in a very narrow loop. That way you get the
crystal noise characteristics (don't know what N is but whatever N is,
the noise is degraded by 20 log N) inside the LBW, and the good SAW
characteristics outside the LBW. The VCSO is better than any VCO you're
likely to build or find, if it's made from conventional resonators.

>
>When the input frequency is less than 1280 MHz, it drives the phase
>detector directly and the multiplied output/harmonic multiplier is unused.
>
>>When measuring HF sources, the 8662 is relatively useless. Either
>>the source is too good for it, or the source is so noisy you can
>>measure it with a spectrum analyzer or modulation domain analyzer,

>>which is far easier.
>
>Hmmm. We have some missile applications where it isn't good enough
>at microwave either. But then, neither is the 11729. However, is there
>no in-between at HF? Both the spectrum analyzers and modulation analyzers
>use synthesized LOs. Are these better than high performance HF oscillators?
>How do you measure phase with a spectrum analyzer? How do you achieve the
>required dynamic range with a spectrum analyzer. This info would be very
>useful to me.
>
>73, Wes
>
>

This isn't my area of "ex-spurt-tease", but the gold standard is a multiplied crystal, right? If you generate a comb into the microwave region from a good quiet source, you mix your microwave signal down to where you can measure it with a quieter source than the 8662 (which is pretty good, but not a Godsend). This is the approach that the 3048 test set uses, as well as the Comstron Phase noise test set, which I've only seen demos of. (I've used the 3048 long enough to have a love-hate relationship with it. Well...a tolerate-hate relationship).

If you can get the output frequency down below 1.5 GHz, the 8568 is a good spec. analyzer, apparently quieter than the 8566 (its big brother) You can measure noise directly on it, subject to the usual problems with measuring phase noise on a spec. an.. See the tons of HP sales literature/ap notes on this.

73,
Bob

(yes, I wrote FilDes, but I design synthesizers for a living....)

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

5773. S parameters -> FET model

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Dec6.165848.56886@ucl.ac.uk>
Source record: 109136

I've seen some posts recently reguarding the S-parameters of a FET at a low frequency. One method I've thought of to get these, without access to a vector network analyser (VNA) is to assume a reasonably decent model for the FET, having as a bare minimum the gate resistance Rg, input capacitance Cin, output resistance Ro, output capacitance Co, plus the feedback capacitance Cfb. It would be better to include also the parasistic components - ie package inductance etc.

Simple model of a High-frequency FET:

```
Gate-----------Rg------------ Cfb ---------------------------- Drain
| | |
Cin Ro Co
| | |
Source ------------------------------------------------------------
```

Then fit (non-linear least squares ???) the S-parameters at higher frequencies (from the data sheet) to the FET model, to get the physical values of the Rg, Cin, Ro, Co & Cfb. Once you know these, finding the S-parameters at any frequency would be trivual. Finding the optimum source impedance would also be possible - I think! Noise figure could not be estimated though.

Anyone ever managed to do this? I've read about it (Pengelly, Microwave MESFETS), but don't have any software myself, and feel it would take a decent while to write, but perhaps not too long. The book 'Numerical Recipes in C' by Press et al has fitting algoritms already coded.

Obviously measurements of S-parameters would always be better, but given few amateurs have access to a VNA, but many can write computer programs, this might be a useful method to estimate S-parameters at frequencies not on the data sheet, using the physics of the device, rather than extrapolation of the data sheet values, which is always risky.

One would have to guestimate the magnitude of S21, but all other S-paramters could be determined once the physical parameters of the FET are known.

Dave Kirkby
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

5774. Re: JFET Source Resistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4a4kkr$bjj@abyss.West.Sun.COM>
Source record: 109137

In article <4a2jvk$nn6@franklin.cc.utas.edu.au>,
Ian Mitchell <ian.mitchell@research.utas.edu.au> wrote:
>Hi,
>
>I'm trying to build an IF amplifier using JFETs. It's a common
>source configuration with a parallel LC tuned circuit in the
>drain circuit to VCC.

Just as a side comment, the common gate configuration can offer
a pretty good input return loss in a 50 ohm system when using
a J310/U310. Might come in handy if you're using the IF amplifier
to terminate a diode mixer or a filter. Common source comes in
handy for terminating a crystal filter.

>Naturally the source resistor goes to ground, but how do I calculate
>its resistance?
>
>I've seen how to calculate source and drain resistances but not
>when there is a tuned circuit in the drain.

I've always used the same calculations to set the bias current for the
JFET regardless of the drain load.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

5775. None

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: Ps7ab@pcimage.UCSD.EDU
Message-ID: <455_9512070325@pcimage.cyber.net>
Source record: 109138

```
UNSUB PS7AB@PCIMAGE.CYBER.NET ham-homebrew
-*- SF-Quick/BW 1.00q [UNREGISTERED]

* Sent via SFE-mail from [UNREGISTERED BBS]
```

5776. None

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: Ps7ab@pcimage.UCSD.EDU
Message-ID: <456_9512070325@pcimage.cyber.net>
Source record: 109139

```
UNSUB PS7AB@PCIMAGE.CYBER.NET ham-homebrew
-*- SF-Quick/BW 1.00q [UNREGISTERED]

* Sent via SFE-mail from [UNREGISTERED BBS]
```

5777. Re: JFET Source Resistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-06 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDJ5yxI.FnB@netcom.com>
Source record: 109140

Ian Mitchell (ian.mitchell@research.utas.edu.au) wrote:
: Naturally the source resistor goes to ground, but how do I calculate
: its resistance?
:
: I've seen how to calculate source and drain resistances but not
: when there is a tuned circuit in the drain.

Just choose a resistor that will give you one or two milliamps of
quiescent current. Then bypass it for 50 MHz. You will probably find
a value in the range of 100 to 1000 ohms will do the trick.

Thomas
ars KI4N

5778. Re: Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: ghansen@accessone.com
Message-ID: <ghansen.403.30C6903D@accessone.com>
Source record: 109024

In article <4a5ovg$7r8@news.azstarnet.com> Wes Stewart <N7WS@azstarnet.com> writes:
Thanks Wes. The response to my question has lead to quite a few replies in the
E-mail. This group is GREAT! With your information and the information sent
to me by others I feel I now have the info to carry on.

BTW, the frequency range is 14 Mhz, 20 meters. Should work out just fine.
Looks I will be putting some carbon resistors in parallel. Thanks.

73 Glenn KB7PKC

>Glenn,
>You should use either carbon film, carbon composition or perhaps in the
>low values you require, metal film. You don't mention the frequency range of
>your transceiver but I assume it's HF or VHF so axial leads will be OK
>if kept short.

>Because you want to use a pi, the nearest standard values are 300 ohm for the
>shunt and 18 for the series. You will obviously be dissipating 5 watts, so the
>power ratings should be capabile of handling this. I would suggest using
>parallel
>combinations of lower wattage resistors. If you use good construction
>techniques,
>you can obtain a reasonable SWR into the low VHF region. If you don't mind
>dissymmetry, you can use lower wattage parts on the output side.

>Good luck and 73,

>Wes -- N7WS

5779. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: rob@pe1chl.ampr.org
Message-ID: <DJ7s7w.Lnx@pe1chl.ampr.org>
Source record: 109025
Cross-posted to: sci.electronics,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,de.comm.ham

In <NEWTNews.24832.818280924.Rotolo@ppp06907.mercedes-benz.com> Don Rotolo
<rotolo@mercedes-benz.com> writes:

>In article <4a383p$a74$1@mhadg.production.compuserve.com>,
>> I'm trying to find either an IC or a schematic for converting
>> serial-parallel.

>Brian,
>Don't bother building one when you can buy one - about $90 from
>Global Computer Supplies 800-845-6225.

Is this today's way of dealing with homebrewers? I'm baffled...

Rob
--
+-----------------------------------+---------------------------------------+
| Rob Janssen rob@knoware.nl | BBS: +31-302870036 (2300-0730 local) |
| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
+-----------------------------------+---------------------------------------+

5780. Re: Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4a5dnf$u6@news.iii.net>
Source record: 109141

Glenn,
You need to understand that RF resistors cannot be wire-wound!
They exhibit too much inductance! You will need special power resistors
to make a good attenuator. It is non-trivial to build a good RF
attenuator, thats why they cost so much!

Tom

5781. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4a5dke$rat@hpscit.sc.hp.com>
Source record: 109142

In article <4a07jb$c51@news.azstarnet.com>,
Wes Stewart <N7WS@azstarnet.com> wrote:
>
>
>Hmmm. We have some missile applications where it isn't good enough
>at microwave either. But then, neither is the 11729. However, is there
>no in-between at HF? Both the spectrum analyzers and modulation analyzers

At HF the 8662 is maybe 30 dB. better than a good spectrum analyzer like
an HP 3585. Most crystal oscillators are better than the 8662, and
most VCO's are noisy enough to be seen on the 3585. So relatively
few sources fall into the 8662 niche.

>use synthesized LOs. Are these better than high performance HF oscillators?

In some cases, yes.

>How do you measure phase with a spectrum analyzer? How do you achieve the

You can't measure "phase" with a spectrum analyzer. You can
however measure *phase noise* with a spectrum analyzer by looking
at the noise sidebands.

>required dynamic range with a spectrum analyzer. This info would be very

Use a wide enough resolution bandwidth so that the noise is less than
100 dB. down.

>useful to me.
>
>73, Wes

Regarding modulation domain analyzers (MDA): you have to supply a clean
10 MHz reference to them (or use the optional built in 10811 timebase).
There is no need for a variable signal generator with MDA techniques.
In some cases, you want to beat the signal down to less than 1 MHz.
A crystal oscillator with a crystal socket and a dozen or so crystals
will take care of this. You get more resolution by down converting.

MDA boxes are ideal for close in phase noise where other techniques
fall apart.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5782. Re: RE : PCB Debate

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: mcline@iquest.net
Message-ID: <DJ6zyn.AFv@iquest.net>
Source record: 109143

James Mills <jmills> wrote:
>Dear All,
>
>Does anybody know what the dielectric constant of normal fibre-glass PCB that
>you can by from RS etc, interested for microwaves and things!!
>
>
>Cheers
>
>James Mills
>
>jmills@ee.ucl.ac.uk
>
I've seen it published at 4.7 and 4.8, The only problems with
using G10 is that it is rather lossy at microwave frequencies
and also the dielectric constant is NOT a controlled parameter
of the material, so it may vary from batch to batch. I've had
good results at 1.3Ghz with it though.

Mike CLine
N9RJW

5783. Re: PCB Etching Question???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: mcline@iquest.net
Message-ID: <DJ705w.An3@iquest.net>
Source record: 109144

Jerry Roush <jroush@p03.az75.az.honeywell.com> wrote:
>ag722@ccn.cs.dal.ca (Chris Findley) wrote:
>>I was wondering is if anyone could give any pointers as to what temp
>>(if you use ferric chloride) the solution should be maintained at >during the etching process???
>
>I find that it works well at about 105 F (~33 C).
>
>> Also, and most important: What can I use to mask
>>large areas of the board with??? I am familiar with the photo etch,the
>>lazer toner thing,and resist ink pens. the only one i can use in my
>>current situation is resist ink.Could I use masking tape or some sort
>>of mac-tac(TM) material to mask these large portions of the board???
>>
>>I would waste an entire ink pen on just one board,i'm sure.It's not >really practical to use it!
>
> I have used many methods, but I have found that plain ol'
>black electrical tape works well for large areas (> 1x1 cm).
>For smaller "large" areas, some electrical parts houses
>sell a black paper tape, almost like narrow masking tape.
>It is very similar to artwork tape for drafting. However,
>if the ferric chloride gets too hot, the adhesive has a
>tendency to soften, causing _problems_.
>
>Good Luck,
>
>..Jerry <><
>
>
I use plain old quick drying spray paint for ground planes
and a paint pen or brush and model paint for more precise
areas, and it works fine.

Mike Cline
N9RJW

5784. Xtal question: How far can one be shifted?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <4a5so8$lr2@news2.deltanet.com>
Source record: 109145
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew,sci.electronics

I need a 4864 kHz xtal, and I have one that's 4915.2 kHz. My calculator says that that's a difference of a little more than one percent. I've been filing on the case to try to get it to come apart without messing up the rock. I'm gonna try the old pencil lead trick on it to see what happens (like I'm only wasting $.49 if I ruin it). So what is the usual or maximum amount of freq shift a good deposit of pencil lead will cause? Any ideas?

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@delta1
Rancho Santiago Community College	.deltanet.com
17th St @ Bristol \ Santa Ana, CA 92706	
My opinions are my own, and not my employer's.	
"You can flame your brains out -- it won't take long."
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

5785. Re: Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4a5ovg$7r8@news.azstarnet.com>
Source record: 109146

ghansen@accessone.com (Glenn Hansen) wrote:
>I need to build an attenuator to drop my transceivers' 10 watts to less than 5
>watts. I plan on using a pi-network resistive attenuator, I know the values
>but I don't know what type/kind of resistor to use. Looking through my Mouser
>catalog I see axial lead vitreous enamel coated, lug a lead fixed resistors
>and such animals. I don't have a clue what to use.
>
Glenn,
You should use either carbon film, carbon composition or perhaps in the
low values you require, metal film. You don't mention the frequency range of
your transceiver but I assume it's HF or VHF so axial leads will be OK
if kept short.

Because you want to use a pi, the nearest standard values are 300 ohm for the
shunt and 18 for the series. You will obviously be dissipating 5 watts, so the
power ratings should be capabile of handling this. I would suggest using parallel
combinations of lower wattage resistors. If you use good construction techniques,
you can obtain a reasonable SWR into the low VHF region. If you don't mind
dissymmetry, you can use lower wattage parts on the output side.

Good luck and 73,

Wes -- N7WS

5786. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: KOELLNER@SCN.DE
Message-ID: <30C7159E.42F4@SCN.DE>
Source record: 109147
Cross-posted to: de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

hello brian,

the harris HD6402 is what you need. Its easier to use than the
common AY devices. Baudrate is externally generated. The IC is
a serial/parallel converter and vice versa. Baudrates are up to
100kBaud. I use it to serialize the AD converter output of my meteosat
converter.

Try http://www.semi.harris.com to get a datasheet. The fax infothek
really works wordwide!

If you have futher questions drop me a note!

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
KOELLNER@SCN.DE (Internet)
HTTP://WWW.SCN.DE/~KOELLNER (WWW)
UO-22, KO-23 & KO-25 (Pacsats)

5787. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: falstaff@xs4all.nl
Message-ID: <4a7p1k$c2r@news.xs4all.nl>
Source record: 109148
Cross-posted to: de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

Brian Webb <102670.1206@CompuServe.COM> writes:

>I'm trying to find either an IC or a schematic for converting
>serial-parallel.

>I own a solid state radioteletype decoder (circa 1980) designed
>to work with serial printers. However, my printer, like virtually
>all others is parallel.

Practically none of the 'non CPU' UART chips that were so common in the 70s
and early 80s are available anymore. You can get the same results with
many microcontrollers now, but that requires investment in tools and
programming hardware.

The easiest would be to buy a ready-made RS232 to centronics converter,
the way most favoured with the sci.electronics group would have to
be using a microcontroller. Cheap too if you're not counting the hours.

Frank
--
"Mutual respect, even if we disagree."

Frank A. Vorstenbosch +31-(70)-355 5241 falstaff@xs4all.nl

5788. Re: Xtal question: How far can one be shifted?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: Gareth Evans <gareth@sectel.com>
Message-ID: <818370103snx@sectel.com>
Source record: 109149
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew,sci.electronics,poster

In article <4a5so8$lr2@news2.deltanet.com>
jlundgre@delta1.deltanet.com (John Lundgren) writes:
>I need a 4864 kHz xtal, and I have one that's 4915.2 kHz. My calculator
>says that that's a difference of a little more than one percent. I've
>been filing on the case to try to get it to come apart without messing up
>the rock. I'm gonna try the old pencil lead trick on it to see what
>happens (like I'm only wasting $.49 if I ruin it). So what is the usual
>or maximum amount of freq shift a good deposit of pencil lead will cause?
>Any ideas?

Not quite the response that you expect, but the Radio Ham Handbooks from
40 years ago describe such techniques.

Also, when using a VXCO circuit, you can usually reckon on a stable
shift of 1kHz per MHz. eg, on the 144MHz band, before the days of
the modersn synthesized approaches, you could reckon on swinging
a two-metre transmitter about 150kHz.

73 de Gareth G4SDW

5789. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.6659.546@acenet.com>
Source record: 109150

And of course there is always the kit sold by Ramsey Electronics.
See MEGALIST.TXT for their address & get a catalog if you are
interested.

RF>dspring.com>
RF>Newsgroups: rec.radio.amateur.homebrew
RF>Organization: MindSpring Enterprises, Inc.

RF> This one screams out for a laser diode IMHO. They're actually getting petty
RF>cheap too. ~$30US out of digi-key ought to do it. Of course lasers systems
RF>have their saftey problems if not designed right, but you'll get great range
RF>Rick Farmer | Ratio DesignLab
RF>Electrical Engineer | 3040 Peachtree Rd.
RF>rick@ratio.com | Atlanta, Ga. 30305 USA

 SLMR 2.1a O give me a home, where the antelope used to roam.

5790. Re: PCB Etching Question???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: degroot@rcl.wau.nl
Message-ID: <4a6jev$bhn@Trex.IenD.wau.nl>
Source record: 109151

to cover an area on a board before etching
i used my sister's nail-paint

Tel. +31-317- Kees de Groot (DEGROOT@RCL.WAU.NL) THERE AINT NO
483557 (direct) Computer Assisted Education SUCH THING AS
484343 (secr.) Agricultural University, Hollandseweg 1 A FREE LUNCH!
Fax: 484763 6706 KN Wageningen, the Netherlands
X25: PSI%(+204)18802031937::DEGROOT
disclaimer: I always speak for myself
- if you go too far to the east, you find yourself in the west .. -

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5791. SURPLUS EQUIPT on WWW!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <4a6uc0$n32@newsbf02.news.aol.com>
Source record: 109152

check this out- Surplus gear on the internet!

W. J Ford Surplus Enterprises
Smiths Falls, Ontario CANADA
(1hr north of NY state border- or FN14 for the grid-challenged :^)

http://infoweb.magi.com/~testequi/

Neat!
I have no connetion with this company whatsoever.

VE3IEY

5792. Re: RADAR DETECTOR DETECTOR??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: fbures@alchemy.chem.utoronto.ca
Message-ID: <DJ7y8x.E7v@alchemy.chem.utoronto.ca>
Source record: 109153

In <4a4t96$htr@news.tamu.edu>, howell@vms1.tamu.edu (Harry Howell) writes:
>I saw a Radio Shack ad for a speed radar dectector with "ghost" technology. This "ghost technology" will defeat radar dectector dectectors. I know you can locate a receiver by its local oscillator, but do the police use something like this? What is the r
ange of these radar detector detectors? Is it so short ranged that the police carry them up to the suspect vehicle/
>
>Thanks for your input.
>Harry in TX KA5IMO

I am quite familiar with a device manufactured in
Mississauga, ON. The device is essentially a receiver tuned
to the first intermediate frequency of a radar detector. It
is pretty sensitive. During test conducted by the Ontario
Provincial Police the range of the device was anywhere from
300 to 1000m.

Frank Bures, Dept. of Chemistry, University of Toronto
fbures@alchemy.chem.utoronto.ca
71324.1515@compuserve.com

5793. Re: 900 Mhz Homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <30C72424.5D66@arrl.org>
Source record: 109154

mattstr@primenet.com wrote:
>
> Does anyone have any schematics for easy to build 902-928 Mhz receivers and/or
> transmitters?? I just bought a 900 Mhz repeater but nobody in Arizona
> has 900 yet...i'm going to tune the repeater down to the 33 cm ham band.

You might consider the idea of plugging 2 meter H-Ts into transverters.

The July 1991 QST has a design that uses etched filters. Its reprinted
in the ARRL UHF/Microwave Projects Manual. If you need more than 20 mW,
it isn't too challenging to hook up a hybrid power module that will
boost the 20 mW to 10 or 15 watts. A minor problem is the LO, it isn't
designed for precise frequency netting. One approach is to use an HF
VXO and multiplier. The use of two LOs can solve the problem of the
repeater offset, if the radio can't handle it.

Zack KH6CP/1 I've used helical filters to make a 903 transverter
zlau@arrl.org (4 dB NF/20 mW out) the size of a block of butter.

5794. Re: PCB Etching Question???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: <>
Message-ID: <00182A92012A77EC@SANDH.COM>
Source record: 109155

Path: news.telalink.net!news.sprintlink.net!howland.reston.ans.net!news.nic.surfnet.nl!news.wau.nl!DEGROOT@rcl.wau.nl
From: degroot@rcl.wau.nl (Kees de Groot, Agricultural University, Wageningen)
Newsgroups: rec.radio.amateur.homebrew
Subject: Re: PCB Etching Question???
Date: 7 Dec 1995 11:33:51 GMT
Organization: Wageningen Agricultural University
Lines: 19
Message-ID: <4a6jev$bhn@Trex.IenD.wau.nl>
Reply-To: degroot@rcl.wau.nl
NNTP-Posting-Host: rvd.wau.nl

to cover an area on a board before etching
i used my sister's nail-paint

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disclaimer: I always speak for myself
- if you go too far to the east, you find yourself in the west .. -

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5795. Re: JFET Source Resistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: drranu@holly.ACNS.ColoState.EDU
Message-ID: <4a5rbt$40ig@yuma.ACNS.ColoState.EDU>
Source record: 109156

Dave Kirkby (davek@medphys.ucl.ac.uk) wrote:
: Now find from the data sheet what gate bias V will give this drain current. Then
: R=Id/V. If the gate is not at DC, you will have to make allowances.
^^^^^^

This is not right, R=V/Id. Remember V=IR!

--
-Emarit 73's drranu@holly.ColoState.EDU
Electrical Engineering, Colorado State Univeristy
KG0CQ _.-_ __. _____ -.-. __.-_
Packet: KG0CQ@KF0UW.#NECO.USA.NOAM
All generalizations are bad.

5796. pc board routing program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: scottc@pegasus.cc.ucf.edu
Message-ID: <4a738r$ls6@news.cc.ucf.edu>
Source record: 109157

Does anyone know of a good check pcb board routing program?

I downloaded easytrak and autotrak but they seem to be complicated to use.

5797. More on Talking by Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9511078183.AA818358436@mails.imed.com>
Source record: 109158

I humbly suggest that 455 KHz is the wrong frequency to choose unless you are going to use FM. 550 KHz is just as easy to do and then you can use a $7 pocket radio from radio shack to do the IF. You can't even get a box to put it in for $7. They have something called a flavor radio for $6.99 in the 1994 catalog. You could use a AM signal to modulate the beam and send the AM from the photo detector into the antenna of the radio.

On the subject of 4 kids in the same room:

You can do it cheap or you can do it full duplex.

The cheap way simply has everyone listen on the same frequency and only allow one person to transmit at a time. If 2 people transmit at the same time nobody hears anyone else, but we have this now in a lot of communications systems.

One full duplex way is to have 3 receivers on different frequencies for each child and combine the audio from each receiver into one headset.

Another full duplex way is what was suggested earlier. It requires 5 receivers and 5 transmitters for 4 children. Each child transmits on a unique frequency to a central repeater. The central repeater has a receiver for each child's frequency and combines all 4 signals into one audio signal that is transmitted on a 5th frequency to all children.

I hope these ideas help.

Ray Mack
WD5IFS
mack@mails.imed.com

5798. Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: MUENZLERK@uthscsa.EDU
Message-ID: <01HYIS6ZK8XE00EF3B@uthscsa.edu>
Source record: 109159

Clifford Buttschardt <cbuttsch@biggulp.callamer.com> WRITES:

-There have been three requests for simple IR communicators in the last
-few weeks. I wanted to reply with what I saw in SOME magazine in the
-last six months, in which a subcarrier of 40 KHz was used. Further, the
-article proported to use easily available Radio Shack parts. The reason
-this has become so hard to find is that is was part of some monthly
-column such as Hints and Kinks. Has anyone a better memory than I to
-reference this to the original requestors and me? Cliff Buttschardt W6HDO

Forest Mimms, III has written several books using LEDs that include
both AM and PWFM projects to transmit voice, or whatever, using
light. Radio Shack carries a couple of these books. One of them
is called something like "Optielectronic Projects".

Kevin, WB5RUE
muenzlerk@uthscsa.edu

5799. Re: MFJ QRP SSB Rigs - Worth the $$?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4a7b8h$g3t@mack.rt66.com>
Source record: 109160

Please, could we NOT turn this thread into a debate over the value of QRP operation?

I would also like to know about these rigs (the 20M in particularf).

I am a sailplane pilot..In the winter it is sometimes possible to "park" at 20,00' MSL or higher (Yes, we have O2, and an agreement with ATC...100% safe...and even legal!)

I often dream of the DX that should be possible ...Higher than most mountain tops, and MILES from the nearest powerline,ignition system, or other source of interferance!

I like CW fine, but SSB will be far less distracting, thus safer. Some may be able to copy CW and fly OK, but I know MY limitations, so have perished the thought of using my HW-8 in glider..

I have very limited power available from gell-cells, (especially as temperatures are quite low) and very little room in cockpit. (I'm 6'5", cockpit is not!). Also, the rig must not swamp AC band VHF reciever. MFJ rig looks like the ticket..small, low power, few controls to distract me......

A zepp (almost what it was designed for, after all!) at 20K' MSL should produce a fair signal, QRP or not.

So could we please hear from someone who has USED one of these rigs, or other (ten-tec??) QRP ssb rigs?

In anticipation of flames: I think homebrew group is a likely place to look for QRP operators, so, while this is not a hombrew thread, it IS probably the best place to post such a quiry.

73, de KO0B

5800. Re: VLF detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: Rick Gerson <rgerson>
Message-ID: <4a7gfo$rba@falcon.ccs.uwo.ca>
Source record: 109161

I am interested in this, so if you have found any inf, please let me know--
I have not the faintest idea where to start.
rick.

5801. Re: RE : PCB Debate

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4a5qsk$i0k@maureen.teleport.com>
Source record: 109162

; James Mills <jmills> writes:

; Does anybody know what the dielectric constant of normal fibre-glass PCB that
; you can by from RS etc, interested for microwaves and things!!

Roughly 5, but it gets horribly lossy at microwave frequencies.

Roy Lewallen, W7EL

5802. Re: Info Requested - 2Mbps/10Ghz Data Link Project.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: Rick Gerson <rgerson>
Message-ID: <4a7gjk$rba@falcon.ccs.uwo.ca>
Source record: 109163

Hi!
I am interested in this and would like the reference for the article and any other info to get started on this project.
thank you, rick.

5803. Re: Xtal question: How far can one be shifted?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: "James P. Meyer" <jimbob@acpub.duke.edu>
Message-ID: <Pine.SOL.3.91.951207112116.2487A-100000@godzilla6.acpub.duke.edu>
Source record: 109164
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew,sci.electronics

On 7 Dec 1995, John Lundgren wrote:

> the rock. I'm gonna try the old pencil lead trick on it to see what
> happens (like I'm only wasting $.49 if I ruin it). So what is the usual
> or maximum amount of freq shift a good deposit of pencil lead will cause?
> Any ideas?

Most modern crystals have plated electrodes. The pencil lead
trick was good for the old slabs of quartz that were held in between
copper plates with spring pressure. You will likely break a modern thin
crystal by trying to use a pencil on it.

If you could get ahold of sonething to do some electroplating
with, you could tie both pins together and plate a little more electrode
material thickness onto whatever's there now. There's also some
"electroless" tin plating solutions made for pcboard fabrication that
lays down a tin plating just by dipping the stuff in it. No batteries
needed.

Jim "no sig" Meyer

5804. Help Needed: Expert Hackers only (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4a799h$qfv@newsbf02.news.aol.com>
Source record: 109165

I am in the process of developing a tiny computer controlled medical monitoring device. The device, only a few inches square, is intended to be located at the patient's chest, at the sternum, and held in place there by a bra-like attachment garment. The garment features a pocket or holster in which the monitor is placed.

While the system in fact works, the practical success of the device hinges on the ability of the unit to detect whether or not it has been has been removed from the patient. I call this "tamper protection."
To date, I have been unable come up with a tamper protection scheme that meets the necessary engineering criterion. The circuitry must enable the monitor to tell whether or not it has been removed from the patient's body. The added circuitry must be cheap, as simple as possible, and utilize a few active components as possible(the device is battery-powered, so power consumption is always an issue.) It must not be easily defeated, and must function at varying battery voltages down to, say, 3 volts. Ideally, such circuitry should function properly from the moment of assembly, that is to say, it should not require tweaking or calibration. While the computer used in this project has limited analog input capability, the ideal tamper sensing scheme can warn of a tamper condition with a single binary bit.

The first idea for tamper protection involved a magnetic reed switch or hall effect sensor. A magnet was to be stitched into the garment or apparatus fixing the unit to the patients body. If the monitor was placed in the garment, the magnet would be in proximity to the sensor, and the computer would "know" it was on the patient. If the monitor was removed from the garment, the magnet would no longer stimulate the switch, and the the computer could conclude it had been removed. This scheme was attractive for low parts count, simple binary connection to the computer, and low power consumption. Unfortunately, there is no electronic means to detect that the *garment* is on the patient. Thus, the system is easily defeated by placing the monitor in its attachment garment, but simply leaving the garment on a table or chair.

The next idea was optical. An aperature and photo eye would be installed on the backside of the monitor. As long as the monitor was in place on the patient, their skin would block ambient light from reaching the monitor's photoeye. If the unit were removed, ambient light would fall upon the photo eye and the computer would conclude the monitor was no longer on the patient. Like the magnet scheme, the interface to the computer was binary, and both power consumption and parts count for the support circuitry was low. But, like the magnet, this scheme was easily defeated. The system cannot differentiate between light occluded by human chest or a table top. Worse yet, a piece of adhesive tape over the eye disables the system

entirely.

An obvious parameter upon which to base tamper protection is temperature. Living beings radiate heat. Surely a temperature sensor mounted in the monitor could detect this, and distinguish between a warm body and a cool tabletop. In theory, this is true. In reality, the scheme is not practical for very subtle reasons.

When the temperature scheme was first concieved, certain assumptions were made. It was assumed that a nominal value for ambient air would be 75 degrees F. It was further assumed that body temperature was 98 degrees F. This suggested a temperature span of over 20 degrees between the condition where the monitor was lying on a table, and the condition where the monitor was affixed to the patient's chest. Therefore, an arbitrary threshold of 85 degrees was chosen. If the measured temperature was below 85 degrees, the computer was to conclude that it was not attached to the patient. If the measured temperature was above 85, then the monitor was assumed to be in place on the patient.

The problem is that body skin temperature may is significantly lower than body core temperature. As an example of a reasonably healthy adult, my sternum skin temperature did not exceed 90 degrees. In the case of sick, elderly patients, who may well be suffering circulatory problems, their sternum skin temperature is likely to be even lower. If the temperature sensor is mounted inside of the monitor case, or is mounted on the face of the case but the case is not in good contact with the patient's body, the measured temperature will be even lower.

Nor can room temperature be assumed to be any particular value. It is not inconcievable that in a facility caring for sick non-ambulatory individuals, room temperature may be raised to provide additional comfort. Thus, the possibility of raised room temperatures and the probability of reduced body temperature values diminishes the temperature span between the monitor-on-patient and monitor-off-patient conditions, and makes it more difficult for the computer to discriminate.

Add to this significant problem these other concerns: Mass produced thermistors may vary from unit to unit in their electrical characteristics. This variance can be up to 20%. Assuming the temperature detection scheme can even be made to work, at the very least it would require careful manual calibration of every monitor unit produced. Secondly, the output of the temperature sensing scheme is not a convenient binary state, but an analog value. This requires use of a power-hungry analog port on the computer. The computer's analog resolution is limited to 8 bits. Active components are necessary to scale and offset the temperature signal, which comes at the expense of battery life and circuit board real-estate.

I entertained building a tamper system based on some common "touch switch" type circuits. The idea was to fit a small metal plate or pad to the rear of the monitor. When the monitor was in contact with the patient's skin, it would be activated. When the monitor was removed and placed on a table,

the sensor would be deactivated. This was an appealing sensor because its output was binary in nature and it seemed that such circuitry could be made to work at low battery voltages. The method of its operation would not be intuitively obvious, which would enhance its resistance to being defeated.

The problem with this idea is that virtually all the circuits I have seen to implement touch sensitivity depend on the induction of stray 60Hz into the sensor pad. When the sensor electronics are coupled to the AC power or ground (even through a transformer and DC supply), they can be made extremely sensitive and reliable. In a battery powered application like this one, the electronics "float" with respect to earth ground, and these touch sensing schemes no longer work properly.

Unwilling to give up the concept entirely, I prototyped a touch sensitive circuit that does not depend on 60 cycle noise. It features an oscillator that generates its own excitation signal. The presence or absence of a body in contact with a sensor plate is judged based on the body's effect on the excitation signal.

The circuit is built around the 4049 hex inverter. Inverters a, b, and c comprise a text-book square wave oscillator running at around 100kHz. The 100KHz signal is then fed to a sensor pad.

The pad consists of 2 sided copper clad board, and is about 3/4" square. The front of the sensor is solid copper. The rear is actually divided into two equal rectangular pads, each half the size of the pad on the front of the sensor. The square wave signal is fed directed into on of the rear pads. The signal is capacitance coupled to the front pad, and from there, capacitance coupled back to the second rear pad. (Electrically, the arrangement is like two disk capacitors in series, where the 100kHz signal is fed in at one end, and exits the other. The touch pad is the terminal in the middle.)

The signal exiting the sensor is amplified by inverter d, which is biased with a trimpot to operate in a linear mode. The output of the amplifier is fed through a diode, and charges a parallel resistor capacitor pair (the three of which form a demodulator of sorts.) Finally, the signal is buffered by and inverter e. For test purposes, a common LED is connected to the output to show the state of the system. The system as a whole operates as follows:

The 100kHz signal couples through the sensor, through the amp, and through the demodulator. The capacitor/resistor pair are charged to a positive value, which the final inverter converts to a "0", thereby causing the LED to remain dark.

If a finger is applied to front of the sensor, the conductive body mass causes the 100kHz signal to be bled away. It is *not* coupled to the recovery amplifier, so no signal is forwarded to the parallel capacitor/resistor. Eventually, the charge on the capacitor bleeds to 0, which causes the final inverter to light up the LED.

Summary: If you touch the sensor pad, the LED comes on. If you don't touch the pad, the LED goes off. Yes, the system actually works, and on only 3 volts. Its nice because it involves only one IC, and a few passive components. Still, the design does not meet my minimun requirements.

Why? Because the recovery amplifier is a linearly biased inverter! The bias value is tricky, so a trimpot must be included in the design. Besides consuming space, trimpots are unacceptable in this design because they require that every single unit produced be hand-calibrated. Worse yet, a calibration for one operating voltage fails to work at another. If I calibrate the system to work at 4.5 volts, it will not work at 3 volts, and vice versa. In a battery operated design where supply voltage may well fluctuate, this is unacceptable.

I have tried to implement the same sort of design with other 3 volt IC's like the LM324 quad op-amp, for example. That attempt failed because I could not induce the op amp to oscillate at 100kHz. An LM339 quad comparator makes an outstanding 100kHz source, but I cant seem to get it to function as a recovery amplifier.

So, I come to the final point: Do any of you hackers have a solution to this vexing problem? Are there any circuits, chips, or components you can recommend? Perhaps the solution is to emply some entirely different tamper sensing scheme, maybe based on patient heartbeat or respiration?

Email pfzouave@aol.com. Any assistance is greatly appreciated, because Im stuck.

/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

5805. Re: PC Board Proto: Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: rfarmer@mindspring.com
Message-ID: <rfarmer.36.0013C578@mindspring.com>
Source record: 109166

In article <818146489.12251@pinetree.microserve.com> jackl@pinetree.microserve.com (WB3U) writes:

>Same here. I downloaded a copy of easytrax.zip and it looks pretty
>interesting. Unfortunately, it won't print to my HP inkjet. Anyone
>know a freeware/shareware layout program that will? Alternately, is
>software available to allow an inkjet to emulate a laserjet?

I bought CIRCAD a year ago for $300. Not bad for the price. It has full schematic capture and layout capabilies, but minimal libraries. I use high buck stuff now that I do it for a living but I still find it useful for the quick and dirty hobby scale projects though. A demo version is available on mobius as I recall. Their BBS is 305-584-7089. Prints to my HP500C nicely. I just photocopy my output to transfer paper for layout.

Rick Farmer | Ratio DesignLab
Electrical Engineer | 3040 Peachtree Rd.
rick@ratio.com | Atlanta, Ga. 30305 USA

5806. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: rfarmer@mindspring.com
Message-ID: <rfarmer.37.001F0036@mindspring.com>
Source record: 109167

In article <DJ4vp3.I9G@indep1.chi.il.us> clifto@indep1.chi.il.us (Clifton T. Sharp) writes:
>From: clifto@indep1.chi.il.us (Clifton T. Sharp)
>2. Use junkbox LEDs and tweak obsessively until linearity is achieved.

>3. Build ten times as much circuitry and go digital.

Uh, Cliff you ever heard of a microcontroller? I buy Motorola 68HC05J1s for $1.60 and MicroChip PIC16c54s for $2.30 in low volume. Either one would be a single chip solution to this problem. Programming kits for each go for $100 (assuming you don't already have a $500 multipurpose programmer). Never heard of an '05, well Moto just sold it's BILLIONTH (yes 1,000,000,000) '05. There are more processor on the planet than people, by an order of magnitude.
Rick Farmer | Ratio DesignLab
Electrical Engineer | 3040 Peachtree Rd.
rick@ratio.com | Atlanta, Ga. 30305 USA

5807. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4a5se6$8cc@news.azstarnet.com>
Source record: 109168

rkarlqu@scd.hp.com (Richard Karlquist) wrote:
>In article <4a07jb$c51@news.azstarnet.com>,
>Wes Stewart <N7WS@azstarnet.com> wrote:
>>
>>
>>Hmmm. We have some missile applications where it isn't good enough
>>at microwave either. But then, neither is the 11729. However, is there
>>no in-between at HF? Both the spectrum analyzers and modulation analyzers
>
>At HF the 8662 is maybe 30 dB. better than a good spectrum analyzer like
>an HP 3585. Most crystal oscillators are better than the 8662, and
>most VCO's are noisy enough to be seen on the 3585. So relatively
>few sources fall into the 8662 niche.

But obviously, some do.
>
>>use synthesized LOs. Are these better than high performance HF oscillators?
>
>In some cases, yes.

But then in those cases, the 8662 is better too, correct? Which is what I
thought I was trying to say.
>
>>How do you measure phase with a spectrum analyzer? How do you achieve the

>You can't measure "phase" with a spectrum analyzer. You can
>however measure *phase noise* with a spectrum analyzer by looking
>at the noise sidebands.

That was a rhetorical question. How do you separate the phase noise
sidebands from the AM sidebands without phase detection?

>>required dynamic range with a spectrum analyzer.

>Use a wide enough resolution bandwidth so that the noise is less than
>100 dB. down.

What do I do when my spec gives me a number at 100 Hz offset and a different
number at 1 KHz offset...etc, and I need a 10 Hz BW to do this. Or, sometimes the
phase "noise" isn't noise at all but discrete sidebands which have to be
resolved.

>Regarding modulation domain analyzers (MDA): you have to supply a clean
>10 MHz reference to them (or use the optional built in 10811 timebase).
>There is no need for a variable signal generator with MDA techniques.
>In some cases, you want to beat the signal down to less than 1 MHz.
>A crystal oscillator with a crystal socket and a dozen or so crystals

>will take care of this. You get more resolution by down converting.

Well, we've gotten quite far afield from the ham biz, but since we're here, as an engineer, I would love to build these goodies. However, at least where I work, our test equipment is usually racked and stacked COTS (latest buzzword). So, we open up the HP catalog and keep you employed :-)

>MDA boxes are ideal for close in phase noise where other techniques
>fall apart.

I'm not real familiar with these, however, don't they just measure total SSB noise and not "phase" noise. While this is usually the dominant source, we do have requirements to separate AM & PM.

Wes -- N7WS

5808. Re: RADAR DETECTOR DETECTOR??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: jgoecks <jgoecks@pacifier.com>
Message-ID: <4a61dc$6m3@news.pacifier.com>
Source record: 109169

howell@vms1.tamu.edu (Harry Howell) wrote:
>
> I saw a Radio Shack ad for a speed radar dectector with "ghost"
> technology. This "ghost technology" will defeat radar dectector
> dectectors. I know you can locate a receiver by its local
> oscillator, but do the police use something like this? What is
> the range of these radar detector detectors? Is it so short ranged
> that the police carry them up to the suspect vehicle/
>
> Thanks for your input.
> Harry in TX KA5IMO

I have heard rumors that the police radar gun itself will detect
some radar detector's local oscillator. A well made detector such
as the one you describe should be invisible to the radar gun.

Jim

5809. Re: JFET Source Resistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4a7gne$dd@abyss.West.Sun.COM>
Source record: 109170

In article <1995Dec6.161856.62026@ucl.ac.uk>,
Dave Kirkby <davek@medphys.ucl.ac.uk> wrote:
>In article nn6@franklin.cc.utas.edu.au, ian.mitchell@research.utas.edu.au (Ian Mitchell)
writes:
>> Hi,
>>
>> I'm trying to build an IF amplifier using JFETs. It's a common
>> source configuration with a parallel LC tuned circuit in the
>> drain circuit to VCC.
>>
>> Naturally the source resistor goes to ground, but how do I calculate
>> its resistance?
>>
>> I've seen how to calculate source and drain resistances but not
>> when there is a tuned circuit in the drain.
>>
>> The resonant frequency of the LC circuit is 50MHz.
>>
>> Any help would be most gratefully accepted, thanks.
>> Ian
>>
>>
>Assuming the gate is at ground as far is DC is concerned, it's easy.
>Deceide on the drain current Id, by checking on the data sheet what gives
>optimum performance. The best Id will depend on whether you want
>low-noise, or good strong signal performance. Now find from the data
>sheet what gate bias V will give this drain current. Then R=Id/V. If the
>gate is not at DC, you will have to make allowances. In practice, the
>required gate bias is not too well defined, so if the Id is critical, I
>would make the source resistor adjustable.

Which is to say, use the same process as you would for a resistive
drain load ;-).

Siliconix has a very nice linear product brief (LPD-2) which discusses
the biasing of FETs and sensitivity to device characteristics.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

5810. Re: Schema-PCB design output

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-0712951237260001@brainiac.hi.com>
Source record: 109171

In article <4a4h4h$c0@hg.oro.net>, rst-engr@oro.net (Jim Weir) wrote:
> This question would really go well in PC Proto: Software in this
> newsgroup.

An even better newsgroup would be sci.electronics.cad, which was created specifically to discuss these issues.

Regards,
-Steve

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

5811. Re: More on Talking by Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.818381830.12104.jwicklun@mycroftxxx.halcyon.com>
Source record: 109172

In article <9511078183.AA818358436@mails.imed.com>,
<mack@mails.imed.COM> writes:

> I humbly suggest that 455 KHz is the wrong frequency to choose
> unless you are going to use FM. 550 KHz is just as easy to do and
> then you can use a $7 pocket radio from radio shack to do the IF.

As a matter of fact, that was the modulation that I suggested.
Although there is nothing magic about FM, and your ideas for AM
using a cheap radio also sound very attractive.

Jay

5812. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-07 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.818354503.21170.jwicklun@mycroftxxx.halcyon.com>
Source record: 109173

> I like the idea of using a 455 kHz. carrier on the light, so I'll
> complicate up the situation and ask for your considered opinion.
>
> You have four kids, each sitting in a separate corner of the room.
> Each of the kids needs to be able to talk to each of the other
> kids either directly or through a "box" sitting in the center of
> the room.
> You can't use the same frequency for each of the kids or you will
> get capture effect on the strongest signal and/or heterodyning
> between the slight difference in the vco center frequencies. Yet
> you can only get cheap parts for 455 and a few kHz on either side,
> hardly enough separation to put everybody on their own channel.
> Time share?
> First-talk inhibitor on the rest of the receivers? The mind
> boggles with the possibilities.
>
> Your thoughts would be appreciated.
>
> Jim
>

Interesting problem, I didn't remember the original posting. But the simplest solution is to treat the channel like a 2M simplex channel. Everyone hears everyone else, and they learn to talk one at a time.

If that is too simple, maybe PL tone squelching could be added. Add a sub-audible tone to the transmitter. If a different tone is used for each kid, the person transmitting selects the tone for the person that he wants to talk to. To prevent capture effect from someone else transmitting at the same time, each transmitter could be inhibited when the receiver sees a signal (other than its own).

It might also be possible to pull the frequency of the if transformers enough to create two channels, and build a repeater in the center of the room. Everyone transmits on one channel (maybe 430KHz), the repeater retransmits on the second channel (maybe 465KHz) for everyones receiver.

Last thought (today at least)... Just looking through the newest Ramsey catalog (just came yesterday), and they have a simple IR voice link kit. I think that it is an AM system using 30KHz carrier. I haven't had much experience with Ramsey kits. THey don't look like Heathkits, (look cheaper - and the one kit that I did see had somewhat confusing instructions), but should be workable.

I'll give it some more thought, and maybe see what some of the
others on the group come up with......

73.....KI7RH (Jay)

5813. What's at 1420 MHz????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <4a81ie$1m22@stealth.mindspring.com>
Source record: 109026

I got my copy of Feed Point yesterday and there is a list of noise figure results. One of the frequencies where tests were conducted is 1420 MHz. Why 1420 MHz? Also has anyone heard of a NASA beacon that was left at the moon around 2.4 GHz?

73's
Pieter Ibelings
AC4OP

5814. Book by Kenneth Cornell?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: "Steven A. Bailey" <bailey@osb1.wff.nasa.gov>
Message-ID: <4a8coi$i3g@shore4.intercom.net>
Source record: 109027

Does anyone know where I can find the book titled:

"The low and medium frequency Radio Scrap Book" by
Kenneth Cornell, W2IMB

Thanks, Steve

5815. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951208142224.14670H-100000@biggulp.callamer.com>
Source record: 109028
Cross-posted to: sci.electronics,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,de.comm.ham

Good lord...A CMOS UART with independant receive and transmit clocks is
less than five bucks!!! 73 Cliff W6HDO

On Thu, 7 Dec 1995, Rob Janssen wrote:

> In <NEWTNews.24832.818280924.Rotolo@ppp06907.mercedes-benz.com> Don Rotolo
<rotolo@mercedes-benz.com> writes:
>
>
> >In article <4a383p$a74$1@mhadg.production.compuserve.com>,
> >> I'm trying to find either an IC or a schematic for converting
> >> serial-parallel.
>
> >Brian,
> >Don't bother building one when you can buy one - about $90 from
> >Global Computer Supplies 800-845-6225.
>
> Is this today's way of dealing with homebrewers? I'm baffled...
>
> Rob
> --
> +-----------------------------------+---------------------------------------+
> | Rob Janssen rob@knoware.nl | BBS: +31-302870036 (2300-0730 local) |
> | AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
> +-----------------------------------+---------------------------------------+
>
>

5816. HR2600-s301?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <4aa2pa$593s@lamar.ColoState.EDU>
Source record: 109029
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I'm about to do the Chipswitch mod to my HR2600, and I noticed a six pole DIP switch marked 'S301'. Mine currently has switches 1,2,5 and 6 OFF, 3 and 4 ON.
Anybody know what these switches do, and if they have a function with the Chipswitch uProc?

Anybody want an old UC-1251 uProc? ;-)

Galen, KF0YJ

I'm using my 2600 as an IF for transverters.

5817. Re: Info on Ten-Tec 6M xverter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: "Andrew M. Moore" <moore@moore.sr.unh.edu>
Message-ID: <Pine.LNX.3.91.951208082046.12925A-100000@moore.sr.unh.edu>
Source record: 109030
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

> Does Ten-Tec still sell the 6M transverter kit they offerred a couple years
> ago? Does anyone have any experience with it? I believe it uses a 20M IF,
> right? I'm thinking it might be an interesting companion to a 20M SSB QRP
> rig.

Mark:

Yes, according to the T-Kit catalog in front of me, they still sell the
6 meter to 20 meter transverter kit (SSB-CW-FM).

Model Price What
1208 $95 kit form
1208A $159 assembled, tested

TEN-TEC
615/453-7172 for info,
615/428-4483 fax,
800/833-7373 credit card orders

Based upon the monoband direct conversion receiver kit that I got from
them ($29), I would highly recommend their kits.

-Drew

5818. Re: Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4a9h15$ojk@newsbf02.news.aol.com>
Source record: 109031

In article <4a5dnf$u6@news.iii.net>, "Thomas C. J. Sefranek"
<sefranek@iii.net> writes:

>Glenn,
> You need to understand that RF resistors cannot be wire-wound!
>They exhibit too much inductance! You will need special power resistors
>to make a good attenuator. It is non-trivial to build a good RF
>attenuator, thats why they cost so much!
>
>Tom

And you need to understand just because a resistor is metal film, carbon,
or labeled non-inductive it may not necessarily be so in real life.

Nearly ALL carbon and metal film resistors have elements wound in a
spiral, and the higher power resistors "fall apart" in the upper HF
region. This is a huge problem in parasitic supressor design, and
applications like yours.

You can cut the resistor open and look at the element, or measure it on a
SWR analyzer to verify the quality of the component.

Most companies order special resistors for RF load and attenuator
applications. You will be better off using an array of small resistors, or
ordering special components, than randomly using 2 or 5 watt components.
The larger the component, the more likely it is you will run into this
problem.

73 Tom

5819. Re: What's at 1420 MHz????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: "Charles W. Doolittle-Scovish" <doolic@rpi.edu>
Message-ID: <4a8jhd$6ru@usenet.rpi.edu>
Source record: 109032

1420 MHZ = first harmonic of water. Microwaves operate near there.
--
Charles W. Doolittle-Scovish
doolic@rpi.edu n1spx@acm.rpi.edu
N1SPX
Frequencies at http://acm.rpi.edu/~n1spx

5820. Re: MGF 1402 noise figure. (And S param)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4a94d4$c5t@tempo.univ-lyon1.fr>
Source record: 109033

Ian G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:

[...]

Thanks for the info.
I should probably buy the DUBUS more often !

Thank you very much, that should be very valuable !

73 de F5RCS

Vince
--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

5821. 12VDC "Secure" Receiver/Transmitter Pair

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: grscott@grscott.is.ge.com
Message-ID: <4a9qhe$mgj@news.infi.net>
Source record: 109034
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

Time to throw a question "over the wall" as I've not been able to locate a cost-effective, secure solution.

What I'm seeking is basically a short-range DC transmitter/receiver pair that functions much like a garage door or gate opener (and in fact it is the latter for which the pair will be used) that offers a fairly-high level of security. Note that 12VDC is all that's available to the receiver, as the gear-motor driven gate is in a remote location (powered by lead-acid batteries charged by solar panels).

The best thing I've found so far is certainly cost-effective but has only 2^8 combinations and thus isn't very secure. Anybody got sources for anything better or schematics or references? (I'm a physicist -- not an EE, so while I could ultimately [perhaps with great wailing & gnashing of teeth] design something that would probably work, I'd much prefer something _known_ to work!!!)

Thanks for any light anyone would care to shed on the subject

Richard

==========
Mathematics is the science in which we do not know what we are talking about and we do not care whether what we say about it is true -- Bertrand Russell

5822. Re: TRADE UP TO 42MB OF RAM FOR ?? VHF/UHF EQ

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: cadow@america.net
Message-ID: <N.120895.123333.18@MAW.america.net>
Source record: 109035
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.swap

> THATS ALL THE MEMORY I OWN AND ITS MOSTLY 72PIN 70NS OR FASTER. I WILL
> CONSIDER ANY AND ALL TRADES FOR CLEAN AND WORKING
> EQUIPMENT.(2M,440,220,SCANNERS,ECT...)
>
> KELVIN
>
> KE6CRK

----I will trade you for the ram I have a Icom IC-2st HT 2m with drop
charger.
cadow@america.net

5823. Re: 12VDC "Secure" Receiver/Transmitter Pair

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: slwork@netcom.com
Message-ID: <slworkDJA7nt.LML@netcom.com>
Source record: 109036
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

Richard Scott (grscott@grscott.is.ge.com) wrote:

: Time to throw a question "over the wall" as I've not been able to locate
: a cost-effective, secure solution.

: What I'm seeking is basically a short-range DC transmitter/receiver pair
: that functions much like a garage door or gate opener (and in fact it is
: the latter for which the pair will be used) that offers a fairly-high level
: of security. Note that 12VDC is all that's available to the receiver, as
: the gear-motor driven gate is in a remote location (powered by lead-acid
: batteries charged by solar panels).

: The best thing I've found so far is certainly cost-effective but has only
: 2^8 combinations and thus isn't very secure.

Many of these devices operate on a "low-voltage" AC source. Typically, in the garage door opener, there is a transformer. The secondary of this transformer is in series with a relay which controls the opener, and in series with this is the receiver unit. The receiver unit is connected to the opener by a pair of low-voltage wires. Not all of them work this way but a lot of them do.

In the receiver, the AC is rectified to a DC supply which powers the receiver. When the appropriate signal is detected, the receiver "shorts" itself out for a few tenths of a second. This triggers the relay in the door opener. There is a relay (either mechanical or solid-state) in the receiver which shorts the terminals together. While the receiver is "shorted", it runs off of some internal filter capacitor for the brief interval.

In this arrangement, you **might** be able to get the thing to work off a pure DC supply. What you would need is a schematic of the circuit and be able to understand how it works. Perhaps some modifications might be needed, such as removing rectifier diodes, adding a regulator, etc. You might or might not be interested in doing this.

Also, I do not think that 2^8 combinations is particularly un-secure. Remember that the potential intruder would have to not only try all 256 codes but learn several other details such as frequency, encoding method, etc. All of which make their job much more difficult. If it were me , I would stick with what you know can get to work.

5824. Re: RE : PCB Debate

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: wade@netcad.enet.dec.com
Message-ID: <4a9kot$kuj@nntpd.lkg.dec.com>
Source record: 109037

>Article 12174 of rec.radio.amateur.homebrew:
>In-Reply-To: <1995Dec5.125600.61553@ucl.ac.uk>

>On Tue, 5 Dec 1995, James Mills wrote:

>> Does anybody know what the dielectric constant of normal fibre-glass PCB that
>> you can by from RS etc, interested for microwaves and things!!

> I've seen 3.2 listed somewhere. I made my own measurements and
>came up with a figure closer to 4.0

The dielectric constant of ordinary green PCB is between 3.9 and 4.3, your
measurements were good. It varies depending on the ratio of fiberglass to
epoxy (I think they put in more of whichever is cheaper that day!).

> Since you'll probably need to tweak and tune anyway, those
>figures should be close enough to get your design started.

should be close enough to get you started. you don't want to use it for
too high in the microwaves, anyway. I recall measuring about 0.75 dB for
a 3 dB branch line hybrid at 2304 MHz.

paul N1BWT

5825. Re: Help Needed: Expert Hackers only (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: Steve Harper <steveh@cv.hp.com>
Message-ID: <DJA1HM.Gx3@hpcvra.cv.hp.com>
Source record: 109038

Seems to me the simplest and most effective way to do this is use the "garment". Most bra's fasten at the back with a couple of little metal hooks. Seems like it would be easy to sew into each side of the garment a little braided (for flexibility) wire which connects to its associated hook in the back. Around in front, the two wires go into a miniature two pin plug. The plug's mate is in the patient monitor device. One pin has a pullup resistor (100 kohm or so) to 3 volts and to the logic sensing input. The other side is connected to ground. If the input ever goes high, you know the monitor was pulled out, or the garment strap was unhooked... Interesting application. Hope this helps

-Steve Harper-
HP Mobile Computing Div R&D

5826. Re: Help Needed: Expert Hackers only (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4aa0pn$4a0@mack.rt66.com>
Source record: 109039

Expert Hacker?? ..... Oxymoron :-).

I have no experiance with "touch sensorsd, exept as RFI generators
:(.
If this approach does not pan out, here are some alternatives you may
not have considered.

Idea 1:

I saw a device once, used to automatically forward phone calls to the
room where a person actually was. (eg. a doctor making his hospital
rounds) This required them to wear a IR tag....but if they took the
tag off, and left it on a desk, they wanted the tag realize it was no
longer attached to the person.

They used a sensor that was a can with a metal ball in it. It had
several contacts that the ball would short togethor as it rolled
around in the can....It was a motion sensor in other words. I think I
have seen these sensors for sale in electronic trade magazines.

This would probably work unless your patient is paralyxed or comatose.
Even when asleep, people move around every so often. I guess it could
be defeated by putting it on an oscillating fan or something like
that. There would have to be a pretty long delay before removal was
detected...maybe you can't live with that.

Idea 2:

I do not know how it worked, but in Isrial I saw device attached to a
infant's crib which detected if the child stopped breathing (SIDS) and
sounded an alarm. It had an antenna under the mattress. Perhaps the
principle of operation could be applied to your device. I have not
seen or heard of such device in this country..but then I don't read
parenting magazines etc. Perhaps this is common device here too, or
maybe you could search for info on it (sounds like you may be in a
related business)..Sorry I didn't note the brand name (I don't read
Hebrew!) or any other info to aid your search.

It was sensitive tothe breathing of a sleeping infant...so even
elderly ofr infirm patients shold not present a problem.

Idea3:

You already have the brassier like harness...you could apply
sphygnanometer (sp????) principle: A crude strain gauge could measure
the tension in the "around the chest" strap, and see if it had an AC
component (breathing). This would take quite a bit of Rube Goldberg

work to defeat.

73, KO0B

5827. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: Kelly Painter <kpainter@rapidnet.com>
Message-ID: <4a9i0d$d9d@rapidnet.com>
Source record: 109040

smason@agt.net (Steve Mason) wrote:
>
> In article <49q846$j1u@hg.oro.net>, rst-engr@oro.net&#65533; says...
> >
> >
> >I'd like to get a thread started on the cheap and easy ways to do
> >prototype PC boards.
>
> Funny you should ask, your timing is impeccable.
> I just posted this yesterday on sci.electronics,
> here we go....
> By the way, for anyone not familiar with the product, PnP Blue is a plastic 8.5x11 sheet
> similar to a transparency, but with a blue coating which also transfers to the copper.
> It's made by Techniks Inc, Ringoes NJ, and available from All Electronics.
>
>
> There's been some talk about making boards with various toner transfer methods lately,
> so I thought I'd post my experience.
>
> I just finished my first PC board using the PnP Blue toner transfer sheets.
> I'm quite happy with the results.
> Here's how it went:
>
> Did the artwork with Easytrax, did some test prints on the HP LaserJet 4+ and determined the
> minimum size paper it would feed.
>
> Cut a piece of PnP Blue to the same size, and printed. The printer had no trouble feeding,
> and printing on the sheet. So far so good.
>
> Cleaned the board, used an SOS pad, rinsed, then cleaned with isopropyl alchohol.
>
> Heated up the iron to the middle range of steam.
> Placed sheet on board and applied the iron. Big problem!
> The sheet wrinkled, crinkled and did everything but melt (probably would have had I continued)
> I decided I was using too much heat.
>
> Cleaned board again (it was a bit harder this time, due to some of the toner transferring.
>
> Cut another sheet and printed, again printer performed beautifully.
>
> This time, I set the iron at half the temp (just below the steam setting)
> Aligned sheet, applied iron, and it worked. I ironed for about 1 minute, which might
> have been a tad to little, as one of the 30 mil traces didn't quite transfer in one spot.

> An easy touch up with a Staedler 313 Permanent pen, and I was ready to etch.
>
> Earlier, I had made a bubble etching tank out of an old narrow square plastic container,
> an aquarium pump and a flat aquarium bubble rock. The local electronics shops want $130.00 for
> a
> bubble etcher! And it's not that much different from what I made.
>
> I mixed up a batch of ammonium persulfate 250G/1L of hot tap water, and etched away.
> The result was a very good looking board for my first attempt!
> Drilling was tougher than I thought, I used my Dremel tool in a Dremel drill press stand
> with a #68 bit. I found the bit would wander a bit as it came into contact with the
> board, but that if I pressed faster, the bit wandered less.
> The 20pin DIP will be a bit tough to insert, as a few of the holes are off a tad, but the
> 8 pin DIP, and the rest of the holes are close enough.
>
> If anybody has any drilling tips, I would like to hear them.
>
> I don't know if the circuit will work, but the board sure looks good.
>
> Sorry for rambling,
>
> Steve VE6STV
> smason@agt.net
>

I use PnP Blue for prototyping at work. First, clean your boards with Hydrocloric acid. This
might be toilet cleaner. That helps the stuff stick. Second, use a small punch to lightly
mark your holes. I also use the Dremel. Use high quality carbide PCB drills. For an iron,
I use a iron used for ironing monocoat onto model airplanes. Seems ready made for the work.

Hope this helps!

K.Painter

5828. Re: VLF detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: U40241@uicvm.uic.edu
Message-ID: <95342.103246U40241@uicvm.uic.edu>
Source record: 109041

I guess what is needed is to change AC into DC and measure or monitor the DC changes over time. Also, some selectivity is useful; this seems to be the key problem in the inquiry. Well, L-C circuits have been used forever in RTTY demodulators for selectivity. Nowadays, they are often replaced or enhanced with electronic filters, either op-amp or DSP filters. These are available in many forms from lots of sources. MFJ makes cheap but functional filters-- look at their 784b: specs too numerous to list, but "tunable 'brick wall' bandpass, lowpass, highpass, notch, ... programmable pre-set filters, automatic multiple notch filter ... adaptive noise reduction...." Lists at $239.95, less at radio stores. Unfortunately, top-freq. seems to be slightly less than 5KHz as delivered, but quite possibly MFJ will reprogram the DSP rom to up the top limit to over 5KHz if the processor is fast enough. This seems likely because it does alot of work besides filtering if you require. JPL systems makes the

NIR-12 which is not as "knobby" as MFJ but probably much more powerful (dual DSP chips, rs-232 control, and they will custom-program your roms for freq. at the time of order or for $35. thereafter. Use a not-too-long antenna (lowfer hobbyists use (and sell) ELF receivers using extendable whips of about one meter coupled into an fet impedance matcher and a simple half-wave diode detector to your AF amp and earphone. With this I can receive Omega and hear a car pass by on a street from 30 feet. It sounds like a hissing noise. When I walk on grass it sounds like a microphone is strapped to my shoes, but again it is ELF electrostatic or 'rf'. The only selectivity on this receiver is my ear's frequency response. I guess it depends on how critical your requirements are as to how much sensitivty, selectivity, and immunity you put into a design. I'm glancing at an older book Sams 'Analog Electronics for Microcomputer Systems'. It has a summary of transducers: mechanical, fluid, radiation. You could use piezioelectric or magnetoresistive. Think of a giant tuning fork at 5KHz coupled to a detector by a coil. Collins mechanical filters are something like this. Well, this could go on and on. Finally, consider one of the commercial do-everything ELF through HF receivers that come up for sale from time to time. I bought a surplus receiver with selectable xtal filters tuning down to I think three KHz before it gets lost in autodyne (self-reception), and up to about 1 MHz. It is hybrid tube/transistor (about 1970 design?) and I paid $150 shipped. If it were shortwave, it would be of rather high quality compared to most. Check the net and surplus dealers for this kind of equipment.
Good luck. Jim K9ZAT

5829. Re: 12VDC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: Bruce Bostwick <lihan@ccwf.cc.utexas.edu>
Message-ID: <4aabpg$g8u@geraldo.cc.utexas.edu>
Source record: 109042
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

slwork@netcom.com (Steve Work) wrote:
> Also, I do not think that 2^8 combinations is particularly un-secure.
> Remember that the potential intruder would have to not only try all 256
> codes but learn several other details such as frequency, encoding method,
> etc. All of which make their job much more difficult. If it were me , I
> would stick with what you know can get to work.

It's worth mentioning that around here, at least, there are people who
specialize in this type of burglary and apparently they're pretty good
at it -- we had a special on the news not too long ago about how easy
it was to break into houses with garage door openers. I suspect that
most of the job nowadays is in the form of hardware you can buy from
people who sell shady quasi-legal stuff like this (nominally for
educational purposes only, of course, just like 1kW CB linears etc.)
so better not count on store-bought stuff for Fort Knox security ...

<BGB> http://ccwf.cc.utexas.edu/~lihan/

5830. Re: What's at 1420 MHz????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4aah8j$876@nntp.Stanford.EDU>
Source record: 109043

In article <4a81ie$1m22@stealth.mindspring.com> wave@mindspring.com (Pieter Ibelings) writes:
>I got my copy of Feed Point yesterday and there is a list of noise figure
>results. One of the frequencies where tests were conducted is 1420 MHz.
>Why 1420 MHz? Also has anyone heard of a NASA beacon that was left at the
>moon around 2.4 GHz?
>
>73's
>Pieter Ibelings
>AC4OP
>

The Apollo 16 mission (I think) left behind an array of scientific instruments on the moon which transmitted telemetry somewhere near 2.8GHz. I think it was shut off a long time ago due to lack of funding to analyze the data.

Steve M.

5831. NE604 IC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: dlr13@psu.edu
Message-ID: <dlr13.33.001CF7F2@psu.edu>
Source record: 109044

I am looking for a source of NE604 IC's. I need one for the synchronous AM detector project described in the July 1993 QST. I can't get hold of the source listed in the article, Ocean State Electronics. An help would be appreciated.

TNX, Doug KA3TTQ

5832. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4a9sdb$r5o@mack.rt66.com>
Source record: 109045

>>In article <4a383p$a74$1@mhadg.production.compuserve.com>,
>>> I'm trying to find either an IC or a schematic for converting
>>> serial-parallel.

Thems called UARTs and almost EVERY digital ic manufacturer makes em.
Check thier application notes for required clock generators etc.

73, KO0B

5833. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4aa096$ona@hpscit.sc.hp.com>
Source record: 109046

In article <4a2vu8$ouk@cc.iu.net>, Bob Lombardi <blombard@iu.net> wrote:
>
>I was under the impression that the 640 MHz is a from a SAW oscillator,
>phase-locked to the 10 MHz in a very narrow loop. That way you get the
>crystal noise characteristics (don't know what N is but whatever N is,
>the noise is degraded by 20 log N) inside the LBW, and the good SAW
>characteristics outside the LBW. The VCSO is better than any VCO you're
>likely to build or find, if it's made from conventional resonators.

I can see why you would think that, but actually, the SAW resonator in the
11729 is used as a crystal filter to clean up the noise floor of the
multiplied up xtal osc. So the xtal/multiplie is responsible for good
phase noise out to about 1 kHz. from the carrier and the SAW filter is
responsible for rolling off the noise farther away. There is a utility
mode of the 11729 where you can connect the output of the SAW filter
module back to the input and make it oscillate at 640 MHz., but that
is rarely used, for good reason.

BTW, I used that same 11729 SAW resonator to make a phase locked 640 MHz. SAW
oscillator that was used in the HP 5071 cesium clock. But I didn't
get as good phase noise as the 8662/11729 system, although it was good
enough for its application. I recently redesigned that module to be
a multiplied up crystal oscillator as in the 8662, although I didn't
need the extra 80 MHz. crystal filters, since my requirements were some
what laxer than the 3048 guys. Nevertheless, I picked up some improvement
in phase noise compared to the old PLL-osc. configuration.

>This isn't my area of "ex-spurt-tease", but the gold standard is a multiplied
>crystal, right? If you generate a comb into the microwave region from a good
>quiet source, you mix your microwave signal down to where you can measure it
>with a quieter source than the 8662 (which is pretty good, but not a Godsend).
>This is the approach that the 3048 test set uses, as well as the Comstron Phase
>noise test set, which I've only seen demos of. (I've used the 3048 long enough
>to have a love-hate relationship with it. Well...a tolerate-hate relationship).

If you are not entirely happy with the 3048, you might want to look at HP's
modulation domain analyzers (MDA) for measuring phase noise.

The gold standard is a multiplied crystal where the multipliers have narrow band
pass filters to clean up the noise floor. As has been previously mentioned,
the 8662 has filtering at 80 MHz. and, I think, another frequency to do this.
Then there is the SAW filtering. BTW, HP's Santa Rosa people have developed
a "STW" resonator that is supposed to be even better than SAW.

>73,
>Bob

>
>(yes, I wrote FilDes, but I design synthesizers for a living....)
>
>Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
>blombard@iu.net or blombard@freenet.fsu.edu /\ |
>Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
>I've run out of things I can say in 4 lines. (*)/(*) |
>

Rick Karlquist N6RK
Hewlett-Packard Santa Clara Division

5834. RF circuit simulator choice?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <199512082016.GAA24740@dyson.brisnet.org.au>
Source record: 109047

Hello all, I am having a great dilemma in finding a good (and RELATIVELY cheap) circuit simulation program for my RF (VHF to MICROWAVES) circuits. I have been using CALTECH'S PUFF which works OK but has a few too many liberties when analysing Microstrip circuits, particularly coupled filters. For low freq. work, I find MICROCAP (student edition) terrific but it doesn't do transmission lines. I downloaded APLAC but the 14 MEGA bytes of docs are horrendous, and are not easy to follow (very disjointed). The best I have seen and used would be ARRL's RADIO DESIGNER but it does not support transmissio/microstrip lines (A big mistake I feel as the rest is great and the price is good at AUST$300) So far my best choice would be EAGLEWARE's SUPERSTAR but at AUST$1500 + 50% import duty way out of an experimenters pocket. Any suggestions???
Does anyone have a earlier version of SUPERSTAR for sale that would fill my needs ?? NO I AM NOT SUGGESTING YOU STEAL A COPY!!!!. I believe in fair payment for good original software.
Back to you --- Best for Christmas Peter VK4AWP.

5835. Re: RE : PCB Debate

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DJAL1v.44s@nsc.nsc.com>
Source record: 109048

The radio shack PC material is very lossy at VHF and higher. I don't precisely remember the dielectric constant but it forces very tiny striplines. For anything above VHF you should find a supplier of a Glass / Teflon material. It's a little expensive but will give superior results and striplines that are big enough to be accurate.
Regards, Al

5836. 23 cm cavities

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4a9544$cbv@tempo.univ-lyon1.fr>
Source record: 109049

Hi,
yet another question :-)

This time, I got a question about the design of a 23 cm (1291 MHz)
cavity. It is supposed to be used for a repeater to be installed in Paris.
It would be part of the duplexer.
I planned to obtain -120 dB at 1297 while maintening -3 dB at 1291
(insertion loss).
I just wonder if anyone has already done this kind of design. If yes :

- What are the size of the cavity (assuming it is a cylinder)
- What is the material (Brass, silvered brass, copper).
- How is it coupled to the antenna
- What is the Q
- How is the tuning system
- How much did it cost !

I just figured out that for a TE111 mode cavity, a diameter of 136 mm
was a minimum. Made in copper, it yielded Q~30000.
What about coaxial cavity ? It seems more compact but much less
selective.

Thanks for any info !

And 73s again - Vincent
--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

5837. neg acting PCB sources?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: Possum <fnjlh1@aurora.alaska.edu>
Message-ID: <Pine.OSF.3.91.951208233825.8953A-100000@aurora.alaska.edu>
Source record: 109050

Howdy, I was pointed here, looking for a source for small quantities of
negative acting, single sided pc board stock. Any known good sources? Thanks.

J Harris
ex KL7EDC/Fairbanks/Ak

5838. Re: RE : PCB Debate

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DJAL2y.45p@nsc.nsc.com>
Source record: 109051

The radio shack PC material is very lossy at VHF and higher. I don't precisely remember the dielectric constant but it forces very tiny striplines. For anything above VHF you should find a supplier of a Glass / Teflon material. It's a little expensive but will give superior results and striplines that are big enough to be accurate.
Regards, Al

5839. Re: PCB Etching Question???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DJAL88.4Aw@nsc.nsc.com>
Source record: 109052

I use Krylon or any enamel spray paint to cover large areas, or you can
also use a brush on enamel. Covers well on clean copper clad.
Regards, Al

5840. Re: RADAR DETECTOR DETECT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: daniel.lacasse@com18.com
Message-ID: <RERAAMHO.D9C4@com18.com>
Source record: 109053

Hi!

> I saw a Radio Shack ad for a speed radar dectector with "ghost"
> technology. This "ghost technology" will defeat radar dectector
> dectectors. I know you can locate a receiver by its local
> oscillator, but do the police use something like this? What is
> the range of these radar detector detectors? Is it so short ranged
> that the police carry them up to the suspect vehicle/
>
> Thanks for your input.
> Harry in TX KA5IMO

I can't really help but I also heard that there is laser gun now...

Does anyone know if they can be detected?

Well, it's only for personnal information since I live in Canada and
these are prohibited here. :(

73's de | Fido: 1:240/118 | Internet: Daniel.Lacasse@com18.com
I)aniel | Franco: 101:155/118 | Packet: VE2DLX@VE2SJC.#QBC.PQ.CAN.NA

5841. i need a schematic for a radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: reble@ONEWORLD.OWT.COM
Message-ID: <4a8fi8$5or@paperboy.owt.com>
Source record: 109054

i need a schematic for a JCPENNEYS model 6247 cb rig so i can fix it,
because i intand to convert it to 10 meters. i also need a junk unit
to pull the vco (voltage control osc) out of it.

i can be reached at reble@oneworld.owt.com

steve

5842. Quick and dirty demostration of AM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: datwyler@aros.net
Message-ID: <4a9g80$si9@news.aros.net>
Source record: 109055

I need to know of a quick and dirty (EASY) demostration of AM modulation for an upcoming Boy Scout round table. HINTS, or outright answers are welcome.

Douglas L. Datwyler WR7O
datwyler@aros.net

5843.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: Ps7ab@pcimage.UCSD.EDU
Message-ID: <534_9512090323@pcimage.cyber.net>
Source record: 109056

Pse unsubscribe Ham- Homebrew Mailing List and Newsgroup.

Mny Tnx.

ps7ab@pcimage.cyber.net

PS7AB, Rony (PY-DX Bulletin)
ps7ab@pcimage.cyber.net
Natal City (05.52.S 35.10.W)

---
* UniQWK #4072*-*- SF-Quick/BW 1.00q [UNREGISTERED]

* Sent via SFE-mail from [UNREGISTERED BBS]

5844.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-08 00:00:00 UTC
From: Ps7ab@pcimage.UCSD.EDU
Message-ID: <535_9512090323@pcimage.cyber.net>
Source record: 109057

Pse unsubscribe Ham- Homebrew Mailing List and Newsgroup.

Mny Tnx.

ps7ab@pcimage.cyber.net

PS7AB, Rony (PY-DX Bulletin)
ps7ab@pcimage.cyber.net
Natal City (05.52.S 35.10.W)

---
* UniQWK #4072*-*- SF-Quick/BW 1.00q [UNREGISTERED]

* Sent via SFE-mail from [UNREGISTERED BBS]

5845. Re: Quick and dirty demostration of AM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4accpf$l74@newsbf02.news.aol.com>
Source record: 108974

In article <4abbjk$d62@newsbf02.news.aol.com>, rhyolite95@aol.com
(Rhyolite95) writes:

>
>Use an audio amplifier to power a lightbulb from an audio source. Connect
>a photocell to the input of another audio amplifer and speaker. The audio
>from the first amplifier will make the lightbulb flash and the second
>amplifier will reproduce the modulation of the light "carrier".
>
>

Hety, thats a neat idea,. But won't thermal lag kill the audio?

I'd use a LED or gas bulb, not a filament type.

73 Tom

5846. Re: Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: gcouger@master.ceat.okstate.edu
Message-ID: <4acm2j$phh@news.cis.okstate.edu>
Source record: 108975

In article <DJALHv.4LI@nsc.nsc.com>,
Al Koblinski (W7XA) <canksc@tevm2.nsc.com> wrote:
>I have used 2 watt carbon resistors for years. Just parallel enough to
>get the dissipation you need and with a modest assortment of values you
>can easily come up with the actual circuit values you need. Keep the
>leads short or solder them down to PC board material (copper clad).
>73, Al

I have used the same resistors with good result.

Recently I have been using Cardwell prower resistors. They are made in
a TO3 or TO5 package and according to Cardwel they are flat to over
100 MHZ. I used 2 50 watter 100 ohms in parallel with a UHF conector.
With not too careful construction it's flat on two meters and has a
two to one SWR on 440.

Allide radio stocks them.

Gordon

Gordon Couger senior software specialist
Biosystems & Agricultural Engineering. 114 AG Hall Stillwater, OK 74075
gcouger@master.ceat.okstate.edu 405 744 8392 day 625-2855 evenings

5847. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4ad1vb$f88@hpscit.sc.hp.com>
Source record: 108976

In article <4a5se6$8cc@news.azstarnet.com>,
Wes Stewart <N7WS@azstarnet.com> wrote:
>>
>
>That was a rhetorical question. How do you separate the phase noise
>sidebands from the AM sidebands without phase detection?

Good point. Of course you can't separate AM from PM noise with a
spectrum analyzer. In the vast majority of cases, PM noise dominates
and/or AM noise doesn't matter much, so the spectrum analyzer gets
the job done.

If you have to measure the AM noise, you're probably stuck with
a 3048 type architecture.

>>>required dynamic range with a spectrum analyzer.
>
>>Use a wide enough resolution bandwidth so that the noise is less than
>>100 dB. down.
>
>What do I do when my spec gives me a number at 100 Hz offset and a different
>number at 1 KHz offset...etc, and I need a 10 Hz BW to do this. Or, sometimes the
>phase "noise" isn't noise at all but discrete sidebands which have to be
>resolved.

What I use in my home lab (we have a 3048 at work) is a W-G TSA-1 spectrum
analyzer with 1 Hz. resolution BW. It gets in pretty close. Probably
closer than you would ever need for ham radio work.

>>MDA boxes are ideal for close in phase noise where other techniques
>>fall apart.
>
>I'm not real familiar with these, however, don't they just measure
>total SSB noise and not "phase" noise. While this is usually the
>dominant source, we do have requirements to separate AM & PM.

Unfortunately, many people are still not real familiar with
MDA boxes. But when they learn about them, they often find them
extremely useful.

Spectrum analyzers measure total SSB noise and not just phase noise.
MDA boxes measure phase noise only and don't respond to AM noise.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5848. Re: Need transistor data!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DJAM9x.57z@nsc.nsc.com>
Source record: 108977
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

You're in trouble here. The only way to truly know what they are is go to the equipment manufacturer for the spec. In most cases, the device manufacturer was contracted to mark the devices with the special part number and is prohibited from disclosing exactly the specs and consequently the device type. Otherwise, you must guess from the application and compare with data books from the device manufacturer. That kind of package is available from Motorola, Philips, NEC, and almost everyone else that builds RF devices.
73, Al

5849. Re: receive overload with ts-520s

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <DJALzr.4wD@nsc.nsc.com>
Source record: 108978

The old TS520 and most early rigs with transistor front ends and mixers were a bit soft in the front end. If you were corageous, you could modify it. Lots of articles in QST by Rhode and others.
If the offending signal is local (say another ham up the block) a "null steerer" can help. See QST 1995 or JPS electronics model ANC4 will work too.
Most new rigs are better with the TenTec Omni VI being the best in my opinion.
Modifying the mixer in the TS520 may be the most effective was to improve your overload problems.
73, Al

5850. Re: What's at 1420 MHz????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4ab5bp$e2i@nntp.Stanford.EDU>
Source record: 108979

In article <4a8jhd$6ru@usenet.rpi.edu> "Charles W. Doolittle-Scovish" <doolic@rpi.edu> writes:
>1420 MHZ = first harmonic of water. Microwaves operate near there.
>--
>Charles W. Doolittle-Scovish
>doolic@rpi.edu n1spx@acm.rpi.edu
>N1SPX
>Frequencies at http://acm.rpi.edu/~n1spx
>
Actually, most microwave ovens operate at 2450MHz (right at the top of our ham band).

Steve Muther WF6R

5851. Re: Quick and dirty demostration of AM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: rhyolite95@aol.com
Message-ID: <4abbjk$d62@newsbf02.news.aol.com>
Source record: 108980

Use an audio amplifier to power a lightbulb from an audio source. Connect a photocell to the input of another audio amplifer and speaker. The audio from the first amplifier will make the lightbulb flash and the second amplifier will reproduce the modulation of the light "carrier".

5852. Re: What's at 1420 MHz????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <4abdf7$kso@solaris.cc.vt.edu>
Source record: 108981

In article <4ab5bp$e2i@nntp.Stanford.EDU>,
stevem@w6yx.stanford.edu (Steve Muther) wrote:
>In article <4a8jhd$6ru@usenet.rpi.edu> "Charles W. Doolittle-Scovish"
<doolic@rpi.edu> writes:
>>1420 MHZ = first harmonic of water. Microwaves operate near there.
>>--
>>Charles W. Doolittle-Scovish
>>doolic@rpi.edu n1spx@acm.rpi.edu
>>N1SPX
>>Frequencies at http://acm.rpi.edu/~n1spx
>>
> Actually, most microwave ovens operate at 2450MHz (right at the top of
our
> ham band).

More like all over the band. The signal is about 25 MHz wide. If it's any consolation, it's only on half of the time. The power supply in the oven is a half-wave voltage doubler, so the magnetron doesn't operate during one half-cycle of the power line. This varying, unfiltered power causes the mangetron frequency to FM all over the place though. In very limited research (sample size of 2), the ERP from a typical closed, apparently properly maintained oven was about 1 Watt peak. Doesn't look like the commercial communication interests are going to want to take over *that* band anytime soon!

As I understand it, the frequency chosen doesn't have to have anything to do with resonance of water molecules. It's the current induced by the waves due to resistance and/or dielectric loss in the food or drink that cause the heating effect. For example, the metallized lining in a microwave popcorn bag will absorb the microwave energy and heat up the fat inside the bag, which transfers heat to the corn to pop it. No water is involved other than that in the corn kernels, and that is heated indirectly.

-Mike KD4QDM

5853. Re: Help Needed: Expert Hackers only (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <4abce3$kso@solaris.cc.vt.edu>
Source record: 108982

In article <4a799h$qfv@newsbf02.news.aol.com>,
pfzouave@aol.com (PFZouave) wrote:
>I am in the process of developing a tiny computer controlled medical
>monitoring device. The device, only a few inches square, is intended to be
>located at the patient's chest, at the sternum, and held in place there by
>a bra-like attachment garment. The garment features a pocket or holster in
>which the monitor is placed.
>
>While the system in fact works, the practical success of the device hinges
>on the ability of the unit to detect whether or not it has been has been
>removed from the patient. I call this "tamper protection."
>To date, I have been unable come up with a tamper protection scheme that
>meets the necessary engineering criterion. The circuitry must enable the
>monitor to tell whether or not it has been removed from the patient's
>body. The added circuitry must be cheap, as simple as possible, and
>utilize a few active components as possible(the device is battery-powered,
>so power consumption is always an issue.) It must not be easily defeated,
>and must function at varying battery voltages down to, say, 3 volts.
>Ideally, such circuitry should function properly from the moment of
>assembly, that is to say, it should not require tweaking or calibration.
>While the computer used in this project has limited analog input
>capability, the ideal tamper sensing scheme can warn of a tamper condition
>with a single binary bit.

[...]

The rest of the system presumably measures some biological phenomena (being strapped to the chest, it could detect heart and respiratory activity easily). Of course if it is removed, these readings would go to zero. Presumably the sensor is to determine if a zero reading is because the patient's vital systems are in distress, or if the monitoring device has just been removed. Other uses could be to prevent/discourage theft or misuse, or to place the monitor in a low power state when not attached to a patient and therefore not in use. Or there may be more sinister application?

Kevin's idea about a motion-detecting switch is a good one. If it's to distinguish impending death from a false alarm, it may be too slow.

If two electrodes can be in contact with the patient, simply detecting the resistance between them could work. A reading of infinity means monitor is not attached, slightly more advanced circuitry could also detect near-zero reistance that would result from attempting to defeat the sensor with a metal object. Detecting the resistance could be with comparators, an analog input, or a RC oscillator the frequency of which is counted by the

digital circuitry.

One electrode near or touching the patient could be used as a capacitive sensor. Most of these are base on oscillators with less than the usual amount of feedback so they stop oscillating if a body is near the sensor plate (which is connected at or near the input of the oscillator). This is easy if the sensor plate is actually in contact, the change is much more subtle if it is only capacitively coupled. I believe the "stud sensor" used for locating wooden wall studs works on this principle. But it has to be constantly adjusted by the user. The Israeli baby-monitor probably works on a differential principle as well (AC-coupled amplifier to detect small changes caused by the baby breathing or moving), so it's really a variaton of the motion switch concept rather than an actual body detector.

>Why? Because the recovery amplifier is a linearly biased inverter! The
>bias value is tricky, so a trimpot must be included in the design. Besides
>consuming space, trimpots are unacceptable in this design because they
>require that every single unit produced be hand-calibrated.

As an aside, CMOS inverters can be biased into linear operation (with no tricky adjustment), with simply a resistor from the output back to input. It is a good approximation to model the inverter as an op-amp with the non-inverting input internally tied to half the supply voltage (a very common configuration). The gain of the stage can be controlled by the ratio of the feedback resistor to the input resistor or impedance. (For low closed-loop gains anyway. The open-loop gain of a single inverter is not very high. Three inverters DC-coupled in series have a lot of open-loop gain, but can get unstable.) Although a 4069 draws only about 1 mA from 5V in this configuration, silicon-gate devices (74HC04, etc), will draw quite a bit more. And different brands of chips can have widely differing characteristics. If the frequency is low, micropower op-amps are likely to be better.

[...]

-Mike KD4QDM

5854. Re: if amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951209174040.27359D-100000@biggulp.callamer.com>
Source record: 108983

Simple enough! Experimentally find the source resistance necessary to
make the Idss current reduce to one half value. If intermod is a
problem, then reduce the current to one quarter the Idss value.. W6HDO

On 6 Dec 1995, wayne barnhart wrote:

> I'm trying to build an IF amplifier using JFETs. It's a common
> source configuration with a parallel LC tuned circuit in the
> drain circuit to VCC.
>
> Naturally the source resistor goes to ground, but how do I calculate
> its resistance?
>
> I've seen how to calculate source and drain resistances but not
> when there is a tuned circuit in the drain.
>
> The resonant frequency of the LC circuit is 50MHz.
>
> Any help would be most gratefully accepted, thanks.
> Ian
> --
> An interesting question, would like to know myself. Could you assume that DC
> ignors the tank circuit therefore all the DC bias, Vds, must come from the
> source. If so then compute the resistance to provide the required drain
> current. I donno, will be watching for an answer.
>
> Wayne Barnhart WB7WHI Dirt is good!
> Spokane, Wa.
>
>
>

5855. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951209174932.27359E-100000@biggulp.callamer.com>
Source record: 108984

Rick I have not gotten your meaning! All well and good that 68HX05J1 sell
for $1.60. What does that have to do with the problem, $500 multipurpose
programmers not withstanding! really I do not give a hoot that Motorola
sold one billion microcontrollers. I want one that works for all of us!!
73 Cliff Buttschardt W6HDO

On Thu, 7 Dec 1995, Rick Farmer wrote:

> In article <DJ4vp3.I9G@indep1.chi.il.us> clifto@indep1.chi.il.us (Clifton T. Sharp)
writes:
> >From: clifto@indep1.chi.il.us (Clifton T. Sharp)
> >2. Use junkbox LEDs and tweak obsessively until linearity is achieved.
>
> >3. Build ten times as much circuitry and go digital.
>
> Uh, Cliff you ever heard of a microcontroller? I buy Motorola 68HC05J1s for
> $1.60 and MicroChip PIC16c54s for $2.30 in low volume. Either one would be a
> single chip solution to this problem. Programming kits for each go for $100
> (assuming you don't already have a $500 multipurpose programmer). Never heard
> of an '05, well Moto just sold it's BILLIONTH (yes 1,000,000,000) '05. There
> are more processor on the planet than people, by an order of magnitude.
> Rick Farmer | Ratio DesignLab
> Electrical Engineer | 3040 Peachtree Rd.
> rick@ratio.com | Atlanta, Ga. 30305 USA
>
>

5856. Re: Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ad1ic$1hv@newsbf02.news.aol.com>
Source record: 108985

In article <4acm2j$phh@news.cis.okstate.edu>,
gcouger@master.ceat.okstate.edu (COUGER GORDON) writes:

>In article <DJALHv.4LI@nsc.nsc.com>,
>Al Koblinski (W7XA) <canksc@tevm2.nsc.com> wrote:
>>I have used 2 watt carbon resistors for years. Just parallel enough to
>>get the dissipation you need and with a modest assortment of values you
>>can easily come up with the actual circuit values you need. Keep the
>>leads short or solder them down to PC board material (copper clad).
>>73, Al
>
>I have used the same resistors with good result.
>
>Recently I have been using Cardwell prower resistors. They are made in
>a TO3 or TO5 package and according to Cardwel they are flat to over
>100 MHZ.

Resistor construction has changed over the years. It is now almost
impossible to buy a carbon comp resistor (those were the real
non-inductive types), they are all special order. Virtually all carbons
now are inductive, the circuit requirements determine if the inductance is
a problem or acceptable. Wes described the construction perfectly.

Be sure to check out any resistor type carefully before using it terminate
or load a VHF or UHF system, and even if the application is critical in a
HF system. This includes metal film types!

73 Tom

5857. Re: How do I keep my computer from spewing rf?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: David Johnson <david.j2@ukonline.co.uk>
Message-ID: <cBO2$CAZXeywEwrA@ukonline.co.uk>
Source record: 108986

Another point to consider is how well decoupled is your antenna feeder? I used to use a co-ax fed multi-band hf dipole, complete with the usual balun, this always resulted in some computer hash on the radio. As an experiment I tried an open wire fed doublet antenna with a short (18") length of co-ax to a 4:1 balun connected straight to the back of my TS-850SAT, wow what a difference, the interaction between the computer and the radio had improved by quite a few dB's.

I have had a similar problem with a DeeCom 4m aerial and my tnc, replacing the amateur DeeCom aerial with a commercial low band end fed aerial on the same feeder reduced a hash problem to the point where it wasn't significant.

This obviously doesn't "cure" the computer from throwing out spurious signals, but it might help avoid picking so much of it up!

--
David Johnson

5858. Re: PC Board Proto: Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <30CA2D2A.A60@netaxs.com>
Source record: 108987

> I am interested in some shareware layout and or schematic software
that
> is supported on the major platforms so that everyone can use it.

Try these sites:
http://www.cadvision.com/htmls/apc/nwdef.html#DFWare
http://engr-www.unl.edu/ee/eeshop/cad.html

Joe
WA3CMQ

5859. Re: LCD counter module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDJDsrr.vr@netcom.com>
Source record: 108988
Cross-posted to: sci.electronics.design,sci.electronics,sci.electronics.basic,sci.electronics.misc,rec.radio.amateur.homebrew

in <4ab0v6$cao@steel.interlog.com>, David Mulligan wrote:
: Anyways my question is are there any LCD counter modules with external
: reset? Well what I am trying to achive is a frequency counter, basically I
: need the each digit to act like a cascading decade counter, to be reset
: once a second, 10 times a second etc... Or is there a better way?

I think Optoelectronics, the frequency counter people sell as module
the guts to one of their counters. Radio-Electronics magazine had a
bunch of counter projects 3-5 years ago where both Optoelectronics
and Startek had kits of various counters in their lines.

Red Lion Controls (sold by Digikey) has some counter modules, but I think
they're more process control indicators like tally counters and tachometers.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

5860. Re: What's at 1420 MHz????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: blanton@ni.net
Message-ID: <blanton-0912950029410001@xband.ni.net>
Source record: 108989

In article <4a81ie$1m22@stealth.mindspring.com>, wave@mindspring.com (Pieter Ibelings) wrote:

> I got my copy of Feed Point yesterday and there is a list of noise figure
> results. One of the frequencies where tests were conducted is 1420 MHz.
> Why 1420 MHz?

1420 MHz is an emission line of neutral hydrogen. It is used by radio astronomers to map hydrogen density in the Milky Way galaxy and beyond. A small frequency band surrounding 1420 MHz is a protected radio astronomy frequency and no other manmade emissions are permitted there.

Lee, WA8YBT/6
Temecula, CA

5861. Re: How to? (was Re: Plate Choke - Where can I find?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: 93202832@comet.np.ac.sg
Message-ID: <4aapgu$h18@raffles.technet.sg>
Source record: 108990

contavt me

5862. Re: Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4aaood$61o@news.azstarnet.com>
Source record: 108991

w8jitom@aol.com (W8JI Tom) wrote:
>In article <4a5dnf$u6@news.iii.net>, "Thomas C. J. Sefranek"
><sefranek@iii.net> writes:
>
[snip]
>
>And you need to understand just because a resistor is metal film, carbon,
>or labeled non-inductive it may not necessarily be so in real life.
>
>Nearly ALL carbon and metal film resistors have elements wound in a
>spiral, and the higher power resistors "fall apart" in the upper HF
>region. This is a huge problem in parasitic supressor design, and
>applications like yours.

This is absolutely correct, and in my previous post on this thread I
probably din't make it clear. Only in very low resistance values is the
film truly cylindrical. Usually, it is deposited that way and then
trimmed by burning a groove in it to increase the value. This
groove may be short, leaving the element mostly intact in some cases
but it all depends on the resistance per square of the film.

>
>You can cut the resistor open and look at the element, or measure it on a
>SWR analyzer to verify the quality of the component.

>Most companies order special resistors for RF load and attenuator
>applications. You will be better off using an array of small resistors, or
>ordering special components, than randomly using 2 or 5 watt components.
>The larger the component, the more likely it is you will run into this
>problem.

True again, which is why I too suggested paralleling a number of lower wattage
parts. At least this way, if the parts are slightly inductive, they wind
up in parallel.

>
>73 Tom

73, Wes

5863. LCD counter module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: Skipper@skipper.interlog.com
Message-ID: <4ab0v6$cao@steel.interlog.com>
Source record: 108992
Cross-posted to: sci.electronics.design,sci.electronics,sci.electronics.basic,sci.electronics.misc,rec.radio.amateur.homebrew

I can swear I saw an LCD counter module at work today in a test jig. Since I have no idea who builds them, and as I rarely get to the production building at work I will probably not find out that way for a while :(

Anyways my question is are there any LCD counter modules with external reset? Well what I am trying to achive is a frequency counter, basically I need the each digit to act like a cascading decade counter, to be reset once a second, 10 times a second etc... Or is there a better way?

Thanks a bunch....

David
skipper@interlog.com

5864. Hamfest, Radiofest, Computer Expo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: kb0lcj@mwci.net
Message-ID: <4ab355$ce5@hihat.mwci.net>
Source record: 109058
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

There will be a Hamfest, Radiofest, Computer Expo in Dubuque, Iowa on
Sept. 8, 1996!

Check out http://galaxy.mwci.net/grarc/top.htm for more info, or E-Mail
me!

73
Sean

--
---> <---
Sean Heber Ham Callsign: KB0LCJ

E-Mail: Sysop@Galaxy.Mwci.Net
OR kb0lcj@mwci.net
WWW Page: http://galaxy.mwci.net
Leave mail for Sysop on the Galaxy BBS:
(319) 557-2430 telnet: galaxy.mwci.net
---> <---

5865. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: rboggs@pcc-uky.CAmpus.mci.NET
Message-ID: <30C8F8C7.23C4@pcc-uky.campus.mci.net>
Source record: 109059

```
add ham-homebrew
```

5866. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <4ad2m2$qf6@news2.deltanet.com>
Source record: 109060
Cross-posted to: de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

Brian Webb (102670.1206@CompuServe.COM) penned:
: I'm trying to find either an IC or a schematic for converting
: serial-parallel.

: I own a solid state radioteletype decoder (circa 1980) designed
: to work with serial printers. However, my printer, like virtually
: all others is parallel.

: Regards,
: Brian Webb, KD6NRP

Most printers around that time were serial. There are still many old
printers that are serial. And believe it or not, most of the printers
made today are serial.

Well that's a bit of a fib. Most of the printers, like LaserJets and
DeskJets, have both serial and parallel ports. And you could use either
one on the newer models. They switch automatically between the two ports.

The computer stores like Fry's and MicroCenter sell a serial to parallel
box for around $40 US. You can often pick up a cheap buffer box that
will do the same for a few dollars at a swap meet.

You should check to make sure that the box you get can be set to the correct
baud rate. Some of the older stuff may run at very low baud rates, and
most stuff today runs at 1200 bps or faster.

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@delta1
Rancho Santiago Community College	.deltanet.com
17th St @ Bristol \ Santa Ana, CA 92706	
My opinions are my own, and not my employer's.	
"You can flame your brains out -- it won't take long."
I have gone out to look for myself.. If I should
return before I get back, hold me until I get here.
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

5867. Re: Quick and dirty demostration of AM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30C99CF7.CFB@jpaw.com>
Source record: 109061

Douglas L. Datwyler wrote:
>
> I need to know of a quick and dirty (EASY) demostration of AM modulation for
> an upcoming Boy Scout round table. HINTS, or outright answers are welcome.
>
> Douglas L. Datwyler WR7O
> datwyler@aros.net

To modernize something a friend and I did many years ago, you might consider the following: Use a small audio amplifier (the "modulator") to light a LED. (We used a neon bulb) You will need some dc bias (the "transmitter") to provide a carrier. For amplitude detection we were able to borrow a 16mm movie projector. The audio portion of that has a phototube and audio amplifier. So, all you have to do is dim the lights ("QRM") and shine the LED in the direction of the phototube. It's somewhat less "quick-and-dirty" if you have to make your own light detector, but a phototransistor and an audio amplifier might not be too complicated.

This demonstrates AM with the added bonus that the signal is visible.

Good luck,

73 de K9GXC, Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5868. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: rrrath@aol.com
Message-ID: <4abifm$f5d@newsbf02.news.aol.com>
Source record: 109062

Filter carrier?
I have made some experiments with x-tal notchfilters, which look very promising,
there were already some described in german magazines, using the Xtal as a shunt
but I have tried it in a bridge (transformer, one arm Xtal, other exact sereis cap and Xtals parallel C.
Q in such a config not such a problem extremely sharp.

73s Robert DJ0RA, OE5RRL

5869. Re: JFET Source Resistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4ac4eg$5td@news.iii.net>
Source record: 109063

O.K. Ian,
The source is often the bias generator.
With the gate at zero volts, the current thru the resistor
set up a voltage drop to cut off the FET. You shuld have
the complete specs for the device so you can make a good
guess at the value required to bias the device correctly.

Tom
WA1RHP

5870. Re: What's at 1420 MHz????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <4ac69s$m1g@stealth.mindspring.com>
Source record: 109064

In article <4a8jhd$6ru@usenet.rpi.edu>, doolic@rpi.edu says...
>
>1420 MHZ = first harmonic of water. Microwaves operate near there.
>--

Last time I checked microwave ovens were on 2450MHz. I tried putting my optoelectronics freq counter in hold mode and put it in the microwave for 5 minutes.....

5871. Re: Xtal question: How far can one be shifted?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: mawyatt@ix.netcom.com
Message-ID: <4ab3o7$eo8@cloner3.netcom.com>
Source record: 109065
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew,sci.electronics,poster

In <818370103snx@sectel.com> Gareth Evans <gareth@sectel.com> writes:
>
>In article <4a5so8$lr2@news2.deltanet.com>
> jlundgre@delta1.deltanet.com (John Lundgren) writes:
>>I need a 4864 kHz xtal, and I have one that's 4915.2 kHz. My
calculator
>>says that that's a difference of a little more than one percent.
I've
>>been filing on the case to try to get it to come apart without
messing up
>>the rock. I'm gonna try the old pencil lead trick on it to see what
>>happens (like I'm only wasting $.49 if I ruin it). So what is the
usual
>>or maximum amount of freq shift a good deposit of pencil lead will
cause?
>>Any ideas?
>
>
>Not quite the response that you expect, but the Radio Ham Handbooks
from
>40 years ago describe such techniques.
>
>Also, when using a VXCO circuit, you can usually reckon on a stable
>shift of 1kHz per MHz. eg, on the 144MHz band, before the days of
>the modersn synthesized approaches, you could reckon on swinging
>a two-metre transmitter about 150kHz.
>
>73 de Gareth G4SDW
>
>

John,

About the most I have seen a crystal "pulled" was in the range of a
few hundred ppm (<1000ppm). Let us know how your "tuning" goes.

Hope this helps,

Mike Wyatt

5872. Any schemes or info for building a 'cellular phone range' transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: koenknip@innet.be
Message-ID: <koenknip.13.00129D96@innet.be>
Source record: 109066

I was wondering if it was possible to build a radiotransmitter which only produces a noise signal to disturb cellular phone usage indoors.

If so, can anyone send me an easy to build project including a scheme and a components list ?

It should be a low power transmitter, with a disturbance range of about 30 by 30 foot, with no other equipment (radio, television, etc) being harmed of course.

Any info (also on frequencies for cellulars in Belgium (GSM)) to :

koenknip@innet.be

thanks in advance

5873. Re: What's at 1420 MHz????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: demerson@bass.tuc.NRAO.EDU
Message-ID: <4acc81$fjj@solitaire.cv.nrao.edu>
Source record: 109067

Probably the single most important frequency in radio astronomy is
that detected from atomic hydrogen in the interstellar medium, at
1420.405 MHz. Because of Doppler shift from the motions of interstellar
hydrogen the emission can be detected over a range of frequencies.
The band 1400 MHz to 1427 MHz is a protected radio astronomy band.
If you have a sufficiently sensitive receiver and antenna, it's
possible for an amateur to receive emission from the hydrogen line in
our Galaxy. It would appear as a slightly higher background noise,
spread over a few 100 kHz near the rest frequency of 1420.4 MHz.

Hope this helps,
regards,
Darrel Emerson, AA7FV.
Darrel, AA7FV.

5874. Varicap temperature compensation?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDJB1HG.Dro@netcom.com>
Source record: 109068

I remember someone posting here or somewhere the Motorola recommendations
for temperature compensating a varicap diode. It follows the wisdom seen
in the DeMaw homebrew books (a series diode in the tuning voltage leg),
with more refinements, like a shunt resistor somewhere. Help!

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <

5875. 2 METER/220 BASE ANTENNA?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: at007@FreeNet.Carleton.CA
Message-ID: <DJBzMx.J09@freenet.carleton.ca>
Source record: 109069

I am wanting to build an antenna for use with a Standard C228A
2 meter and 220 ht. I want to put this in a tree 80 feet high.
What I was thinking was to make 2 whips 1/4 wave and attach each
whip to a single so239 connector. Any ideas of maybe a simple
design that might have a little gain also? Needs to be fairly small
and simple.

Thanks for your ideas,
Dan Barnawell (N4YSV)

5876. Re: More on Talking by Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: bart@wb6hqk.ampr.org
Message-ID: <DJBtxC.C6y@wb6hqk.ampr.org>
Source record: 109070

In article <9511078183.AA818358436@mails.imed.com>,
<mack@mails.imed.COM> wrote:
>I humbly suggest that 455 KHz is the wrong frequency to choose unless you are
>going to use FM. 550 KHz is just as easy to do and then you can use a $7 pocket
>radio from radio shack to do the IF. You can't even get a box to put it in for
>$7. They have something called a flavor radio for $6.99 in the 1994 catalog.
>You could use a AM signal to modulate the beam and send the AM from the photo
>detector into the antenna of the radio.

Good suggestion. I"ve used those radios for all sorts of things and as
you say, there's a lot of stuff for $7.00. They use a single chip AM
receiver, a few discrete components, a ferrite loopstick and very little
else. Overall gain isn't very high however and a transimpedance preamp
will be required to match the detector to the RF input and provide some
low noise gain.

bart wb6hqk

bart@wb6hqk.ampr.org

5877. FET bias

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: wayneb@on-ramp.ior.COM
Message-ID: <m0tOVhu-000RpDC@on-ramp.ior.com>
Source record: 109071

Siliconix has a very nice linear product brief (LPD-2) which discusses
the biasing of FETs and sensitivity to device characteristics.

--
* Dana H. Myers KK6JQ, DoD#: j

I don't understand this. If it is a paper on biasing where does one
encounter it? From Siliconix. What's a Siliconix.
I feel severly dumb...

Wayne Barnhart WB7WHI Dirt is good!
Spokane, Wa.

5878. Re: Xtal question: How far can one be shifted?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: "Lynn Coffelt"
Message-ID: <4acrr9$qbo@cleese.nas.com>
Source record: 109072

> Gareth Evans <gareth@sectel.com> writes:
> In article <4a5so8$lr2@news2.deltanet.com>
> jlundgre@delta1.deltanet.com (John Lundgren) writes:
> >I need a 4864 kHz xtal, and I have one that's 4915.2 kHz. My calculator
> >says that that's a difference of a little more than one percent. I've
> >been filing on the case to try to get it to come apart without messing up
> >the rock. I'm gonna try the old pencil lead trick on it to see what
> >happens (like I'm only wasting $.49 if I ruin it). So what is the usual
> >or maximum amount of freq shift a good deposit of pencil lead will cause?
> >Any ideas?
>
>
> Not quite the response that you expect, but the Radio Ham Handbooks from
> 40 years ago describe such techniques.
>
> Also, when using a VXCO circuit, you can usually reckon on a stable
> shift of 1kHz per MHz. eg, on the 144MHz band, before the days of
> the modersn synthesized approaches, you could reckon on swinging
> a two-metre transmitter about 150kHz.
>
> 73 de Gareth G4SDW
>
>
>
>>>>
years ago 3.5 to 4.0 mhz xtals were pulled down 2 khz or so with a pencil, but
those were mounted in pressure holders that could be easily dissassembled
for the dirty work. If you went too far and xtal died, erasing the lead would
usually restore operation. With newer plated xtal holders, much less movement
is possible. Neighbor vacuum deposits some aluminum (i think) and really does
get some loading done. lacking proper equipment may make this impractical
for small operations
73 Lynn W7LTQ

5879. Re: Tripp Lite Corp. info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-09 00:00:00 UTC
From: wa6awd@wolfenet.com
Message-ID: <4ac8f9$53f@news1.wolfe.net>
Source record: 109073
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

robertso@csc.mc.edu (Chad Robertson) wrote:

>I am looking for the telephone number and address to Tripp Lite.

Tripp Lite
500 N. Orleans St.
Chicago, IL 60610-9653 also 60610-4188 on another booklet

(312) 329-1777
Fax (312) 644-6505

Alan - WA6AWD - Kent, WA, USA wa6awd@wolfenet.com

5880. Re: RF circuit simulator choice?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <532541335wnr@ifwtech.demon.co.uk>
Source record: 108993

In article: <199512082016.GAA24740@dyson.brisnet.org.au>
peterw@dyson.BRisnet.ORG.AU (Peter L. Williamson) writes:
:
: Hello all, I am having a great dilemma in finding a good (and RELATIVELY
: cheap) circuit simulation program for my RF (VHF to MICROWAVES) circuits.
: I have been using CALTECH'S PUFF which works OK but has a few too many
: liberties when analysing Microstrip circuits, particularly coupled
: filters.

If you're interested in modelling coupled-line filters, you need a physical modelling program.

If that isn't your primary need, you might try SCALC as a general-purpose VHF-microwave network simulator and optimizer. Please excuse the "canned" description below.

****

S-CALC is a powerful microwave S-parameter analysis and optimization program that doesn't cost thousands of dollars. Developed by Roger Blackwell, G4PMK and Ian White, G3SEK, the SCALC program can analyse the performance of almost any RF network based on standard components and building blocks. Unusually for a low-cost RF design program, SCALC has an optimizer: starting from your initial design, it can automatically improve the performance of the network towards your chosen goals.

As well as having a built-in circuit editor and its own large library of active device data, SCALC can import your own device data in industry-standard file formats (S2P and PUFF). Output from SCALC's performance analyser can be in several formats including colour graphs, Smith charts and tables of gain, impedance etc.

SCALC is easy to understand and use. When G4PMK and G3SEK developed SCALC from the original program ALMOND by Chris Trask N7ZWY, they paid close attention to the user interface and have also produced a comprehensive manual with lots of explanation and tutorial examples. If you already know a little about S-parameters, you can start to use SCALC very quickly because the Shareware release includes the full tutorials and example files. If you're still learning about RF design, SCALC and its tutorials will help you on the way.

SCALC is Shareware with a specially low registration fee for radio amateurs. The registered version also includes a printed manual, libraries of device data and datafile conversion utilities, and technical support.

Requires VGA, 640k, DOS 3.2 or higher.

SCALC.ZIP (152505 bytes) is available by ftp from:

scitsc.wlv.ac.uk /pub/hamradio/programs/g3sek+g4pmk

demon.co.uk /pub/ham/circuit-design

oak.oakland.edu /pub/hamradio/pc/ham-utils

and also from the CompuServe HamNet library.

****

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

5881. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951210101311.16169E-100000@biggulp.callamer.com>
Source record: 108994
Cross-posted to: de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

The older STAR and OKIDATA five by seven printers almost always had
serial port inputs. They usually can be gotten as a gift!! Cliff W6HDO

On 9 Dec 1995, John Lundgren wrote:

> Brian Webb (102670.1206@CompuServe.COM) penned:
> : I'm trying to find either an IC or a schematic for converting
> : serial-parallel.
>
> : I own a solid state radioteletype decoder (circa 1980) designed
> : to work with serial printers. However, my printer, like virtually
> : all others is parallel.
>
> : Regards,
> : Brian Webb, KD6NRP
>
> Most printers around that time were serial. There are still many old
> printers that are serial. And believe it or not, most of the printers
> made today are serial.
>
> Well that's a bit of a fib. Most of the printers, like LaserJets and
> DeskJets, have both serial and parallel ports. And you could use either
> one on the newer models. They switch automatically between the two ports.
>
> The computer stores like Fry's and MicroCenter sell a serial to parallel
> box for around $40 US. You can often pick up a cheap buffer box that
> will do the same for a few dollars at a swap meet.
>
> You should check to make sure that the box you get can be set to the correct
> baud rate. Some of the older stuff may run at very low baud rates, and
> most stuff today runs at 1200 bps or faster.
>
> --
> #===#
> | John Lundgren - Elec Tech - Info Tech Svcs. | jlundgre@delta1 |
> | Rancho Santiago Community College | .deltanet.com |
> | 17th St @ Bristol \ Santa Ana, CA 92706 | |
> | My opinions are my own, and not my employer's. | |
> | "You can flame your brains out -- it won't take long." |
> | I have gone out to look for myself.. If I should |
> | return before I get back, hold me until I get here. |
> #======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#
>
>

>

5882. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: "Michael G. Reiney/Myra Colter" <mreiney@hevanet.com>
Message-ID: <4aefj6$mtg@vista.hevanet.com>
Source record: 108995

I use a flat-bed plotter and plot resist ink right on the copper. Works pretty well. Now what do you do about plated-thru holes?

5883. Re: RADAR / lASER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4af40a$mbg@cloner3.netcom.com>
Source record: 108996

In <RERAAMHO.D9C4@com18.com> daniel.lacasse@com18.com writes:
>
>Hi!
>
> > I saw a Radio Shack ad for a speed radar dectector with "ghost"
> > technology. This "ghost technology" will defeat radar dectector
> > dectectors. I know you can locate a receiver by its local
> > oscillator, but do the police use something like this? What is
> > the range of these radar detector detectors? Is it so short ranged
> > that the police carry them up to the suspect vehicle/
> >
> > Thanks for your input.
> > Harry in TX KA5IMO
>
>I can't really help but I also heard that there is laser gun now...
>
>Does anyone know if they can be detected?
>
>Well, it's only for personnal information since I live in Canada and
>these are prohibited here. :(
>
>
>73's de | Fido: 1:240/118 | Internet:
Daniel.Lacasse@com18.com
>I)aniel | Franco: 101:155/118 | Packet:
VE2DLX@VE2SJC.#QBC.PQ.CAN.NA
>

Laser light is easy to detect, the problem is it takes about 500ms for the laser gun to take 10 readings and average your speed. When the patrol officer is looking at your car through the sites the laser is not on, when he pulls the trigger the laser turns on and he can see the beam through the cross hairs, 1/2 sec. later, your nailed. By the time your laser sensor goes off its too late. A lot of the radar detectors sold now have laser detect. But if the patrolman really knows how to use the laser system he's gonna get you.

Drive safely,

Tim, ka8ddz

5884. Looking for specs of MV2113

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <4afbtc$8er@news2.deltanet.com>
Source record: 108997
Cross-posted to: sci.electronics,sci.electronics.components,rec.radio.amateur.homebrew

I'm trying to find the specs for the Motorola varicap MV2113 or 2114, most importantly the capacitance. The closest I could find was in the ECG manual that said the 614 will sub for the MV2111 and it has 33 pF at 4VDC. I assume that the 2113 has a higher capacitance than the 2111. All the xref's that I've seen don't go any higher than the MV2111.

I tried the Moto Web page thru Engdahl's and I couldn't find anything there, just search temorarily unavailable.

If I can find out the capacitance, I might be able to put two of the ECG or other subs in parallel to get the required capacitance.

These are in a two lead TO-92 case. There used to be varicaps that were in regular glass diode cases, and I suppose they could be used, too, if I can find a substitute.

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@delta1
Rancho Santiago Community College	.deltanet.com
17th St @ Bristol \ Santa Ana, CA 92706	
My opinions are my own, and not my employer's.	
"You can flame your brains out -- it won't take long."
I have gone out to look for myself.. If I should
return before I get back, hold me until I get here.
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

5885. FS: Must sell communications receiver and comp. memory

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: ahelm@mail.utexas.edu
Message-ID: <ahelm-1012951322170001@slip-47-11.ots.utexas.edu>
Source record: 108998

Moving in a matter of days! I must sell the following two items:

1 (one) 4meg 72 pin SIMM. Removed from a Macintosh 630CD when I upgraded to 20megs. Works fine. Test it and see. $90

1 (one) Realistic DX-302 Quartz Synthesized Communications Receiver with digital LED readout. Tunes10 kHz to 30 MHz continuously. Excellent condition.
$75

Call (512) 472-4506

Cheers,
Anthony
ahelm@mail.utexas.edu

5886. WTB: Smart Outlet Strip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: rlong@magnus.acs.ohio-state.eduu
Message-ID: <rlong-1012951438320001@slip9-14.acs.ohio-state.edu>
Source record: 108999

I am looking for a smart outlet strip - one where when a device plugged into the 'master' outlet is powered on, the other outlets turn on so that anything plugged in comes on. I believe Heathkit had something like this and Radio Shack did also, but no longer.

Thanks, Ron w8gus.

5887. Re: Looking for specs of MV2113

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: lbraden@mail.utexas.edu
Message-ID: <4afeor$qi9@geraldo.cc.utexas.edu>
Source record: 109000
Cross-posted to: sci.electronics,sci.electronics.components,rec.radio.amateur.homebrew

In article <4afbtc$8er@news2.deltanet.com>, jlundgre@delta1.deltanet.com (John Lundgren) says:
>
>
>I'm trying to find the specs for the Motorola varicap MV2113 or 2114, most
>importantly the capacitance.

Hi John,

According to the Motorola Semiconductor Master Selection Guide, pub SG73/D REV 7, on page 5.1-27:

Device: MV2114 MV2113

pf Min: 73.8 61.2
pf Nominal: 82 68
pf Max: 90.2 74.8
Vr(BR)r Volts: 30 30
Cap Ratio C4/C30 Min 2.5 2.5
Q 4.0 V., 50 MHZ Typ: 100 150

Building a VFO?

73 Larry Braden KC5CWG

5888. Re: VLF detector?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: butch@maestro.maestro.com
Message-ID: <DJE03D.5LG@maestro.maestro.com>
Source record: 109001

Rich , if you could email me perhaps i could provide some assistance in locating what you are looking for.

allan Rick Gerson (rgerson) wrote:
: I am interested in this, so if you have found any inf, please let me know--
: I have not the faintest idea where to start.
: rick.

5889. Re: Quick and dirty demostration of AM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: gcouger@master.ceat.okstate.edu
Message-ID: <4ae8on$nfi@news.cis.okstate.edu>
Source record: 109002

In article <4ae150$ket@maureen.teleport.com>,
Roy Lewallen <w7el@teleport.com> wrote:
>> rhyolite95@aol.com (Rhyolite95) writes:
>> Use an audio amplifier to power a lightbulb from an audio source. Connect
>> a photocell to the input of another audio amplifer and speaker. The audio
>> from the first amplifier will make the lightbulb flash and the second
>> amplifier will reproduce the modulation of the light "carrier".
>>
>>>>>
>
>Wonder if you've tried this. Since an incandescent bulb doesn't noticeably
>at 60 Hz, I'd be surprised if it would follow audio at all. The scheme
>should work with an LED, although the distortion might be pretty bad due
>to the nonlinear nature of the LED and detector.
>
I cna sure see the flicker when testing some photo sensor we work with. I
have to either use a lowass filter or DC on the bulb to keep from having
alisases form hell. The sensors will only be used in sunlight so normaly
we don't filter them at all.

The level of the flicker is pretty low carried on a substantial offset. I
get a more marked 120 hz effect from floresent lights. You should be able
to frequency modulate them at autio rates. Or you might be able to do AM
with magnetic coils that choke off the energy to the bulf. It would still
have to carry an offset to keep the bulb conducting.

Good luck
Gordon AB5DG
ZZ
Gordon Couger senior software specialist
Biosystems & Agricultural Engineering. 114 AG Hall Stillwater, OK 74075
gcouger@master.ceat.okstate.edu 405 744 8392 day 625-2855 evenings

5890. Re: Quick and dirty demostration of AM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30CB4DE8.4992@jpaw.com>
Source record: 109003

Roy Lewallen wrote:

snip...

> The scheme
> should work with an LED, although the distortion might be pretty bad due
> to the nonlinear nature of the LED and detector.
>
> Roy Lewallen, W7EL

All that is required is to bias the LED on (this provides the "carrier") and make sure the audio is low enough level to avoid driving the LED off, (i.e. avoid overmodulation) and you have a pretty good demo of AM.

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5891. ICOM rs232 interface schematic (QST 7/92)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: dhb@netcom.com
Message-ID: <dhbDJCLM2.Er3@netcom.com>
Source record: 109004
Body handling: Inline uuencoded payload not displayed: icom.jpg

The encoded schematic attached below is from the 7/92 QST article by Nigel Thompson, KG7SG. Note that RTS is used as a postive voltage source, so either be sure your software asserts this modem control signal, or use a 9v battery instead.

If you are unable to decode the schematic, send me a 3.5" diskette and an envelope with sufficient return postage. I'm in the callbook.

Dave
AA6YQ
dhb@rational.com

section 1/1 file icom.jpg [Wincode v2.6.1]

[Inline uuencoded payload not displayed: icom.jpg]

sum -r/size 33434/81094

section 1/1 file icom.jpg [Wincode v2.6.1]

5892. Re: FET bias

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: mark@reson.com
Message-ID: <4afphg$n9h@acme.sb.west.net>
Source record: 109005

wayneb@on-ramp.ior.COM (wayne barnhart) wrote:

>>Siliconix has a very nice linear product brief (LPD-2) which discusses
>>the biasing of FETs and sensitivity to device characteristics.
>>
>> * Dana H. Myers KK6JQ, DoD#: j

>I don't understand this. If it is a paper on biasing where does one
>encounter it? From Siliconix. What's a Siliconix.
>I feel severly dumb...

Siliconix is a manufacturer of FET's. Along with their reasonably
excellent data, they do have some very nice application notes in their
data books. Most technical libraries (like at the university) have
data books.

-
Mark Chun | mark@reson.com | Santa Barbara, CA

5893. WNTD: Circuit for 1750hz ToneBurst

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: Poltergeist <rst@roogna.demon.co.uk>
Message-ID: <818622807snz@roogna.demon.co.uk>
Source record: 109006

Hi There.

Can anyone supply me with a diagram for a small reliable 1750hz tone burst??
I want to fit it between a Speaker/Mike and a PMR, hence it must be small,
battery operated (abt 1.5volts) and push button operated.

Thanks for reading this and in advance for all replies.

Roy G7KGT

rst@roogna.demon.co.uk

or active on 433.025 (rb1) in the Manchester UK area.

5894. ANY INFO ON DRAKE TR7?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: Bruce Miller <bmmiller@ozemail.com.au>
Message-ID: <4aegjn$cnb@oznet07.ozemail.com.au>
Source record: 109007

Hi there, does anyone have any info on servicing a DRAKE TR7, or general thoughts on the matter for a poor shambling broken down QLd Australia ham, who is my father in law...he would be happy to swap info , transistor data etc & talk on air.

5895. Voice Keyers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: paul1@wizard.ucs.sfu.CA
Message-ID: <9512102356.AA14455@wizard.ucs.sfu.ca>
Source record: 109008

I would appreciate hearing any experiences people have had building
voice keyers.

cheers, Paul
VE7CQK
email: paul1@wizard.ucs.sfu.ca

5896. Re: Quick and dirty demostration of AM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4ae183$ket@maureen.teleport.com>
Source record: 109009

```
I meant to say, noticeably flicker. . .
^^^^^^^
```

5897. Re: Quick and dirty demostration of AM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4ae150$ket@maureen.teleport.com>
Source record: 109010

> rhyolite95@aol.com (Rhyolite95) writes:
> Use an audio amplifier to power a lightbulb from an audio source. Connect
> a photocell to the input of another audio amplifer and speaker. The audio
> from the first amplifier will make the lightbulb flash and the second
> amplifier will reproduce the modulation of the light "carrier".
>
>>>>

Wonder if you've tried this. Since an incandescent bulb doesn't noticeably
at 60 Hz, I'd be surprised if it would follow audio at all. The scheme
should work with an LED, although the distortion might be pretty bad due
to the nonlinear nature of the LED and detector.

Roy Lewallen, W7EL

5898. Re: Ham-Homebrew Digest V95 #421

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: "Michael G. Reiney/Myra Colter" <mreiney@hevanet.com>
Message-ID: <4aeg92$mtg@vista.hevanet.com>
Source record: 109011

PADS-PCB has a shareware version that works well for small boards. It's limited in the number of parts you can have, 70 I think. The first version was called Padsdemo. There is a more recent version called Testdrive. I think Testdrive has a better autorouter, but I've not taken the time to convert to it. I don't know if you can still get it from the Pads guys, but I've tripped over Padsdemo on the www. It comes with a nice part library....and if your invention works, you can have the board made commercially.
miker

5899. Re: ANY INFO ON DRAKE TR7?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: 72770.552@compuserve.com
Message-ID: <4af05v$ph9@opal.southwind.net>
Source record: 109012

Bruce Miller <bmmiller@ozemail.com.au> wrote:

>Hi there, does anyone have any info on servicing a DRAKE TR7, or general
>thoughts on the matter for a poor shambling broken down QLd Australia
>ham, who is my father in law...he would be happy to swap info ,
>transistor data etc & talk on air.

Bruce,

I someone doesn't come forward with a better deal, somewhere in my archives, I have the name and address of an entreprenure who has collected a very broad range of data books and manuals on the old ham gear. He ain't cheap but I've used his services on many occasions in past years when there just wasn't any other way. Drop me an email if you need the address.

Bob . . .
K0DYH 72770.772@compuserve.com

5900. homebrew FM radio.. need help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-10 00:00:00 UTC
From: st92ba44@dunx1.ocs.drexel.edu
Message-ID: <4afrlh$ap5@noc2.drexel.edu>
Source record: 109013

Hello.

Could someone point me in the right direction? I'm looking to built a (hopefully simple) FM receiver that is channel specific. I'd like a little breadboard project that picks up .. say .. the 90-100 MHz FM range.

I've done alot with shortwave/AM radios, but never've really fooled with FM.

Good places to find schematics for FM projects?

thanks in advance,
-tony.

5901. Re: What's at 1420 MHz????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: clarke@longwood.cs.ucf.edu
Message-ID: <4aho0q$5dd@longwood.cs.ucf.edu>
Source record: 108924

If I remember my astronomy classes, 1420 MHz is the spin flip
frequency of the hydrogen atom. Radio astronmers use it to
map the distribution of hydrogen in space. Digging deeper the
OH radical has a radio line at 1680 MHz(?) so that the region
between 1420 and 1680 has come to be called the water hole
(H to OH) by those who SETI (Search for Extraterrestrial
Intelligence). Presumably any life forms will know water
and think this frequency range as nice a pun as we do.
Sort of an intergalacitic calling channel. Also
I think the galactic radio noise has a minimum in this
general frequency range.

Tom Clarke

--
People of the same trade seldom meet together, even for merriment
and diversion, but the conversation ends in a conspiracy against
the public, or in some contrivance to raise prices - Adam Smith, WofN

5902. Re: Varicap temperature compensation?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4ahjpf$79t@hpscit.sc.hp.com>
Source record: 108925

In article <rohrwerkDJB1HG.Dro@netcom.com>,
John Seboldt <rohrwerk@netcom.com> wrote:
>I remember someone posting here or somewhere the Motorola recommendations
>for temperature compensating a varicap diode. It follows the wisdom seen
>in the DeMaw homebrew books (a series diode in the tuning voltage leg),
>with more refinements, like a shunt resistor somewhere. Help!
>
>: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
>: K0JD... Minneapolis, MN / if it ain't got that swing!
>: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
>> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <
>

I just reread Motorola's application note on temperature effects
on varicaps, but didn't find it very enlightening. It had a
bunch of random data of tempco of various varactors at various temperatures,
but no unified theory of compensation except for mentioning in passing
the 2mv/deg C compensation by using an auxiliary diode with DC bias on
it to give a variable offset that you alluded to.

If anyone has any other info in this area, I would greatly appreciate
hearing about it. If not, I am going to have to conduct my own study
here at HP pretty soon for a project I am working on.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5903. Re: Drilling PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: dean@slinky.com
Message-ID: <4ahnsc$380@news.cc.ucf.edu>
Source record: 108926

I found a very small hand driven drill from I think was radio shack. It comes with a couple of small bits. Anyway I used that to drive my holes. It does a good job. I also use it around the hose it works really good on all kinds of stuff.

5904. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: depolo@red.seas.upenn.edu
Message-ID: <4ai2na$lqv@netnews.upenn.edu>
Source record: 108927

What are some good Windows-based board layout packages, and are any
decent ones available as public domain? Along the same lines, are
there any good schematic packages available, either that work in
conjunction with a layout package, or standalone?

--- Jeff
--
-=-
Jeff DePolo WN3A Twisted Pair: H:610-337-7383 W:215-387-3059 x300
depolo@eniac.seas.upenn.edu RF: 442.1 442.2 442.4 443.45 443.8 444.15 linked
Claim to Fame: I got the first speeding ticket on the information superhighway

5905. Re: NMR physicist needs help in HF-circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: forrerj@ucs.orst.edu
Message-ID: <4ahpjg$lk1@news.orst.edu>
Source record: 108928

Dear Thorsten,

You may want to look at Fuhushima's book: "Experimental Pulse NMR - A Nuts and Bolts Approach" published by Addison-Wesley. Authors: E. Fukushima and SBW Roeder, 1981. It has some pretty good ideas and also a wealth of references - many to issues of "The Review of Scientific Instruments", that I am sure you are aware of, especially those dealing with the early days of NMR. If not, it is really worth looking into.

Good luck.

--Johan Forrer, KC7WW

In article <4agsp7$lmc@nx2.hrz.uni-dortmund.de>,
thorsten@news.hrz.uni-dortmund.de says...
>
>Hi!
>
>First I want to clear up what NMR has to do with amateur radio: we also
>deal with HF in the MHz range, need things like resonant circuits,
>impedance matching and so on.
>So the question I have may be somewhat stupid, but is ABSOLUTELY
>urgent for me. I want to get a resonance circuit at approx. 90MHz,
>consisting of a small coil as 'antenna' (<1cm long, <5mm diameter),
>one parallel capacitor (some pF) and one series capacitor (also
>some pF). It should be a parallel resonance circuit of the following
>setup:
> ||
> >-----||----------
> || | |
> C2 | |
> --- O
> C1 --- O
> | O coil
> | O
> | |
> GND GND
>
>The input is via a have-wavelenght-line, fine tuning will be done
>with a matching network after that. Now the trouble is the tuning/
>matching of the circuit shown above. Can anybody tell me a
>convenient way to do it? Tuning equipment will be a Magic-Tee and
>a vector impedance meter. Setting up a SERIES resonator is no
>problem, but the parallel troubles (BOTH Cs influence the
>resonance condition!). Hints on literature (not the radio amateurs

>handbook, I also tried to find something in it) would also
>be helpful...
>
>Thanks in advance,
>
>Thorsten Feiweier
>
>(thorsten@fuj.physik.uni-dortmund.de)

5906. Re: Sugarloaf Brewfest

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <4ahmis$en2@mrnews.mro.dec.com>
Source record: 108929

In article <chip.410.0000F1FF@sugarloaf.com>, chip@sugarloaf.com (Chip Carey) writes...
>Sugarloaf's annual brewfest is this Saturday Dec 9 features 8 of Maine's
>micro's. There will be live music and dancing plus some great sampling.

Roger, roger, but what's the QSL route for the special event station?

Oh, THAT kind of brew... nevermind.
-Tom R. N1OOQ randolph@est.enet.dec.com

5907. Re: 12VDC "Secure" Receiver/Transmitter Pair

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: jrau@nntp.cadence.com
Message-ID: <DJFw7C.92E@Cadence.COM>
Source record: 108930

Richard Scott (grscott@grscott.is.ge.com) wrote:

: . . .
: What I'm seeking is basically a short-range DC transmitter/receiver pair
: that functions much like a garage door or gate opener (and in fact it is
: the latter for which the pair will be used) that offers a fairly-high level
: of security. Note that 12VDC is all that's available to the receiver, as
: the gear-motor driven gate is in a remote location (powered by lead-acid
: batteries charged by solar panels).

: The best thing I've found so far is certainly cost-effective but has only
: 2^8 combinations and thus isn't very secure. . . .

Regarding increasing the security. A fairly simple scheme would be to
use 2 of the low security (2^8) units configured so that after the first
received the correct code it opened up a short window of time in which the
second unit would be able to accept its code and activate your device.
Obviously more elegant solutions are possible, but this might get the job
done with the greatest use of standard parts.

-- John (W6PSK)
-- (Opinions are my own, not my employer's)

5908. Re: RF circuit simulator choice?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: hbrown@pitch.resd
Message-ID: <4ahpqf$b6f@morgan.vf.mmc.com>
Source record: 108931

Peter,

You may want to look into APLAC. A free demo version is available through the University of Helsinki in Finland. If yoy have WWW capability, you can find their web page at http://picea.hut.fi/aplac/main.html.

The demo is almost unlimited in capability limited by a file size of 256 Kbytes. It is a circuit and systems symulator covering dc through microwaves. It supports several types of optimizations, handles stripline, can simulate complete communications systems from analog based through digital modulation.

It is available in several versions including HP workstations, MS Windows, Sun, Solaris, Linux and DEC Alpha. The best thing is that it is free for the downloading. One minor drawback is that it is not a schematic input simulator - it requires an input file. The output analysis available are operator selectable and includes the usual amplitude and phase responsesand Smith charts.

The document files are also downloadable. They are all zipped and expand into around 11 meg of postscript files. They require a postscript printer or a utility such as ghostscript to print on a non postscript printer. The manuals print out around 1000 pages of text.

The full commercial version goes for over $4000.

73, Harry, W3IIT

5909. SMALL HV capacitors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: thorsten@news.hrz.uni-dortmund.de
Message-ID: <4agt4j$lt5@nx2.hrz.uni-dortmund.de>
Source record: 108932

Hi!

I'm searching for HV (200...1000V) capacitors with dimensions in the some-millimeters-range. Tunable ones would be best, but are not essential...

Thanks for infos,

Thorsten Feiweier

thorsten@fuj.physik.uni-dortmund.de

5910. Re: What's at 1420 MHz????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <4agpu1$b63@proffa.cc.tut.fi>
Source record: 108933

Pieter Ibelings (wave@mindspring.com) wrote:

> I got my copy of Feed Point yesterday and there is a list of noise figure
> results. One of the frequencies where tests were conducted is 1420 MHz.
> Why 1420 MHz?

It is the 21 cm spectral line from interstellar hydrogen. It is produced
from spin reversals of the only electron in a hydrogen atom.

What was the noise figure quoted and from which direction was that
measurement obtained ? There are large variations in the 21 cm emission,
while most radiation comes from the Milky Way.

Another well known spectral line is the hydroxyl (OH-) spectral
line at 18 cm (1667 MHz).

> Organization: -.-. --.- -.. -..-

The ultimate CQ DX was attempted by the SETI (Search for ExtraTerrestrial
Intelligence) people who transmitted simple "pictures" at 21 cm towards
some nearby stars, hoping for a reply from some intelligent creatures
that were hoped to live near these stars :-).

IMHO, the high noise 21 cm spectral line is the worst place for such
experiments.

> Also has anyone heard of a NASA beacon that was left at the
> moon around 2.4 GHz?

Is this the transmitter that was in in the ALSEP scientific station
that was left on the moon by the Apollo astronauts ? The SNAP nuclear
batteries that powered these stations have depleted long ago, so I doubt
that there are any more operationals beacons.

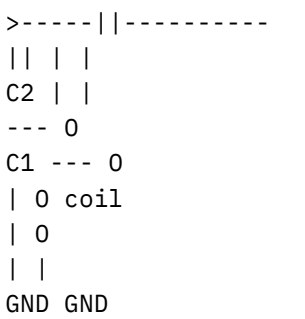
Paul OH3LWR

5911. NMR physicist needs help in HF-circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: thorsten@news.hrz.uni-dortmund.de
Message-ID: <4agsp7$lmc@nx2.hrz.uni-dortmund.de>
Source record: 108934

Hi!

First I want to clear up what NMR has to do with amateur radio: we also deal with HF in the MHz range, need things like resonant circuits, impedance matching and so on.
So the question I have may be somewhat stupid, but is ABSOLUTELY urgent for me. I want to get a resonance circuit at approx. 90MHz, consisting of a small coil as 'antenna' (<1cm long, <5mm diameter), one parallel capacitor (some pF) and one series capacitor (also some pF). It should be a parallel resonance circuit of the following setup:



The input is via a have-wavelenght-line, fine tuning will be done with a matching network after that. Now the trouble is the tuning/ matching of the circuit shown above. Can anybody tell me a convenient way to do it? Tuning equipment will be a Magic-Tee and a vector impedance meter. Setting up a SERIES resonator is no problem, but the parallel troubles (BOTH Cs influence the resonance condition!). Hints on literature (not the radio amateurs handbook, I also tried to find something in it) would also be helpful...

Thanks in advance,

Thorsten Feiweier

(thorsten@fuj.physik.uni-dortmund.de)

5912. Re: Looking for specs of MV2113

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951211153417.18504E-100000@biggulp.callamer.com>
Source record: 108935
Cross-posted to: sci.electronics,sci.electronics.components,rec.radio.amateur.homebrew

John: Here is what you need:
MV 2113: 68 pf at 4 vdc. tuning ratio 3 to 1 with 30 vdc max.......
MV 2114: 82 pf at 4 vdc, tuning ratio 3 to 1 with 30 vdc max.......
MV 2115: 100 pf, MV 2112: 56 pf, MV 2111: 47 pf, MV 2110:39 pf......
This should get you started!! 73 Cliff Buttschardt W6HDO........

On 10 Dec 1995, John Lundgren wrote:

>

> I'm trying to find the specs for the Motorola varicap MV2113 or 2114, most
> importantly the capacitance. The closest I could find was in the ECG
> manual that said the 614 will sub for the MV2111 and it has 33 pF at 4VDC.
> I assume that the 2113 has a higher capacitance than the 2111. All the
> xref's that I've seen don't go any higher than the MV2111.
>
> I tried the Moto Web page thru Engdahl's and I couldn't find anything
> there, just search temorarily unavailable.
>
> If I can find out the capacitance, I might be able to put two of the ECG
> or other subs in parallel to get the required capacitance.
>
> These are in a two lead TO-92 case. There used to be varicaps that were
> in regular glass diode cases, and I suppose they could be used, too, if I
> can find a substitute.
>
>
>
> --
> #===#
> | John Lundgren - Elec Tech - Info Tech Svcs. | jlundgre@delta1 |
> | Rancho Santiago Community College | .deltanet.com |
> | 17th St @ Bristol \ Santa Ana, CA 92706 | |
> | My opinions are my own, and not my employer's. | |
> | "You can flame your brains out -- it won't take long." |
> | I have gone out to look for myself.. If I should |
> | return before I get back, hold me until I get here. |
> #======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#
>
>
>

5913. Japanese 2SC380Y substitute ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: dsnowden@ccd.harris.com
Message-ID: <4ahigm$ibah@rs2.ccd.harris.com>
Source record: 108936

What is a substitute for the 2SC380Y ? Would a 2N2222 work ? They are
both npn, but I don't know if the specs are close enough...

Doug, N4IJ dsnowden@ccd.harris.com

--
Doug Snowden
dsnowden@ccd.harris.com

5914. Re: NMR physicist needs help in HF-circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: Carl Gregory <cgregory@uiuc.edu>
Message-ID: <4ai0af$25e@vixen.cso.uiuc.edu>
Source record: 108937

thorsten@news.hrz.uni-dortmund.de () wrote:
>The input is via a have-wavelenght-line, fine tuning will be done
>with a matching network after that. Now the trouble is the tuning/
>matching of the circuit shown above. Can anybody tell me a
>convenient way to do it? Tuning equipment will be a Magic-Tee and
>a vector impedance meter. Setting up a SERIES resonator is no
>problem, but the parallel troubles (BOTH Cs influence the
>resonance condition!). Hints on literature (not the radio amateurs

The easiest tuning setup to use is an rf bridge with a diode detector, a swept-frequency rf generator, and an oscilloscope (low freq only - need not display the actual rf signal, just the diode-rectified result) for the display. With this setup, you will see a voltage which is related to the reflection coefficient of the probe plus cable. The voltage goes to zero when the circuit is matched. Adjust the parallel capacitor to put the "dip" at the desired (Larmor) frequency. This usually requires a couple of iterations.

The setup described above is built in to many commercial NMR systems (e.g. Nicolet, GE-NMR, Tecmag, possibly some Bruker systems, and others). The bridge circuit may be taken from the amateur radio handbooks. I like a Wavetek 2061 signal generator, but there are lots of other suitable ones (an old TV-repair sweep generator, once used for IF-strip alignment, can be modified for the desired frequency if cost is a concern).

I do not recommend remote tuning via the half-wave cable, unless it is absolutely necessary (e.g. the probe is in a He cryostat). This is because:
1) the tuning and matching range will be severely limited.
2) there are significant losses in the half-wave cable (reducing snr).

Good luck!

Carl Gregory
Biomedical Magnetic Resonance Laboratory
College of Medicine
University of Illinois
1307 W Park St
Urbana, IL 61801
(217)-244-2350

5915. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <4ahkaa$352@detroit.freenet.org>
Source record: 108938

I'd like to see in addition, some reliable way to transfer PCB
diagrams from magazines, etc.
--

5916. Re: WNTD: Circuit for 1750hz ToneBurst

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9511118187.AA818701539@mail.creo.bc.ca>
Source record: 108939

Roy G7KGT asks:

> Can anyone supply me with a diagram for a small reliable 1750Hz
> tone burst??

This is a fairly tough assignment, since you need 1750 Hz +/- 1% over a wide temperature range. Check out the material in the RSGB VHF/UHF manual, and the Radio Communication Handbook.

What I did when I needed a toneburst for a trip to England was make a TTL crystal oscillator with a 7400 and a 3.58 MHz NTSC colour-burst crystal, divide it by 2048 with a handful of 7493s, and apply the result (slightly below 1748 Hz) to a little speaker. Worked perfectly the first try, and being based entirely on junkbox components, cost me exactly nothing. A more concise version might use one of those nifty CMOS ripple counters for the division by 2**11.

Such a concoction - even with CMOS - is unlikely to run on 1.5V, unfortunately...

Laura Halliday VE7LDH "C'est une femme mutine, assez
elegante, grave et legere, ayant
lhalliday@creo.bc.ca le sens du confort et du plaisir
ve7ldh@amsat.org en tout." - C. Deneuve

5917. RE: Quick and dirty demonstration of AM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: cjl@mitre.org
Message-ID: <4ai3qu$edr@linus.mitre.org>
Source record: 108940

Path: linus.mitre.org!blanket.mitre.org!bone.think.com!bloom-beacon.mit.edu!newsfeed.internetmci.com!swrinde!howland.reston.ans.net!news-e1a.megaweb.com!newstf01.news.aol.com!newsbf02.news.aol.com!not-for-mail
From: w8jitom@aol.com (W8JI Tom)
Newsgroups: rec.radio.amateur.homebrew
Subject: Re: Quick and dirty demostration of AM
Date: 9 Dec 1995 11:16:47 -0500
Organization: America Online, Inc. (1-800-827-6364)
Lines: 16
Sender: root@newsbf02.news.aol.com
Message-ID: <4accpf$l74@newsbf02.news.aol.com>
References: <4abbjk$d62@newsbf02.news.aol.com>
NNTP-Posting-Host: newsbf02.mail.aol.com
X-Newsreader: AOL Offline Reader

In article <4accpf$l74@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI)
writes:

>In article <4abbjk$d62@newsbf02.news.aol.com>, rhyolite95@aol.com
>(Rhyolite95) writes:
>
>>
>>Use an audio amplifier to power a lightbulb from an audio source. Connect
>>a photocell to the input of another audio amplifer and speaker. The audio
>>from the first amplifier will make the lightbulb flash and the second
>>amplifier will reproduce the modulation of the light "carrier".
>>
>>
>
>Hety, thats a neat idea,. But won't thermal lag kill the audio?
>
>I'd use a LED or gas bulb, not a filament type.
>
>73 Tom

When I was in junior high school (quite some time ago, now), I connected
an audio transformer's secondary winding in series with a flashlight bulb and
batteries. The primary was connected to an audio amplifier (tube). Using a
phototube as a detector (connected to the input of another amplifier), I was
able to transmit audio up to about a hundred feet. It was certainly not high
fidelity, as the frequency response drops off very rapidly. Nonetheless, one
can certainly transmit intelligible voice with an incandescent bulb (at least
with something like a flashlight bulb).

73 Chuck
N1RXT

5918. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: rfarmer@mindspring.com
Message-ID: <rfarmer.42.0034AED5@mindspring.com>
Source record: 108941

In article <Pine.OSF.3.91.951209174932.27359E-100000@biggulp.callamer.com> Clifford Buttschardt <cbuttsch@biggulp.callamer.com> writes:

]Rick I have not gotten your meaning! All well and good that 68HX05J1 sell
]for $1.60. What does that have to do with the problem, $500 multipurpose
]programmers not withstanding! really I do not give a hoot that Motorola
]sold one billion microcontrollers. I want one that works for all of us!!

I get your point. I was trying to point out how often a uC can make short work of many of the common task the average hobbist is trying to solve, not just professional EEs. If you just want to play around and have some fun get a PIC 16c84 for $10 US. Its EEPROM so you can erase and reuse it and the schematics for a home brew PC serial port based programmer are on the net. Total cost $20 and a weekend of your time. Digital and uCs and uPs in particular seem to be seen as overwhelming by the average ham. Kind of like RF is magic to the average guy. Actually digiatal is easier. I can write a reasonable complicated program for my favorite uC in a few beers and have it compile right off the bat. Now designing a 418 MHz 50 ohm 3.5 inch strip line folded dipole antenna is a lot of work.
Rick Farmer | Ratio DesignLab
Electrical Engineer | 3040 Peachtree Rd.
rick@ratio.com | Atlanta, Ga. 30305 USA

5919. Re: What's at 1420 MHz????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <30CC6631.3E02@arrl.org>
Source record: 108942

Charles W. Doolittle-Scovish wrote:
>
> 1420 MHZ = first harmonic of water. Microwaves operate near there.
If you are referring to microwave ovens, they used to operate
around 900 MHz, and then were moved to 2.45 GHz. The frequency
of a microwave oven has *nothing* to do with any water resonance
frequency. It has a lot more to do with the politics of spectrum
allocation, and secondarily, the physics needed to make a safe and
useful cooking tool.

Fortunately for those searching for extra-terrestial intelligence
(SETI), microwave ovens don't operate near the water hole (1420
to 1660 MHz).

Zack Lau KH6CP/1 zlau@arrl.org

5920. Re: Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: "Paul Christensen, N9AZ" <paulc@jax.se.continental.com>
Message-ID: <4ahed1$s4a@usenet.continental.com>
Source record: 108943

Tom:

So true. It is getting increasingly difficult to find true, carbon composition resistors anymore. Fortunately, Allen-Bradley still manufactures them in 1/8 watt up to 2 watt ratings. Two models are available: RC and RCR, and both are available in MIL-Spec versions.

As you indicated, even the best resistor can behave as an inductor at high frequencies.

BTW, there is a form of wirewound resistor that's used extensively in broadcast transmitters. The return winding is crossed as it comes back onto the resistor. The idea here is to form a wirewound resistor with inductance cancellation. It's still not perfect, but works quite well in high power applications.

-Paul, N9AZ

5921. Re: PC Board Prototyping

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.6791.546@acenet.com>
Source record: 108944

```
MGRC>I use a flat-bed plotter and plot resist ink right on the copper. Works
MGRC>pretty
MGRC>well. Now what do you do about plated-thru holes?
```

There is a danger of falling through them to infinity if they are too
large! :)

&#65533; SLMR 2.1a &#65533; O give me a home, where the antelope used to roam.

5922. Re: NMR physicist needs help in HF-circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30CCB040.13FD@jpaw.com>
Source record: 108945

Years ago I helped a fellow graduate student who need 22 MHz inside his dewar for a double resonance experiment. We used a quarter wave line, matched to a 50 ohm source at the shorted end and tweaked the tuning with a variable capacitor in a box just above the dewar where the line size shrank to go into the dewar. The line outside the dewar was 2" or 3" ID because we were trying to get a high voltage at the experiment and required several hundred watts to overcome the losses in the resonator.

Basically, if the line is relatively short, all the higher order modes will be relatively far away in frequency. If you use a quarter wave line, your operating resonance will be the lowest one.

All of this is straightforward. What exactly is the problem? Do you want to match to a 50 ohm source/load? Why are the capacitors there? If the are the first approximation to an impedance match there is no reason not to use them, but if the object is to extract as much energy as possible from the circuit, the don't do much for you except possibly add dielectric loss.

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5923. Re: RADAR DETECTOR DETECT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8187301419401@lss.humnet.humberc.on.ca>
Source record: 108946

> Hi!
>
> > I saw a Radio Shack ad for a speed radar dectector with "ghost"
> > technology. This "ghost technology" will defeat radar dectector
> > dectectors. I know you can locate a receiver by its local
> > oscillator, but do the police use something like this? What is
> > the range of these radar detector detectors? Is it so short ranged
> > that the police carry them up to the suspect vehicle/
> >
> > Thanks for your input.
> > Harry in TX KA5IMO

Interesting !
My buddy is a designer at the firm that designes and manufactures the Radar-detector-detector. They are simply very sensistive receivers tuned to the IF of a radar detector. A lot of stray energy gets emitted from the small receiver feedhorn built in to most radar detectors. It would be pretty difficult to shield the L.O. enough so that stray RF does not escape. I'd be interested in hearing how this "ghost technology" works unless of course they are referring to the laser units.

Regards !
Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

5924. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: "Ken (KC6TEU)" <Ken_R_Mason@ccm.fm.intel.com>
Message-ID: <4aiaoc$n2j@mcd1.fm.intel.com>
Source record: 108947

just testing

5925. How to add AGC to a Tube Radio?? (Swan 250)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: "Ken (KC6TEU)" <Ken_R_Mason@ccm.fm.intel.com>
Message-ID: <4aic53$n2j@mcd1.fm.intel.com>
Source record: 108948

All,

What is the best way to add AGC capability to the SWAN 250 radio? This radio has no AGC, so when I am listening to a weak signal during a contest my ears will get blown out by a local contester!

This is a tube type radio. I figure a feedback from the audio output to the audio amplifier input could do it. Is there any other ideas or designs on how to do an AGC on a tube radio like the Swan 250?

I've got the radio for free, so don't tell me to buy a new radio. I simply can't afford it!

Thanks,

Ken R. Mason
KC6TEU
CM98LQ
Ken_R_Mason@ccm.fm.intel.com

5926. Re: WTB: Smart Outlet Strip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951211160806.17957B-100000@biggulp.callamer.com>
Source record: 108949

Hi Ron....some time since we chatted! Let me suggest you look into some
of the RV suppliers for that plug strip. They carry something similar in
which a low resistance connection into the plug strip automatically turns
on the motor generator. 73 de Cliff Buttschardt W6HDO

On 10 Dec 1995, Ron Long wrote:

> I am looking for a smart outlet strip - one where when a device plugged
> into the 'master' outlet is powered on, the other outlets turn on so that
> anything plugged in comes on. I believe Heathkit had something like this
> and Radio Shack did also, but no longer.
>
> Thanks, Ron w8gus.
>
>

5927. Ham-Homebrew Digest V95

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: ps7ab.rony@dialdata.COM.BR
Message-ID: <1dd.160527.50.0CC90B26@dialdata.com.br>
Source record: 109014

```
unsubscribe ps7ab.rony@dIALDATA.COM.BR HAM-HOMEBREW DIGEST
```

5928. Re: LCD counter module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: Skipper@skipper.interlog.com
Message-ID: <4ag89m$12u@steel.interlog.com>
Source record: 109015
Cross-posted to: sci.electronics.design,sci.electronics,sci.electronics.basic,sci.electronics.misc,rec.radio.amateur.homebrew

In article <mzenierDJDsrr.vr@netcom.com> mzenier@netcom.com (Mark Zenier) writes:
> in <4ab0v6$cao@steel.interlog.com>, David Mulligan wrote:
> : Anyways my question is are there any LCD counter modules with external
> : reset? Well what I am trying to achive is a frequency counter, basically I
> : need the each digit to act like a cascading decade counter, to be reset
> : once a second, 10 times a second etc... Or is there a better way?
>
> I think Optoelectronics, the frequency counter people sell as module
> the guts to one of their counters. Radio-Electronics magazine had a
> bunch of counter projects 3-5 years ago where both Optoelectronics
> and Startek had kits of various counters in their lines.
>
> Red Lion Controls (sold by Digikey) has some counter modules, but I think
> they're more process control indicators like tally counters and tachometers.
>
> Mark Zenier mzenier@eskimo.com mzenier@netcom.com
>

Thanks for the tips.. I will look at them.

David
skipper@interlog.com

5929. Re: ANY INFO ON DRAKE TR7?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4ag11d$64@news.azstarnet.com>
Source record: 109016

Bruce Miller <bmmiller@ozemail.com.au> wrote:
>Hi there, does anyone have any info on servicing a DRAKE TR7, or general
>thoughts on the matter for a poor shambling broken down QLd Australia
>ham, who is my father in law...he would be happy to swap info ,
>transistor data etc & talk on air.

I have a TR7 and a complete service manual. What do you need to know?
With current propagation conditions and my poor HF antenna system, I
don't know about on the air, but can work this medium.

73, Wes -- N7WS

5930. FT1000 DVS-2 Specs Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: lepage@bluefin.net
Message-ID: <4ag3id$511@service-2.bluefin.net>
Source record: 109017

I would like to interface to the Digital Voice Recorder port of the FT-1000.
I have the pin-out of the cabling, but don't have signal levels required, etc.

Has anyone on the net successfully interfaced to the DVS-2 port?
Perhaps someone with the DVS-2 option has some insight?

Thanks,

Peter / KD1XZ

5931. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: allent@mnsinc.com
Message-ID: <4agivp$cll@news1.mnsinc.com>
Source record: 109018

Kelly Painter <kpainter@rapidnet.com> wrote:

>smason@agt.net (Steve Mason) wrote:
>>
>> In article <49q846$j1u@hg.oro.net>, rst-engr@oro.net says...
>> >
>> >
>> >I'd like to get a thread started on the cheap and easy ways to do
>> >prototype PC boards.
>>
>> Funny you should ask, your timing is impeccable.
>> I just posted this yesterday on sci.electronics,
>> here we go....
>> By the way, for anyone not familiar with the product, PnP Blue is a plastic 8.5x11 sheet
>> similar to a transparency, but with a blue coating which also transfers to the copper.
>> It's made by Techniks Inc, Ringoes NJ, and available from All Electronics.
>>
>>
>> There's been some talk about making boards with various toner transfer methods lately,
>> so I thought I'd post my experience.
>>
>> I just finished my first PC board using the PnP Blue toner transfer sheets.
>> I'm quite happy with the results.
>> Here's how it went:
>>
>> Did the artwork with Easytrax, did some test prints on the HP LaserJet 4+ and determined the
>> minimum size paper it would feed.
>>
>> Cut a piece of PnP Blue to the same size, and printed. The printer had no trouble feeding,
>> and printing on the sheet. So far so good.
>>
>> Cleaned the board, used an SOS pad, rinsed, then cleaned with isopropyl alchohol.
>>
>> Heated up the iron to the middle range of steam.
>> Placed sheet on board and applied the iron. Big problem!
>> The sheet wrinkled, crinkled and did everything but melt (probably would have had I continued)
>> I decided I was using too much heat.
>>
>> Cleaned board again (it was a bit harder this time, due to some of the toner transferring.
>>
>> Cut another sheet and printed, again printer performed beautifully.
>>
>> This time, I set the iron at half the temp (just below the steam setting)

>> Aligned sheet, applied iron, and it worked. I ironed for about 1 minute, which might
>> have been a tad to little, as one of the 30 mil traces didn't quite transfer in one spot.
>> An easy touch up with a Staedler 313 Permanent pen, and I was ready to etch.
>>
>> Earlier, I had made a bubble etching tank out of an old narrow square plastic container,
>> an aquarium pump and a flat aquarium bubble rock. The local electronics shops want $130.00 for
>> a
>> bubble etcher! And it's not that much different from what I made.
>>
>> I mixed up a batch of ammonium persulfate 250G/1L of hot tap water, and etched away.
>> The result was a very good looking board for my first attempt!
>> Drilling was tougher than I thought, I used my Dremel tool in a Dremel drill press stand
>> with a #68 bit. I found the bit would wander a bit as it came into contact with the
>> board, but that if I pressed faster, the bit wandered less.
>> The 20pin DIP will be a bit tough to insert, as a few of the holes are off a tad, but the
>> 8 pin DIP, and the rest of the holes are close enough.
>>
>> If anybody has any drilling tips, I would like to hear them.
>>
>> I don't know if the circuit will work, but the board sure looks good.
>>
>> Sorry for rambling,
>>
>> Steve VE6STV
>> smason@agt.net
>>

>I use PnP Blue for prototyping at work. First, clean your boards with Hydrocloric acid.
This
>might be toilet cleaner. That helps the stuff stick. Second, use a small punch to lightly
>mark your holes. I also use the Dremel. Use high quality carbide PCB drills. For an iron,
>I use a iron used for ironing monocoat onto model airplanes. Seems ready made for the
work.

>Hope this helps!

>K.Painter

Also, I read that fellows have best results when the absolute bare
minimum of drill shank is exposed from the chuck (just enought to get
through the board) and the table is brought as far up as possible to
minimize quill extension (and resultant wobble). What happens with
this stuff -- do the printed traces lay down on the board or do you do
a negative image and the fields take the toner?

5932. Re: JFET Source Resistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: "Paul Christensen, N9AZ" <paulc@jax.se.continental.com>
Message-ID: <4ahfb8$s4a@usenet.continental.com>
Source record: 109019

The method I use comes from my trusted first-year, EE college textbook:

Find the transconductance value of the FET from the data sheet. If it's given a range, take the geometric mean of the two values. The source resistor value is the reciprocal of the Gmo (transconductance value).

Example:

My MPF-102 data sheet shows a Gmo value of 5,500 uS. The reciprocal is 181.8 ohms. 180 ohm resistors are generally easy to find and will work quite well.

Of course, a measured Gmo value will give a more accurate result.

-Paul, N9AZ

5933. Re: SMALL HV capacitors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: seven77@gate.net
Message-ID: <4ahgtk$379a@news.gate.net>
Source record: 109020

> thorsten@news.hrz.uni-dortmund.de () writes:

> I'm searching for HV (200...1000V) capacitors with dimensions in the
> some-millimeters-range. Tunable ones would be best, but are not
> essential...

I don't have my ARRL book here, but coax makes a great capacitor. Look in the tables and find out the capacitance per foot and
measure and cut the appropriate length.

I have also made "trombone" capicitors with brass tubing inside and outside plastic tubing.

THe advantage of the coax capicitor is that the power handling capabilities are known.

Hope this helps, Mike "777" KF4FDJ

5934. Re: Help on homebrew 2 meter 6 element yagi beam

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DJFJ6M.I4n@ncifcrf.gov>
Source record: 109021

In article <49torm$5v7@ixnews2.ix.netcom.com> kc6twi@ix.netcom.com (Allan Baird) writes:
>Just recently made a 2m 6 element yagi beam (two of them). The sliding
>choke or balun is giving me trouble. One has a SWR of 1.5 and the other
>1.7 .

Congratulations on getting them so low and so close the first time
>
>If we can't get SWR better, how could we redevelop a new/different
>matching devise without a plan ? It is supposed to tune to a 1.1 SWR,
>and have a 9+db gain.

You don't describe your matching scheme (gamma,T,...) - you'll have to
fiddle with that from here

>
>Also, used my MFJ cross needle meter, and also my MFJ antenna system
>analyzer...both sho slightly different SWR..Any comments or ideas. I

Normal variances in calibration

Joe NA3T
mack@ncifcrf.gov

5935. Re: How To Repair Ceramic Switch?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <4ahk61$2o2@detroit.freenet.org>
Source record: 109022

You might try and get some small diameter thruput sleeves, used in printed circuit board production. These could be used in the same way as rivets, just tap a head on each end. A little Crazy Glue in addition would help keep the finger in place during operation later.
--

5936. Re:Why 1420 MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-11 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9511118187.AA818708196@mails.imed.com>
Source record: 109023

Several have asked why NF was measured at 1420 MHz in the recent Feedpoint. I presume that this refers to North Texas Microwave Society journal.

The Microwave update for 1995 was sponsored by NTMS. As a part of Microwave update, the SETI League (search for extraterrestrial intelligence (is there any terrestrial intelligence?)) gave a presentation on Hams using amateur microwave equipment to search for interesting signals. That would explain why that frequency was tested and reported. I didn't get a chance yet to digest that issue of the Feedpoint, but I presume these are the result of the NF measurements done Friday night at the conference.

Ray Mack
WD5IFS
mack@mails.imed.com

5937. Re: 12VDC "Secure" Receiver/Transmitter Pair

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: <>
Message-ID: <4ains7$p6p@news1.deltanet.com>
Source record: 108874
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In <4a9qhe$mgj@news.infi.net>, grscott@grscott.is.ge.com (Richard Scott) writes:
>
>What I'm seeking is basically a short-range DC transmitter/receiver pair
>that functions much like a garage door or gate opener (and in fact it is
>the latter for which the pair will be used) that offers a fairly-high level
>of security. Note that 12VDC is all that's available to the receiver, as
>the gear-motor driven gate is in a remote location (powered by lead-acid
>batteries charged by solar panels).

It depends on what you mean by "secure".

If what you need is a system which has a huge number of possible codes, there are several on the market. One of these the "DX" wireless units made by Linear. Each transmitter is individually coded at the factory, and the receiver must "learn" each code it is supposed to accept. The basic receiver can learn up to 16 different transmitter codes. There are larger systems available. Any alarm company can get them for you, as can the installers of electric gates. Look for a company which advertises that they do "access control", and they'll know what you're looking for. By the way, one advantage to these systems is that a lost transmitter can be programmed out of the system without affecting the other valid transmitters. And yes, they run on 12VDC.

If what you need is protection against a "code-grabber", which can receive, store, and retransmit whatever code your transmitter sends out, you'll need a rather fancy system which transmits a different code each time you push the button. This is used in the high-end car alarms, since it's worth going to this much trouble if you want to steal a Ferrari. But it's probably overkill for a gate application. As far as I know, this type of system does not handle multiple transmitters.

5938. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4aisk2$nuk@ixnews6.ix.netcom.com>
Source record: 108875

No financial connection, but I see that RAMSEY has just such a kit
and claims they xmit voice up to 30ft w/o lenses.

Tim

5939. Re: Ham stores/Chicago, 500W dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30CE3837.2B08@jpaw.com>
Source record: 108876

Try Surplus Sales of Nebraska in Omaha. They will have what you
want and can ship it overnight. Sorry, I can't put a finger on
their phone number right now.

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5940. ARRL books

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: Lanier.r.a@nort.bwi.wec.com
Message-ID: <DJHptF.1L2@news.zippo.com>
Source record: 108877

Has anyone purchased the following books:

Introduction to Radio Frequency Design by Wes Hayward

QRP Classics

Both are available from ARRL. I looking for a good intermediate to advanced book on RF design, one that has practical circuits, but also detailed theory.

Any comments are welcome.

5941. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1995Dec12.113758.20680@grian.cps.altadena.ca.us>
Source record: 108878

allent@mnsinc.com (David Allen) writes:

>Kelly Painter <kpainter@rapidnet.com> wrote:

>>smason@agt.net (Steve Mason) wrote:

<a lot chopped>

>>> Drilling was tougher than I thought, I used my Dremel tool in a Dremel drill press stand
>>> with a #68 bit. I found the bit would wander a bit as it came into contact with the
>>> board, but that if I pressed faster, the bit wandered less.
>>> The 20pin DIP will be a bit tough to insert, as a few of the holes are off a tad, but the
>>> 8 pin DIP, and the rest of the holes are close enough.
>>>
>>> If anybody has any drilling tips, I would like to hear them.

I make sure that there is a "hole" in the center of the pad in the
artwork, so that there is a copper "donut" on the glass-epoxy. The
resulting low spot of no copper in the middle of a copper circle
acts like a center punch, and works as a drill guide.

>Also, I read that fellows have best results when the absolute bare
>minimum of drill shank is exposed from the chuck (just enought to get
>through the board) and the table is brought as far up as possible to
>minimize quill extension (and resultant wobble).

This works well also, and the drills will last much longer if you
spend the extra $ and get the carbide bits rather than the steel.
Kinda like alkaline vs carbon-zinc batteries: 5x the life for 3x the
money.

One trick that I do when I lay out a board: put your callsign,
the date and the magazine name and issue that the project was built from
on the layout: something like "WA6ILQ 9-94 from QST 6-94". Helps
when you are trying to fix it 9 years later.

I also stole an idea from DEC computer cards: add the following
string to an edge of the card "ABCDEFGH". The first time you make
a mod to the board place a solder blob on the "A". Then add a sheet
of paper to the documentation describing modification "A". If you make
another mod, blob the "B", and add a sheet to the file. Etc.
If you have several different versions of a project around, it makes
it simple to figure out the revision level.

de WA6ILQ

--

Mike Morris morris@grian.cps.altadena.ca.us
#include <disclaimer.std.h> I have others, but this works the best.
This message assembled from 100% recycled electrons (and pixels).

5942. Re: PC Board Prototyping - Ham Style

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: smason@agt.net
Message-ID: <30cde10b.104256305@news.agt.net>
Source record: 108879

On Tue, 12 Dec 1995 11:37:58 GMT, morris@grian.cps.altadena.ca.us (Mike Morris) wrote:

>I make sure that there is a "hole" in the center of the pad in the
>artwork, so that there is a copper "donut" on the glass-epoxy. The
>resulting low spot of no copper in the middle of a copper circle
>acts like a center punch, and works as a drill guide.

I tried that but the PnP blue film doesn't do those too well. Someone suggested using a pin on the film before the transfer. I'll try that next time.

>>Also, I read that fellows have best results when the absolute bare
>>minimum of drill shank is exposed from the chuck (just enought to get
>>through the board) and the table is brought as far up as possible to
>>minimize quill extension (and resultant wobble).

Tried that on my second board, and it helped somewhat.

>This works well also, and the drills will last much longer if you
>spend the extra $ and get the carbide bits rather than the steel.

I'll be looking for some before my next project.

>One trick that I do when I lay out a board: put your callsign,
>the date and the magazine name and issue that the project was built from
>on the layout: something like "WA6ILQ 9-94 from QST 6-94". Helps
>when you are trying to fix it 9 years later.

Yep, I did that, I hate it when you go to fix something you built years ago, and don't have a clue how or why you did it.

>I also stole an idea from DEC computer cards: add the following
>string to an edge of the card "ABCDEFGH". The first time you make
>a mod to the board place a solder blob on the "A". Then add a sheet
>of paper to the documentation describing modification "A". If you make

Great idea! Consider it re-stolen.

Steve VE6STV

5943. Re: Ham stores/Chicago, 500W dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-1212952048390001@d107.w.interaccess.com>
Source record: 108880

In article <30CDEA48.7122@anl.gov>, RGF <rgfoster@anl.gov> wrote:

>Two places come to mind: In Wheaton, the Ham Radio Toy Store, and in
> the northwest side of chicago on Milwaukee Ave, Erickson's.
> Hope this helps.

I'm not sure, but I think Erickson's is on Elston.

Dave Moorman, K9SW
Downers Grove,
Illinois

5944. Kenwood R5000 software

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: CParizot@world-net.sct.fr
Message-ID: <CParizot-1212950144480001@client4.sct.fr>
Source record: 108881

I am searching a macintosh software for a Kenwood R5000, and I have found only "FreqValet" is there another soft ?

Thanks

5945. Re: 12VDC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: rstevew@armory.com
Message-ID: <4ajfdc$jg8@news.scruz.net>
Source record: 108882
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In article <4aabpg$g8u@geraldo.cc.utexas.edu>,
Bruce Bostwick <lihan@ccwf.cc.utexas.edu> wrote:
>slwork@netcom.com (Steve Work) wrote:
>> Also, I do not think that 2^8 combinations is particularly un-secure.
>> Remember that the potential intruder would have to not only try all 256
>> codes but learn several other details such as frequency, encoding method,
>> etc. All of which make their job much more difficult. If it were me , I
>> would stick with what you know can get to work.
>
>It's worth mentioning that around here, at least, there are people who
>specialize in this type of burglary and apparently they're pretty good
>at it -- we had a special on the news not too long ago about how easy
>it was to break into houses with garage door openers. I suspect that
>most of the job nowadays is in the form of hardware you can buy from
>people who sell shady quasi-legal stuff like this (nominally for
>educational purposes only, of course, just like 1kW CB linears etc.)
>so better not count on store-bought stuff for Fort Knox security ...
>
><BGB> http://ccwf.cc.utexas.edu/~lihan/

For garage door openers it is pretty easy to monitor a broad band of
frequencies and grab your code out of the air. A protection for this
is to use the interior button to open and the hand transmitter with a
DIFFERENT code to close. Then have a third code on the hand
transmitter to re-open if the first code is tried again within 30
seconds of moving. For the unskilled homeowner, though, it is better to
make a door opener which has a microcontroller which detects multiple
attempts nearby to open your door, and it automatically changes the
open code to a longer code you would need to switch to with your hand
transmitter!! This also gives you warning that someone may have
attempted entry! The best is a computer that locks the system and
calls security if anyone sends a binary sequence of numbers in obvious
attempt to open yours or nearby garages! Sort of like the ATM machines
which keep your card if you fail to enter the right PIN number three times
in a row in any day or week! Don'tcha jus'luv redundancy? "PIN number"!

--
-Steve Walz rstevew@armory.com ftp.armory.com/pub/user/rstevew
also mirrored at: ieee.cas.uc.edu/pub/electronics/faq/ftp.armory.com
and in Europe at: ftp.cised.unina.it/pub/electronics/ftp.armory.com

5946. Re: RADAR DETECTOR DETECT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: Bob Archer <Bob.Archer@ColumbiaSC.ATTGIS.com>
Message-ID: <DJHFpw.EI3@ncrcae.ColumbiaSC.ATTGIS.COM>
Source record: 108883

It's my understanding that the "ghost technology" is nothing more than
detection by your Radar Detector of the Police detectors local oscillator that
powers down your Radar Detector.
>==========daniel.lacasse@com18.com, 12/8/95==========
>
>Hi!
>
> > I saw a Radio Shack ad for a speed radar dectector with
>"ghost"
> > technology. This "ghost technology" will defeat radar dectector
> > dectectors. I know you can locate a receiver by its local
> > oscillator, but do the police use something like this? What is
> > the range of these radar detector detectors? Is it so short
>ranged
> > that the police carry them up to the suspect vehicle/
> >
> > Thanks for your input.
> > Harry in TX KA5IMO
>
>I can't really help but I also heard that there is laser gun now...
>
>Does anyone know if they can be detected?
>
>Well, it's only for personnal information since I live in Canada and
>these are prohibited here. :(
>
>
>73's de | Fido: 1:240/118 | Internet:
>Daniel.Lacasse@com18.com
>I)aniel | Franco: 101:155/118 | Packet:
>VE2DLX@VE2SJC.#QBC.PQ.CAN.NA
>
>
Bob Archer N4ECO

5947. Re: RADAR DETECTOR DETECTOR??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: kkidd@usit.net
Message-ID: <4akj4j$1ra@news.usit.net>
Source record: 108884

howell@vms1.tamu.edu (Harry Howell) wrote:

>I saw a Radio Shack ad for a speed radar dectector with "ghost" technology. This "ghost technology" will defeat radar dectector dectectors. I know you can locate a receiver by its local oscillator, but do the police use something like this? What is the range of these radar detector detectors? Is it so short ranged that the police carry them up to the suspect vehicle/

<<<snip>>>

Some Radar detectors are so NASTY that even another radar detector
will pick them up.

Kevin Kidd
WD4RAT
kkidd@usit.net

5948. Printing directly to PCB with an ink jet printer ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: jay@rmii.com
Message-ID: <jay.39.001F83F7@rmii.com>
Source record: 108885
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.cad,sci.electronics

Hi;
I recall seeing bits and pieces of a thread about doing PCB's with an ink jet printer. I have been doing artwork with a number of laser printers, and have yet to find one with decent registration. Registration is crictical to me as I am trying to drill out the holes with a NC drilling machine. Plan B use an ink jet printer instead. Also I intend to print directly to the PCB and skip a bunch of steps. So what I would like to know is the following.

1. Has anyone done this ?
2. If so, what printer did thay use ?
3. What ink jet printers have a flat paper path ? Color would appease my wife and kid.
4. Is registration any better than what you would get with a laser printer ?
5. Any other ideas ?

Thanks !!!

Jay L. de Halas

5949. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: rfarmer@mindspring.com
Message-ID: <rfarmer.45.04DEE5A9@mindspring.com>
Source record: 108950
Cross-posted to: sci.electronics,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,de.comm.ham

>>In article <4a383p$a74$1@mhadg.production.compuserve.com>,
>>> I'm trying to find either an IC or a schematic for converting
>>> serial-parallel.

Sorry I missed the fornt end of this thread, so I don't know exaclty what you need but the 74xx299 is a 20 pin parallel in and out universal 8 bit shift reg. It should do the trick. Tons of other options as usual. Since your going to have to write a driver, you might want to use a microcontroller with a serial port to make you box look like some other modern device that is supported by whatever software is going to be talking to it.

Rick Farmer | Ratio DesignLab
Electrical Engineer | 3040 Peachtree Rd.
rick@ratio.com | Atlanta, Ga. 30305 USA

5950. Ham stores/Chicago, 500W dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: gwilliam@xnet.com
Message-ID: <4akgih$j98@flood.xnet.com>
Source record: 108951
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I am a non-ham who needs to buy a 500 W dummy load (for 13.56 MHz, preferably with a BNC connector) for an experiment in an industrial setting. Needless to say, I need this soon (like tomorrow). Can anyone tell me a ham store in the Chicago area (North/West would be preferable but not required) or a mail-order outfit that would be able to supply this item quickly? Alternatively, does anyone in the Chicago area have one that they could lend (rent) to us for a few days? Although it might be possible to build a dummy load relatively simply, I would prefer not to do that for reasons of repeatability (we may need to repeat this experiment in another location with different equipment at a later date.)

Any help would be appreciated.

Jeff Gwilliam

5951. PCB Etching

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: <>
Message-ID: <4ajcmd$2ie@central.co.nz>
Source record: 108952

Some years ago there was an article in the now-defunct "Ham Radio" on PCB etchants. I recall the best solution was Cupric chloride and some other additives. The really cute thing was that it was possible to regenerate the solution by overnight aeration. (I think that it was possible to end up with more etchant than you started with.)

Anybody have this article ? More importantly, has anybody tried it with success?

Barry Lennox

5952. Re: RE : PCB Debate

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: gerhard@netmbx.netmbx.de
Message-ID: <4ajaum$9bh@newsun.netmbx.de>
Source record: 108953

In article <4a9kot$kuj@nntpd.lkg.dec.com>, <wade@netcad.enet.dec.com> wrote:
>
>
>> I've seen 3.2 listed somewhere. I made my own measurements and
>>came up with a figure closer to 4.0
>
>The dielectric constant of ordinary green PCB is between 3.9 and 4.3, your
>measurements were good. It varies depending on the ratio of fiberglass to
>epoxy (I think they put in more of whichever is cheaper that day!).
>
And it varies with frequency, too. For a given product, Er is
usually controlled better than board thickness.

Gerhard

--
Gerhard Hoffmann # phone: +49 30 782 02 33
Gleditschstr. 79 # fax: +49 30 782 02 63
D10823 Berlin # on the air: dk4xp
Germany # in the air: d-1441, d-kick

5953. Re: radio scanners?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: gy781@cleveland.Freenet.Edu
Message-ID: <4ak5tq$p5t@madeline.INS.CWRU.Edu>
Source record: 108954
Cross-posted to: rec.radio.scanner,rec.radio.amateur.homebrew

```
It sounds to me your friend has a transceiver rather than a scanner
A scanner is only a receiver and can't be talked on.
```

5954. Waste of Money?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4akelq$g0g@crash.microserve.net>
Source record: 108955

I've always read that steel can't be used for transformer cores at RF because its loss is prohibitive at higher frequencies. However, when a cable is wound around a ferrite rod or through a toroid for purposes of RFI prevention, it shouldn't matter whether the core is reactive or resistive. Is it a waste of money to use ferrites for this, or does plain steel "disappear" at RF due to hysteresis?

73,
Jack WB3U

5955. Re: Any schemes or info for building a 'cellular phone range' transmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: dsterner@neosoft.com
Message-ID: <4akgb2$349@uuneo.neosoft.com>
Source record: 108956

In article <koenknip.13.00129D96@innet.be>, koenknip@innet.be says...
>
>I was wondering if it was possible to build a radiotransmitter which only
>produces a noise signal to disturb cellular phone usage indoors.
>
>If so, can anyone send me an easy to build project including a scheme
>and a components list ?
>
>It should be a low power transmitter, with a disturbance range of about
>30 by 30 foot, with no other equipment (radio, television, etc) being harmed
of
>course.
>
>Any info (also on frequencies for cellulars in Belgium (GSM)) to :
>
>koenknip@innet.be
>

I think intentional jamming is illegal, regardless of power output.

5956. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4aki0s$7h@hg.oro.net>
Source record: 108957

Now designing a 418 MHz 50 ohm 3.5 inch strip line
>folded dipole antenna is a lot of work.
>Rick Farmer | Ratio DesignLab

Naaah. Piece of cake. Want it in G10 or Teflon? Wanna see the
design in five seconds?

Wanna see it again?

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

5957. Re: Ham stores/Chicago, 500W dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: RGF <rgfoster@anl.gov>
Message-ID: <30CDEA48.7122@anl.gov>
Source record: 108958

Gilbert Gwilliam wrote:
>
> I am a non-ham who needs to buy a 500 W dummy load (for 13.56 MHz,
> preferably with a BNC connector) for an experiment in an industrial
> setting. Needless to say, I need this soon (like tomorrow). Can anyone
> tell me a ham store in the Chicago area (North/West would be preferable
> but not required) or a mail-order outfit that would be able to supply
> this item quickly? Alternatively, does anyone in the Chicago area have
> one that they could lend (rent) to us for a few days? Although it might
> be possible to build a dummy load relatively simply, I would prefer not
> to do that for reasons of repeatability (we may need to repeat this
> experiment in another location with different equipment at a later
> date.)
>
> Any help would be appreciated.
>
> Jeff GwilliamTwo places come to mind: In Wheaton, the Ham Radio Toy Store, and in the northwest side of chicago on Milwaukee Ave, Erickson's.
Hope this helps.

5958. Re: Wanted: DTMF Decoder Suppliers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4akmo2$i7n@newshost.lanl.gov>
Source record: 108959

Try :

B.G. Micro
PO Box 280298
Dallas TX 75228
Orders 800-276-2206
fax 214-271-2462
email bgmicro@ix.netcom.com

No min. order
No connection to me (except I bought a dozen of these exact
IC's from them several months ago).
SSI-202 listed on p. 4 of recent flyer for $2.25 ea.
--
********** Jim Devenport WB5AOX **************
* PO Box 445, McIntosh NM 87032 *
* http://nis-www.lanl.gov/~jdport/ *
****

5959. Re: Ham stores/Chicago, 500W dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: Jim O'Connell <jimw9wu@ix.netcom.com>
Message-ID: <30CE0F96.2E6A@ix.netcom.com>
Source record: 108960

Gilbert Gwilliam wrote:
>
> I am a non-ham who needs to buy a 500 W dummy load (for 13.56 MHz,
> preferably with a BNC connector) for an experiment in an industrial
> setting. Needless to say, I need this soon (like tomorrow). Can anyone
> tell me a ham store in the Chicago area (North/West would be preferable
> but not required) or a mail-order outfit that would be able to supply
> this item quickly? Alternatively, does anyone in the Chicago area have
> one that they could lend (rent) to us for a few days? Although it might
> be possible to build a dummy load relatively simply, I would prefer not
> to do that for reasons of repeatability (we may need to repeat this
> experiment in another location with different equipment at a later
> date.)
>
> Any help would be appreciated.
>
> Jeff Gwilliam

Jeff: Try Erickson Communications at 312 631-5181. They're on north
Milwaukee Ave (about Foster?). They should have a 1 kw dummy load
with an SO239 connector.

73, Jim W9WU

5960. WTB: Butterfly Mica Trim Caps, about 90 pf-GaryBorich@mail.utexas.edu

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: Gary Borich <GaryBorich@mail.utexas.edu>
Message-ID: <4akt92$j38@geraldo.cc.utexas.edu>
Source record: 108961

These are the type of trim caps that screw a metal plate down on another plate separated by a thin sheet of mica, called "butterfly" caps. They are common up to about 49 pf, but I'm looking for some larger. E-mail me direct.

5961. Building 50-100W 7 MHz amp - suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: "Andrew M. Moore" <moore@moore.sr.unh.edu>
Message-ID: <Pine.LNX.3.91.951212091440.2344A-100000@moore.sr.unh.edu>
Source record: 108962

I plan on building a 50 to 100 watt amplifier for 7 MHz CW, using from
1 to 5 watts drive. I would like to hear people's suggestions about
the design, components, gotchas, sources of information, etc. before I
get started.

Thanks,
-Drew

5962. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4akj87$k7c@hpscit.sc.hp.com>
Source record: 108963

In article <4abifm$f5d@newsbf02.news.aol.com>, RRRath <rrrath@aol.com> wrote:
>Filter carrier?
>I have made some experiments with x-tal notchfilters, which look very
>promising,
>there were already some described in german magazines, using the Xtal as a
>shunt
>but I have tried it in a bridge (transformer, one arm Xtal, other exact
>sereis cap and Xtals parallel C.
>Q in such a config not such a problem extremely sharp.
>
>73s Robert DJ0RA, OE5RRL

Yes, that works well for noise relatively far from the carrier. I've done it a number of times. However, if you're going to go to the trouble of getting a crystal for each measurement frequency, you might as well use the crystal to make a VCXO, which is actually easier than making a filter. You can then lock the VCXO to the source under test and look at the baseband noise with an audio spectrum analyzer (home brew 3048 architecture).

Rick Karlquist N6RK
rkarlqu@scd.hp.com

5963. Re: NMR physicist needs help in HF-circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: jgoecks <jgoecks@pacifier.com>
Message-ID: <4ajahe$a8k@news.pacifier.com>
Source record: 108964

thorsten@news.hrz.uni-dortmund.de () wrote:
>
> Hi!
>
> First I want to clear up what NMR has to do with amateur radio: we also
> deal with HF in the MHz range, need things like resonant circuits,
> impedance matching and so on.
> So the question I have may be somewhat stupid, but is ABSOLUTELY
> urgent for me. I want to get a resonance circuit at approx. 90MHz,
> consisting of a small coil as 'antenna' (<1cm long, <5mm diameter),
> one parallel capacitor (some pF) and one series capacitor (also
> some pF). It should be a parallel resonance circuit of the following
> setup:
> ||
> >-----||----------
> || | |
> C2 | |
> --- O
> C1 --- O
> | O coil
> | O
> | |
> GND GND
>
> The input is via a have-wavelenght-line, fine tuning will be done
> with a matching network after that. Now the trouble is the tuning/
> matching of the circuit shown above. Can anybody tell me a
> convenient way to do it? Tuning equipment will be a Magic-Tee and
> a vector impedance meter. Setting up a SERIES resonator is no
> problem, but the parallel troubles (BOTH Cs influence the
> resonance condition!). Hints on literature (not the radio amateurs
> handbook, I also tried to find something in it) would also
> be helpful...
>
> Thanks in advance,
>
> Thorsten Feiweier
>
> (thorsten@fuj.physik.uni-dortmund.de)

It looks to me that C2 is used to isolate the coil from DC. C1 and
the coil should set the resonant frequency. The ARRL Radio Amateur's
Handbook says that L=(a^2)(n^2)/(9*a+10*b)

where L is in uH
a= coil radius in inches
b=coil length in inches
n=number of turns.

Use the size of wire that will just complete the number of turns
required in the space required in order to have the stiffest coil.

Use a large C2 to take out as much of its influence as possible.

At 90MHz, you can tune the resonant tank circuit in various ways.

One is to get a "gate dip oscillator" that couples to the coil
and displays when the tank circuit is resonant.

Another is to feed the circuit from an oscillator through a resistor
and adjust to get least current flow through the resistor, since
the tank circuit is maximum impedance at resonance. You do have to
be careful not to load the circuit with probes.

Hope this helps,

Jim Goecks WA7UKS

5964. Re: Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: l42398@alfa.ist.utl.pt
Message-ID: <4ajko5$g96@ci.ist.utl.pt>
Source record: 108965

Al Koblinski (W7XA) (canksc@tevm2.nsc.com) wrote:
: I have used 2 watt carbon resistors for years. Just parallel enough to
: get the dissipation you need and with a modest assortment of values you
: can easily come up with the actual circuit values you need. Keep the
: leads short or solder them down to PC board material (copper clad).
: 73, Al

I just use what they say, low power carbon resistors in paralel to get the
value I need.
It works fine and it's quite cheap.

Luis Martins, IST LISBON PORTUGAL
CT1FNK

5965. Re: Varicap temperature compensation?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-1212950326070001@squaw-d103.sierra.net>
Source record: 108966

Snip
Snip
The 95 handbook published a neat adjustable tempco compensation circuit that should be adaptable to nearly any application with oscillators.

It consists of a bridge circuit that has a thermistor in each leg, one up and one down, a trimpot whose wiper is connected to the source voltage for initial balancing, and a 100K multi-turn pot across the bridge whose wiper is connected to a varicap diode used to offset the drift of another LC or crystal oscillator. It is in the AC sources/oscillators section. Sorry I can't give page and actual verse, but I am using it quite happily. Very adjustable.

E-mail me what file format you can use and I will send you the schematic of its application in my "stuff."

Bob Tetrault

5966. Re: WTB: Butterfly Mica Trim Caps, about 90 pf-GaryBorich@mail.utexas.edu

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951212175143.2640C-100000@biggulp.callamer.com>
Source record: 108967

Compression mica caps are available in values much larger than 50 pf, in fact many up to 1000 pf although they get rather bulky at larger values. Check ARCO for this sort of cap in major mail order houses. Cliff W6HDO

On 12 Dec 1995, Gary Borich wrote:

> These are the type of trim caps that screw a metal plate down on another
> plate separated by a thin sheet of mica, called "butterfly" caps. They
> are common up to about 49 pf, but I'm looking for some larger. E-mail
> me direct.
>
>
>
>

5967. Re: WTB: Slotted Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30CE3AA8.99F@jpaw.com>
Source record: 108968

Steve Schiller wrote:
> If you want to make a cheap one suitable for UHF frequencies,
Take a piece of copper, aluminum or brass tubing at least
one-half wavelength long at your frequency, sized for a slip fit
over the center conductor of RG8/u type coax. Drill holes every
cm or half inch or whatever. Make a small E-field probe that
has a stop so it sticks in the same distance every time and
measure E (V) as a function of position. The same thing works
with waveguide. Just space the holes appropriately so that you
get 10 or so points per half-wavelength, and away you go. A
cheap and easy prbe can be made from a short length of
semi-rigid line coax, the kind available surplus with SMA
connectors on the end. Cut off one connector. Cut away the
outer conductor to expose a length of center conductor. Solder
a brass washer to the outer conductor about one wall thickness
(of your perforated line) back from the end. Drill the holes to
clear the OD of the probe outer conductor (About 0.094" for the
stuff I have) and probe away.

Save big bucks.

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5968. Re: Voice via Light?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: rfarmer@mindspring.com
Message-ID: <rfarmer.44.04D42B74@mindspring.com>
Source record: 108969

In article <4aki0s$7h@hg.oro.net> rst-engr@oro.net (Jim Weir) writes:

]] Now designing a 418 MHz 50 ohm 3.5 inch strip line
]]folded dipole antenna is a lot of work.
]]Rick Farmer | Ratio DesignLab

]Naaah. Piece of cake. Want it in G10 or Teflon? Wanna see the
]design in five seconds?

Alright, I guess its my turn to take a few lumps ;). Actually its going up the side of a mixed signal board made of FR4. I dove into a heavy duty antenna text and decided I'd better layout a pad for a 1206 loading coil on the input and a pad for a similar loading cap to ground at the end and tweak it on the bench. BTW Jim if your feeling charitable, the separation is 100 mil (space is tight). Digital Dude bows humbly in the presence of Wavy One.
Rick Farmer | Ratio DesignLab
Electrical Engineer | 3040 Peachtree Rd.
rick@ratio.com | Atlanta, Ga. 30305 USA

5969. WTB: Slotted Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: schiller@mv.us.adobe.com
Message-ID: <199512122134.NAA18185@missal.mv.us.adobe.com>
Source record: 108970

Hi,
Actually, I want a slotted line, and carriage, and RF probe.
Such as the HP 809B, HP 816, and (HP 442 or HP 447).
But any sturdy system will do.

- Steve

NOTE:
Becuase our net-news provider is having trouble getting posts
out, I am posting this via a re-mailer. Be sure to respond
to the following e-mail address:

schiller@adobe.com

or call me at:
(415) 962-2185 (11am to 8pm pacific time)

5970. Re: NMR physicist needs help in HF-circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30CE3728.5CA8@jpaw.com>
Source record: 108971

thorsten@news.hrz.uni-dortmund.de wrote:
Given L you want to get two equations in two unknowns to solve for C1 and C2. These equations are the impedance match condition and the resonance condition.

Consider a circuit like the one you drew with the addition of a resistance R1 in parallel with the coil, and call the coil L1. The resistance represents the losses of the coil and any coupling of the circuit to the outside world.

Now add a voltage generator with source impedance Rg from ground to C2 input terminal. The impedance Z of the generator + the coupling capacitance C2 is Z = Rg + 1 / (jwC2). (w is the angular frequency of excitation, omega) Convert the impedance Z to a shunt circuit with admittance Y= 1/Z. You get Y=(Rg-1/(jwC2))/(Rg^2 + 1/(w^2 C2^2)). The real (resistive part) of that is Rs=Rg(1+1/(w^2 C2^2 Rg^2). This is the resitance of the generator transformed by C2 to be in parallel with R1. Impedance match is achieved when Rs = R1. Thus, given Rg, L1 and R1, (or Rg, L1, Q1 = w L1/R1) you can calculate C2.

The reactive (susceptive to be pedantic) part of the shunt equivalent of Rg and C2 in series is just the imaginary part of Y. Namely, w C2/(1+w^2 Rg^2 C2^2). For a High Q circuit this will be indistinguishable from w C2. But let's not make any approximations at this point. Resonance occurs when the capacitive susceptance equals the inductive susceptance. That is w C2/(1 + w^2 Rg^2 C^2) +w C1 = w L1. Since you already know C2, w and L1, you can solve for C1. Note that, for high Q, the resonance condition is very close to w^2=1/(L1 (C1 + C2)).

Is this what you are trying to do?

Don't worry about an exact match, the losses with VSWR = 1.5, which implies that Rs = 1.5 Rg OR Rs = Rg/1.5, results in a loss of signal power of only 4%. The loss for 2:1 mismatch is 11%, which is probably not a big problem. The additional losses in the line due to the VSWR are very low compared to the normal attenuation.

Good luck,

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/

2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

5971. Re: LCD counter module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: "J. Mark Wolf" <jmwolf@ismi.net>
Message-ID: <4aii3p$res@main.ismi.net>
Source record: 108972
Cross-posted to: sci.electronics.design,sci.electronics,sci.electronics.basic,sci.electronics.misc,rec.radio.amateur.homebrew

Digikey sells LCD modules that have most of the "works" built
in. They're called SUBCUB I & II. They come with data sheets as
to application circuits. Call them at (800) 344-4539.

5972. Wanted: DTMF Decoder Suppliers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-12 00:00:00 UTC
From: lepage@bluefin.net
Message-ID: <4ainil$dn1@service-2.bluefin.net>
Source record: 108973

I'm looking for suppliers of a DTMF decoder IC. Part numbers
SSI202P or 75T202 or CD22202E.

JDR Microdevices reportedly carries these, however the phone
number I have for them rings through to a fax. Does anyone have a voice
line to JDR?

I also tried Digikey...Their WWW page reported that they carried CD22202E,
however, after talking with them on the phone, they do not carry them in
stock.

I'm looking for a small quanity (4-6 parts) to start.

Any help would be appreciated, please post here or email me direct.

Thanks,

Peter / KD1XZ

5973. Re: LCD counter module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: arm@helix.nih.gov
Message-ID: <1995Dec13.011511.16260@alw.nih.gov>
Source record: 108886
Cross-posted to: sci.electronics.design,sci.electronics,sci.electronics.basic,sci.electronics.misc,rec.radio.amateur.homebrew

J. Mark Wolf (jmwolf@ismi.net) wrote:
: Digikey sells LCD modules that have most of the "works" built
: in. They're called SUBCUB I & II. They come with data sheets as
: to application circuits. Call them at (800) 344-4539.
:

I have used these things. Check out the maximum counting rate
before buying. You might consider using an Intersil chip.
They have frequency counter chips, you add the LCD.

-- andy

--

Andrew Mitz, Biomed. Eng., National Institutes | Opinions are mine alone
of Health Animal Center, Poolesville, MD | arm@helix.nih.gov

5974. Re: LCD counter module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: arm@helix.nih.gov
Message-ID: <1995Dec13.011740.16321@alw.nih.gov>
Source record: 108887
Cross-posted to: sci.electronics.design,sci.electronics,sci.electronics.basic,sci.electronics.misc,rec.radio.amateur.homebrew

David Mulligan (Skipper@skipper.interlog.com) wrote:
:
: In article <4aii3p$res@main.ismi.net> "J. Mark Wolf" <jmwolf@ismi.net> writes:
: > Digikey sells LCD modules that have most of the "works" built
: > in. They're called SUBCUB I & II. They come with data sheets as
: > to application circuits. Call them at (800) 344-4539.
: >
:
: Any idea what the cost per unit is?

Expensive. $18 to $25 just for the counters. They are very
good if you need low current drain.
:
: Thanks
:
: David
: skipper@interlog.com

--

Andrew Mitz, Biomed. Eng., National Institutes | Opinions are mine alone
of Health Animal Center, Poolesville, MD | arm@helix.nih.gov

5975. Re: LCD counter module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: Skipper@skipper.interlog.com
Message-ID: <4al5b0$e71@steel.interlog.com>
Source record: 108888
Cross-posted to: sci.electronics.design,sci.electronics,sci.electronics.basic,sci.electronics.misc,rec.radio.amateur.homebrew

In article <4aii3p$res@main.ismi.net> "J. Mark Wolf" <jmwolf@ismi.net> writes:
> Digikey sells LCD modules that have most of the "works" built
> in. They're called SUBCUB I & II. They come with data sheets as
> to application circuits. Call them at (800) 344-4539.
>

Any idea what the cost per unit is?

Thanks

David
skipper@interlog.com

5976. Re: How do I keep my computer from spewing rf?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: horowitz@nosc.mil
Message-ID: <1995Dec13.010540.7843@nosc.mil>
Source record: 108889

These "turbo" switches on the computers themself - don't these things work by speeding up the clock rate? The faster the clock, the stronger the RF harmonics

5977. Re: Determine Signal to Noise with PC Soundblaster??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: rob@pe1chl.ampr.org
Message-ID: <DJIvGu.7CC@pe1chl.ampr.org>
Source record: 108890
Cross-posted to: comp.dsp,rec.radio.amateur.homebrew

In <4akq0i$12tu@watt.oedison.com> wagnerj@watt.oedison.com (John Wagner) writes:

>I'm looking for some code snips (preferrably in C) that will evaluate S/N
>on an incoming audio signal on a Soundblaster type PC audio card.

>My local amateur radio club is planning on adding several receivers in
>different locations to our radio repeater system. We need a system to
>determine which receiver hears a signal the best, based on the best signal
>to noise ratio.

>To me, this sounds like a job for a few Soundblaster cards.

Probably it is much simpler to do it in hardware...
Assuming you use FM, just high-pass filter the signal at a frequency
that is above the highest modulation components, e.g. 10 KHz.
There you will have only noise. Just rectifying and comparing those
values will give you the required selection criterion.
(this is the same method that the usual SQUELCH circuit uses. you may
be able to extract the required "rectified noise" signal from the receivers)

Of course the above can be done using DSP techniques as well.

Rob
--
+-----------------------------------+---------------------------------------+
| Rob Janssen rob@knoware.nl | BBS: +31-302870036 (2300-0730 local) |
| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
+-----------------------------------+---------------------------------------+

5978. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: flipk@iastate.edu
Message-ID: <flipk.818880173@soclab.soc.iastate.edu>
Source record: 108891
Cross-posted to: sci.electronics,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,de.comm.ham

In <4am7op$b8j@erinews.ericsson.se>
emwhkj@emw.ericsson.se (Henrik Johnsson) writes:

>It would most definitely not do the trick, at least not without large
>amounts of support logic. The original post was about asynchronous
>serial transfer. It can be done with the HD6402 as mentioned, but it
>will take a few extra chips to go along. A microcontroller with onboard
>PROM would probably give the lowest chip count, but you need some tools
>that not everyone has available (compiler/assembler, device programmer).

This sounds like a great deal of overkill to me.

serial-to-parallel: isn't a UART what is desired? Maybe a couple
more chips to generate strobe pulses, and a crystal; but that should be about
it.

Cheers,
Phil
--
Phillip F Knaack
Tech Junkie / Junk Techie

5979. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: emwhkj@emw.ericsson.se
Message-ID: <4am7op$b8j@erinews.ericsson.se>
Source record: 108892
Cross-posted to: sci.electronics,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,de.comm.ham

Rick Farmer (rfarmer@mindspring.com) wrote:
> >>In article <4a383p$a74$1@mhadg.production.compuserve.com>,
> >>> I'm trying to find either an IC or a schematic for converting
> >>> serial-parallel.
>
> Sorry I missed the fornt end of this thread, so I don't know exaclty what you
> need but the 74xx299 is a 20 pin parallel in and out universal 8 bit shift
> reg. It should do the trick.
[snip]
> Rick Farmer | Ratio DesignLab
> Electrical Engineer | 3040 Peachtree Rd.
> rick@ratio.com | Atlanta, Ga. 30305 USA
It would most definitely not do the trick, at least not without large
amounts of support logic. The original post was about asynchronous
serial transfer. It can be done with the HD6402 as mentioned, but it
will take a few extra chips to go along. A microcontroller with onboard
PROM would probably give the lowest chip count, but you need some tools
that not everyone has available (compiler/assembler, device programmer).

/Henrik
--
_/
_/ Ericsson Microwave Systems AB _/
_/ Henrik Johnsson emwhkj@emw.ericsson.se _/
_/ tel +46 31 671898, fax +46 31 673833 _/
_/

5980. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: richarde@salsa.inmos.co.uk
Message-ID: <4an2cc$e7h@milkwort.inmos.co.uk>
Source record: 108893
Cross-posted to: de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

In article <1995Dec6.103431@atl.com>, ldesot@atl.com (Larry DeSoto) writes:
|> In article <4a383p$a74$1@mhadg.production.compuserve.com>, Brian Webb
<102670.1206@CompuServe.COM> writes:
|> > I'm trying to find either an IC or a schematic for converting
|> > serial-parallel.
|> >
|> > I own a solid state radioteletype decoder (circa 1980) designed
|> > to work with serial printers. However, my printer, like virtually
|> > all others is parallel.
|>
|> You need a Universal Asynchronous Receiver Transmitter (UART). One
|> entirely satisfactory device I've used is a Giant AY-1013. This is
|> an old device and I don't know if they are still being manufactured.
|> If you can get one, it is easy to use in that it requires minimal
|> support (a clock and maybe a level converter for the serial line).

The 6402 is also suitable. This may be pin compatible with the AY-1013,
and is definitely still available. You can choose parity/stop bits etc
by hard wiring various pins high or low, and it will run up to 100Kbps.
This version needs a clock input, but there's also a 6403 which has a
clock generator built-in so you can just add a Xtal.

Rich
--
----------------------+----------------------+----------------------------
Richard Evans | |SGS-Thomson Microelectronics
|Tel: (+44) 1454 611433|1000 Aztec West, Almondsbury
richarde@bristol.st.com|Fax: (+44) 1454 620688|Bristol, BS12 4SQ, UK

5981. Re: Ham stores/Chicago, 500W dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: "C. J. Hawley Jr." <hawley@aries.scs.uiuc.edu>
Message-ID: <30CEF7AE.3501@aries.scs.uiuc.edu>
Source record: 108894

Dave Moorman wrote:
>
> In article <30CDEA48.7122@anl.gov>, RGF <rgfoster@anl.gov> wrote:
>
> >Two places come to mind: In Wheaton, the Ham Radio Toy Store, and in
> > the northwest side of chicago on Milwaukee Ave, Erickson's.
> > Hope this helps.
>
> I'm not sure, but I think Erickson's is on Elston.

One of those angled streets anyway. No, it's on Milwaukee. There is a
great ethnic bakery a few doors down the street where your wife and
mother in law can sit and have coffee and pastries. Beats sitting in the
car....or in the store rolling their eyes at the prices.

>
> Dave Moorman, K9SW
> Downers Grove,
> Illinois

--

Charles Jack Hawley Jr.
Amateur Radio KE9UW (A.K.A. 'Chuck' in Ham Radio)
BMW K100RS, BMWMOA #224 (A.K.A. 'Jack' in Motorcycles)
hawley@aries.scs.uiuc.edu
Sr. Research Engineer Emeritus
Univ of Ill, Urbana-Champaign

5982. Re: Wanted: DTMF Decoder Suppliers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.818871922.16143.jwicklun@mycroftxxx.halcyon.com>
Source record: 108895

Hi Peter,

I don't know about the DTMF decoders that you mentioned, but I did just see a listing for the CD22204E DTMF decoder in the Circuit Specialists catalog. Their phone number is:

1-(800) 528-1417
or
1-(602) 464-2485

The CD22204E was listed for $2.50 in unit quantities.

73 de KI7RH (Jay Wicklund)

In article <4ainil$dn1@service-2.bluefin.net>, <lepage@bluefin.net> writes:

> I'm looking for suppliers of a DTMF decoder IC. Part numbers
> SSI202P or 75T202 or CD22202E.
>
> JDR Microdevices reportedly carries these, however the phone
> number I have for them rings through to a fax. Does anyone have a voice
> line to JDR?
>
> I also tried Digikey...Their WWW page reported that they carried CD22202E,
> however, after talking with them on the phone, they do not carry them in
> stock.
>
> I'm looking for a small quanity (4-6 parts) to start.
>
> Any help would be appreciated, please post here or email me direct.
>
> Thanks,
>
> Peter / KD1XZ
>

5983. Re: ARRL books

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <818882363snz@lfheller.demon.co.uk>
Source record: 108896

In article <DJHptF.1L2@news.zippo.com>
Lanier.r.a@nort.bwi.wec.com "Robert A. Lanier" writes:

> Has anyone purchased the following books:
>
> Introduction to Radio Frequency Design by Wes Hayward
>
> QRP Classics
>
> Both are available from ARRL. I looking for a good intermediate to
> advanced book on RF design, one that has practical circuits, but also
> detailed theory.
>
> Any comments are welcome.

I've got both these books. The RF design book is excellent, and has
plenty of theory. QRP Classics has a lot of rather old designs (I
suppose that is why they are classics), with very little theory.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

5984. Interfacing Ranger RCI 2950 to transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: spbellamy@aol.com
Message-ID: <4anaqd$eiq@newsbf02.news.aol.com>
Source record: 108897

I wish to get on 6 meters and the higher bands and am considering using transverters like the type Down East Microwave sells. I am wondering if it is practical to buy a radio like the RCI 2950 Ranger, which is a relatively cheap way to get an all-mode 10 meter rig, and use it as the baseband or exciter radio for a series of different transverters.
There are a number of ways to interface a radio to a transverter. One way would be to take the antenna output and run it through an attenuator to supply the approx. 200 mw or less drive that the transverter is comfortable handling. The attenuator would probably be switched out on receive, but safeguard the transverter on transmit.
Another way would be to get low-level drive out of the IF section in the Ranger.
I am sure there are folks out there that have done this and I would like to have your thoughts on this project. Do you have a Ranger radio? Have you brought out the drive from the IF? How did you do it? What is the level of the drive signal? Is there a transverter group on AOL or thwe WWW?
Thanks and 73
AA8MX

5985. Re: RADAR DETECTOR DETECT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Dec13.140355.425@nad.com>
Source record: 108898

In article <DJHFpw.EI3@ncrcae.ColumbiaSC.ATTGIS.COM>, Bob Archer
<Bob.Archer@ColumbiaSC.ATTGIS.com> writes:
> It's my understanding that the "ghost technology" is nothing more than
> detection by your Radar Detector of the Police detectors local oscillator that
> powers down your Radar Detector.
[snip]

I think you're right. Seems like the only solution that make economic sense.
Putting up anything other than a bare mixer for a reciever on 10.5 and 24Ghz is
going to cost a lot more than most customers would be willing to pay.
Well I guess a decent waveguide isolator would do it, but even the cost of
that would be prohibitive in the mass market.

Joe - AA3GN

>>==========daniel.lacasse@com18.com, 12/8/95==========
>>
>>Hi!
>>
>> > I saw a Radio Shack ad for a speed radar dectector with
>>"ghost"
>> > technology. This "ghost technology" will defeat radar dectector
>> > dectectors. I know you can locate a receiver by its local
>> > oscillator, but do the police use something like this? What is
>> > the range of these radar detector detectors? Is it so short
>>ranged
>> > that the police carry them up to the suspect vehicle/
>> >
>> > Thanks for your input.
>> > Harry in TX KA5IMO
>>
>>I can't really help but I also heard that there is laser gun now...
>>
>>Does anyone know if they can be detected?
>>
>>Well, it's only for personnal information since I live in Canada and
>>these are prohibited here. :(
>>
>>
>>73's de | Fido: 1:240/118 | Internet:
>>Daniel.Lacasse@com18.com
>>I)aniel | Franco: 101:155/118 | Packet:
>>VE2DLX@VE2SJC.#QBC.PQ.CAN.NA
>>
>>

> Bob Archer N4ECO
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

5986. Re: ARRL books

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <4angbr$8e8@ixnews4.ix.netcom.com>
Source record: 108899

In <818882363snz@lfheller.demon.co.uk> Leon Heller
<Leon@lfheller.demon.co.uk> writes:
>
>In article <DJHptF.1L2@news.zippo.com>
> Lanier.r.a@nort.bwi.wec.com "Robert A. Lanier" writes:
>
>> Has anyone purchased the following books:
>>
>> Introduction to Radio Frequency Design by Wes Hayward
>>
>> QRP Classics
>>
>> Both are available from ARRL. I looking for a good intermediate to
>> advanced book on RF design, one that has practical circuits, but >>
also detailed theory.

>I've got both these books. The RF design book is excellent, and has
>plenty of theory. QRP Classics has a lot of rather old designs (I
>suppose that is why they are classics), with very little theory.

In addition, the ARRL has "Solid State Design for the Radio Amateur", a
good combination of theory and practical circuits, and also the W1FB
notebooks ("W1FB's QRP Notebook" and "W1FB's Design Notebook") which
have less theory but lots of circuits. I took the coward's way out and
got them all...

73,
Mike, KK6GM

5987. Re: Can't find source for 2N4416 JFET It's high output MPF102

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <4anhmn$r16@cloner3.netcom.com>
Source record: 108900

In <DJJG8p.EDB@ricks.edu> griffithj@ricks.edu (James Griffith) writes:
>
>Been doing some QRP building and have stocks of the usual transistors
>and parts needed for QRP, but can only find the MPF102 and not the
>2N4416 higher output version at the ususal sources. i.e., Mouser,
>Jamco, JDR,

Two places I like are Unicorn Electronics in CA (800-824-3432) and
Circuit Specialists in AZ (800-528-1417). They both carry the 2N4416,
as well as the 2N5486, a plastic device similar to the '4416 but at
about 1/3 the price.

73,
Mike, KK6GM

5988. HW 8 HW9

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: victorj@fast.NET
Message-ID: <m0tPzSP-0003TIC@fast.net>
Source record: 108901

I need an hw8 working would be great but as long as the front end works I could use it . Also intersested in HW9 with warc bands.

Thanks

Vic wm3b

5989. Need Keyer !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: l38217@alfa.ist.utl.pt
Message-ID: <4an3ke$dgg@ci.ist.utl.pt>
Source record: 108902

I am going to buy a Bencher Paddle and my transceiver
has no Keyer! Since the keyers avaiable here in Portugal are
a bit expensive, I wonder if anyone has a nice circuit diagram
+ PCB design of a keyer for my Bencher (with Iambic capabilities
obviously).
Thank you very much!

Best 73 + Good DX + MRY CHS

--

Pedro Pedroso	
l38217@alfa.ist.utl.pt	CT1ELP
Eng. Electrotecnica e Comp.	Founder member of GPDX
(Telecomunicacoes e electronica)

5990. Henry 2K-3 HF amp; adding 160 meter capability

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: jchol@aol.com
Message-ID: <4anu9m$o5r@newsbf02.news.aol.com>
Source record: 108903

Can you help me with this conversion? I am looking for people who have done the conversion successfully! Or , lessons learned....

Thanks de John, WA5TWL

5991. Re: Building 50-100W 7 MHz amp - suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4amtr1$2afc@info4.rus.uni-stuttgart.de>
Source record: 108904

There are two possible approaches:

Follow the information in the RF device data book by motorola,
however the transistors are not too cheap. (works for 40 and 6)

On HF there is the alternative of using simple power MOS-FET's.
QST had several articles about them.

73, Moritz DL5UH

5992. Can't find source for 2N4416 JFET It's high output MPF102

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: griffithj@ricks.edu
Message-ID: <DJJG8p.EDB@ricks.edu>
Source record: 108905

Been doing some QRP building and have stocks of the usual transistors and parts needed for QRP, but can only find the MPF102 and not the 2N4416 higher output version at the ususal sources. i.e., Mouser, Jamco, JDR, any suggestions.
Jim, WA7NDD
griffithj@ricks.edu

5993. Radar Detector Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: hopst@nrult1.dnr.ohio.GOV
Message-ID: <9512131350.AA12614@nralpha1.dnr.ohio.gov>
Source record: 108906

It's funny that Radio Shack is now advertising a "shadow" radar detector. A few years ago they had the most "detectable" radar detectors on the market. They used a Direct Conversion scheme where the local oscillator was right on the same frequency as the radar. My radar detector would always go off when a trucker passed me using one of those things. I could pick them up about a 1/4 mile away if they were coming towards me (and that was with a clunky Maxon detector).

There are radar detector detectors out there, as I have seen them. They look for any radiation in the 10 or 24 GHz band, generated by the local oscillators in the radar detectors. I haven't had a chance to check out the method on the "stealth" or "shadow" detectors, but I hear that they use extra shielding and pulse the LO and sample the incoming RF, rather than run the LO all the time.

Bill WB8LGX

5994. Re: Building 50-100W 7 MHz amp - suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: amoeba@winternet.com
Message-ID: <4alg5n$p0u@blackice.winternet.com>
Source record: 108907

Andrew M. Moore (moore@moore.sr.unh.edu) wrote:

: I plan on building a 50 to 100 watt amplifier for 7 MHz CW, using from
: 1 to 5 watts drive. I would like to hear people's suggestions about
: the design, components, gotchas, sources of information, etc. before I
: get started.

I am also very interested in this too. I am looking to build something
similar for CW and SSB for 7 MHz. However, I would also like to hear any
suggestions for a 6M 50 to 100W amplifier.

I too will be putting out anywhere from 1 to 5 watts drive. I would like to
stick with a solid-state based amp vs. tubes.

Thanks and 73!
dit dit

--
-=-
John T. Croteau - A.R.S. KA1VIX | Ten-Tec Argo 556 and Linux
From Beautiful Minneapolis, Minn. | A rather stylin QRP Station!
-=-

5995. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: charles1@netcom.com
Message-ID: <charles1DJJIqH.J8r@netcom.com>
Source record: 108908
Cross-posted to: sci.electronics,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,de.comm.ham

In article <flipk.818880173@soclab.soc.iastate.edu>,
Phil Knaack <flipk@iastate.edu> wrote:
>In <4am7op$b8j@erinews.ericsson.se>
> emwhkj@emw.ericsson.se (Henrik Johnsson) writes:
>
>>It would most definitely not do the trick, at least not without large
>>amounts of support logic. The original post was about asynchronous
>>serial transfer. It can be done with the HD6402 as mentioned, but it
>>will take a few extra chips to go along. A microcontroller with onboard
>>PROM would probably give the lowest chip count, but you need some tools
>>that not everyone has available (compiler/assembler, device programmer).
>
> This sounds like a great deal of overkill to me.
>
> serial-to-parallel: isn't a UART what is desired? Maybe a couple
>more chips to generate strobe pulses, and a crystal; but that should be about
>it.

68HC11 with embedded Forth. Takes about 10 lines of Forth. Has
serial port. Has parrallel port with centronics printer support logic.
Awesome little chip.

5996. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: flipk@iastate.edu
Message-ID: <flipk.818880447@soclab.soc.iastate.edu>
Source record: 108909
Cross-posted to: de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

In <1995Dec6.103431@atl.com>
ldesot@atl.com (Larry DeSoto) writes:

>In article <4a383p$a74$1@mhadg.production.compuserve.com>,
> Brian Webb <102670.1206@CompuServe.COM> writes:

>> I'm trying to find either an IC or a schematic for converting
>> serial-parallel.

>You need a Universal Asynchronous Receiver Transmitter (UART). One
>entirely satisfactory device I've used is a Giant AY-1013. This is
>an old device and I don't know if they are still being manufactured.
>If you can get one, it is easy to use in that it requires minimal
>support (a clock and maybe a level converter for the serial line).

Just two years ago I replaced the 1013 in my Radio Shack TRS-80 Model III.

They are still rather easy to obtain.

Cheers,
Phil
--
Phillip F Knaack
Tech Junkie / Junk Techie

5997. Re: WTB: Slotted Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951213164459.12971J-100000@biggulp.callamer.com>
Source record: 108910

Now THIS is a worthwhile idea present in a superb fashion! W6HDO

On Tue, 12 Dec 1995, Jim Potter wrote:

> Steve Schiller wrote:
> > If you want to make a cheap one suitable for UHF frequencies,
> Take a piece of copper, aluminum or brass tubing at least
> one-half wavelength long at your frequency, sized for a slip fit
> over the center conductor of RG8/u type coax. Drill holes every
> cm or half inch or whatever. Make a small E-field probe that
> has a stop so it sticks in the same distance every time and
> measure E (V) as a function of position. The same thing works
> with waveguide. Just space the holes appropriately so that you
> get 10 or so points per half-wavelength, and away you go. A
> cheap and easy prbe can be made from a short length of
> semi-rigid line coax, the kind available surplus with SMA
> connectors on the end. Cut off one connector. Cut away the
> outer conductor to expose a length of center conductor. Solder
> a brass washer to the outer conductor about one wall thickness
> (of your perforated line) back from the end. Drill the holes to
> clear the OD of the probe outer conductor (About 0.094" for the
> stuff I have) and probe away.
>
> Save big bucks.
>
> Jim
>
> --
> James M. Potter, President E-mail: jpotter@jpaw.com
> JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
> 2245 47th Street Voice: 505-662-5804
> Los Alamos, NM 87544-1604 FAX: 505-662-5210
>
>

5998. - I AM THE LAW -

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: Judge Dreed <JD@megacity.com>
Message-ID: <4am0bl$i42@rs18.hrz.th-darmstadt.de>
Source record: 108911

Would that sound OK for the courtroom?

I still have no information how far the proof will go on Thursday?

Better be quiet? Mhmm, the subject above may seem adaequat?

If not i will tell the easy version, ok?

Anyhow again, on Saturday after the *Witchhunt* play had been an GOROTEX
advertisment on the Schloss-Haltestelle. WHO & WHY this happen???
I think i have the right to get a clear statement, cause tthis bahavior
is in no way adequate!!! so what??

5999. Lowest PC Memory Prices!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: Rudy <kpedersn@roadrunner.com>
Message-ID: <30CF82F6.73A7@roadrunner.com>
Source record: 108912

High Sales Volume = Lowest Prices!

Because of high volume sales to the US Government, State Government, and National Laboratories, Atomic City Electronics, Inc. of Los Alamos, New Mexico is offering PC memory at outstanding prices:

4 MB (1X32) $129.95
8 MB (2X32) $249.95
16 mb (4x32) $479.95

All are new NP 70 ns 72 pin Simms.

Call (505) 662-7059: Ask for Rudy.
FAX (505) 662-6647: Attention Rudy.

6000. Re: RADAR DETECTOR DETECT

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: wmoyes@cello.gina.calstate.edu
Message-ID: <4aoi10$ljh@cello.gina.calstate.edu>
Source record: 108913

Bob Archer (Bob.Archer@ColumbiaSC.ATTGIS.com) wrote:
: It's my understanding that the "ghost technology" is nothing more than
: detection by your Radar Detector of the Police detectors local oscillator that
: powers down your Radar Detector.

So whats the next step, the police detectors will power down
their local oscillators before you have a chance to power down your local
oscillator to avoid detection ;^).

-William Moyes
wmoyes@cello.gina.calstate.edu

6001. Re: LCD counter module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-13 00:00:00 UTC
From: Skipper@skipper.interlog.com
Message-ID: <4alm31$m5k@steel.interlog.com>
Source record: 108914
Cross-posted to: sci.electronics.design,sci.electronics,sci.electronics.basic,sci.electronics.misc,rec.radio.amateur.homebrew

In article <1995Dec13.011511.16260@alw.nih.gov> arm@helix.nih.gov (Andrew_R._Mitz) writes:
> J. Mark Wolf (jmwolf@ismi.net) wrote:
> : Digikey sells LCD modules that have most of the "works" built
> : in. They're called SUBCUB I & II. They come with data sheets as
> : to application circuits. Call them at (800) 344-4539.
> :
>
> I have used these things. Check out the maximum counting rate
> before buying. You might consider using an Intersil chip.
> They have frequency counter chips, you add the LCD.
>

Andy,

What kind of maximum rate are you talking? Also any idea what the part number is on that guy? Is it one chip for a n-digit LCD? How does that work. Hopefully I can find it in a dat book at work...

Thanks

David
skipper@interlog.com

6002. Re: Building 50-100W 7 MHz amp - suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4apr3p$5i9@ixnews5.ix.netcom.com>
Source record: 108824

In <4apppo$ifm@hg.oro.net> rst-engr@oro.net (Jim Weir) writes:
>
>"Andrew M. Moore" <moore@moore.sr.unh.edu> wrote:
>
>
>>I plan on building a 50 to 100 watt amplifier for 7 MHz CW, using from
>>1 to 5 watts drive. I would like to hear people's suggestions about
>>the design, components, gotchas, sources of information, etc. before I
>>get started.
>
>>Thanks,
>>-Drew

> rst-engr@oro.net (Jim Weir) writes:
>
>Well, not to put the kibosh on your affinity for solid state thingies,
>but tubes (hot fets, radios that glow in the dark, etc.) are one hell
>of a lot easier to build and experiment with the first time around.
>You can mistune them, overdrive them, have them birdie and oscillate
>to beat the band and all you will get is a cherry red plate and/or
>popped fuse. Say "oops" and start over. With a transistor, say
>"oops" and buy another pair. The transistor will ALWAYS protect the
>fuse by blowing first.

--snip--

Tubes!! Yuuuck, (No disrespect to Mr. Weir intended) all that trouble for 100 watts? I'd try the Motorola EB63 from their handbook, you can get the board, and all parts less enclosure and connectors from Communications Concepts in Xenia Ohio 513-426-8600. The unit delivers 140 watts with 1-5 watts drive, broadband, NO TUNING, 13v @ 22amps. Uses MRF-454 transistors, a pair of them matches costs about $35 The whole enchilada is less than $100 I think.

Good Luck,

Tim Hynde

6003. Help! S-AU21 UHF power brick

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: PsyTech@massey.ac.nz
Message-ID: <4aq5vb$nb0@cc-server9.massey.ac.nz>
Source record: 108825

Hi,

I have recently come across some Toshiba S-AU21
10W 860MHz power modules. Does anyone have any
technical specs for these little beasties ? I
especially need to know the pin out. Any info
would be greatly appreciated.

Regards,

Malcolm

6004. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DJL74K.G9n@hpqmoea.sqf.hp.com>
Source record: 108826

Richard Karlquist (rkarlqu@scd.hp.com) wrote:

: done it a number of times. However, if you're going to go to the
: trouble of getting a crystal for each measurement frequency, you might
: as well use the crystal to make a VCXO, which is actually easier than
: making a filter. You can then lock the VCXO to the source under test
: and look at the baseband noise with an audio spectrum analyzer (home
: brew 3048 architecture).

Yes! for testing a simple VFO or a complete synthesiser you need
only find a crystal within the tuning range and build a VCXO, or pick the
ends and centre of the range and build 3 VCXOs

It should not be too difficult to get a cleaner crystal oscillator
than VFO or synth for the sort of offset freq range that is of interest
for cw/ssb/etc modes that we use.

Say $10 to put a VCXO together, a few dollars more for a mixer and a
loop amplifier. 3585's still fetch a fearsome second hand price, so the
50kHz range of the original 3580A looks rather tempting. For a really
cheapskate home phase noise measurement, an old telecomms selective level
meter or "wavemeter" amounts to a hand-cranked LF spectrum analyser - I've
seen examples on sale at rallies for pocket money. The use of a step
attenuator and meter is a little tedious but may be somewhat more
accurate than a spectrum analyser. Arranging a sensible IF filter width
and integrating the filter shape to get its noise bandwidth need only be
done once.

Commercial phase noise testers are fine if you have access to them
but may not be adequate for true state of the art work.

8640 mixdown will show up the problems with today's synthesisers
well enough, and begins to be affordable by individuals.

VCXO mixdown will outperform the 8640 and threaten the commercial
tester, for an even lower price but is 1 freq per VCXO

Mixdown of an identical pair of the devices under test can be
similarly cheap AND state of the art.

The LF analyser is not a trivial matter for HF work. The HP3585 up
converts to a higher IF than you've just mixed down from, with a very
early frac-N synth. Tuned to VLF the phase noise sidebands of the synth
will leak into the IF, giving phase noise from the analyser modified by
the mixer drive level and the mixer balance....

Sometimes you just don't win

Still, I can't quite believe this sort of conversation is really happening on this group.... and what I wrote for the ARRL seemed to start it!

Cheers
David GM4ZNX

6005. Re: Book by Kenneth Cornell?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <4aqll5$764@newsbf02.news.aol.com>
Source record: 108827

I had a copy about 15 years ago- it was old then.
Why not try writing W2IMB himself?
VE3IEY

6006. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDJn3qD.Asp@netcom.com>
Source record: 108828
Cross-posted to: de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

in <flipk.818880447@soclab.soc.iastate.edu>, Phil Knaack wrote:
: Just two years ago I replaced the 1013 in my Radio Shack TRS-80 Model III.

The real part numbers are either AY-5-1013, or AY-6-1013 (old PMOS parts needing a negative supply) or the AY-3-1015 (5 volt NMOS) or a higher voltage part (CMOS compatible) AY-3-1014 (5 to 14 volt NMOS).

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

6007. !! High Tech WWW Site !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <NEWTNews.818952380.14699.amsoft@486dx4_120>
Source record: 108829
Cross-posted to:
rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

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6008. I.D. Timers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: curtis epps <103165.3227@CompuServe.COM>
Message-ID: <4aq71r$2jn$1@mhafc.production.compuserve.com>
Source record: 108830
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

I.D. Timers: Battery powered quartz countdown timer with alarm.
Auto re-set/auto re-start for no
touch opperation and no loss in time between ten minute ID cycles
with the auto re-start. L.C.
display shows minutes remaining in countdown. High acuracy less
than +4 seconds per week
of continuous duty. Aprox 2 1/2 x 2 1/2 x 1/2 inches; watch
battery included.
Timer has spring loaded magnetic clip for dash board or visor
mounting for mobil use, swing
down metal bail converts clip to easel stand for base opperation.
Timers sold nationally for
$35.00. Special price $20.00 shiped UPS ground. Checks OK.
Curtis Epps (KB4WUB) 1553
Mackerel Ave.-Sarasota, FL 34237

--
C.EPPS

6009. Re: Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4aptt8$ec6@hpcvsnz.cv.hp.com>
Source record: 108831

In the ten or so responses I've seen here, I've seen folk mention that carbon composition resistors are getting hard to find, but nobody has mentioned metal oxide resistors. Commonly available in 1 and 2 watt sizes and perhaps larger, the ones I've checked in the 25 to 100 ohm range have very low parasitics. I use a pair of 100 ohm, 2 watt, units in parallel as a load for testing my handheld, and have measured SWR around 1.3:1 at 450MHz and for practical dummy load purposes, 1:1 at 2 meters.

Another very low parasitic power resistor is one made by Caddock: it's in a TO-220 style case. The biggest problem is the 4 or 5 pF from element to metal tab, used for heat transfer. You can dissipate 50 watts in one of these guys if you can heat sink it well enough. I think one of the other companies (Vishay?) has recently started advertising a medium-power resistor with low parasitics, too.

--
Cheers,
Tom
tomb@lsid.hp.com

6010. 50 watt PA for 7 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <4apt05$kco@flood.weeg.uiowa.edu>
Source record: 108832

>
>"Andrew M. Moore" <moore@moore.sr.unh.edu> wrote:
>
>
>>I plan on building a 50 to 100 watt amplifier for 7 MHz CW, using from
>>1 to to 5 watts drive.

There is a very excellent 50 Watt solid state PA project in Chapter 17
of the ARRL Handbook, 1995 and 1996 editions, that you might want
to take a look at.

6011. 6K7 and 6V6 DATA needed!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: Nanno van Haaften <vhaaften@iaeahv.nl>
Message-ID: <4aq54m$9ok@iaehv.IAEhv.nl>
Source record: 108833

Hi there!

I am going to build a 1V2 rx with my 9 year old daughter. To make the whole thing a bit more historical, we are going to use the 6k7 and 6V6 valves. I got them already, some real nice oldies, but do not know the exact specs and socket terminations.

Who can give me this data?

tnx es 73, Gert
(via email address below)

_____
_
/__ Nanno van Haaften
/___ PE1OLQ
/____ vhaaften@iaehv.nl
/_____ vhaaften@beatrix.philips.nl
/______
/_______ without U, Units would be nits.

Home Page: http://www.iaehv.nl/users/vhaaften/

6012. Re: PCB Etching

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDJn3qG.AtL@netcom.com>
Source record: 108834

in <4ajcmd$2ie@central.co.nz>, Barry Lennox wrote:
: Some years ago there was an article in the now-defunct "Ham Radio" on PCB
: etchants. I recall the best solution was Cupric chloride and some other
: additives. The really cute thing was that it was possible to regenerate the
: solution by overnight aeration. (I think that it was possible to end up with
: more etchant than you started with.)

: Anybody have this article ? More importantly, has anybody tried it with
: success?

The book "Electronic Prototype Construction" by Stephen D Kasten has a
good chapter on this. It's dated 1983 from Howard W. Sams. (I don't
know what you'd have to do to Prentice Hall Computer Books to get them
to reprint it.) Be worth a search at a good engineering library.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

6013. Re: Ferrite Rod..Filament Choke

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: "C. J. Hawley Jr." <hawley@aries.scs.uiuc.edu>
Message-ID: <30D1020A.3546@aries.scs.uiuc.edu>
Source record: 108835

Russ Ellsworth wrote:
>
> I am trying to find ferrite rod to make a filament choke for a 4-1000A Amp
> for 160 meters. Ferrite rod used to be easy to find but not anymore. I
> have tried Palomar Engrs., Amidon, and some industrial sources..nobody has
> rod, only toroids/beads/binocular cores, etc. Any ideas out there?? Maybe
> in your stock of treasures?? Thanks
> Russ Ellsworth WA6CWV..Boise, Idaho

Nebraska Sales, 1-800-244-4567 about $35 for the wound 8 inch choke, and $12 for the plain 8 inch #43mix rod.
--

Charles Jack Hawley Jr.
Amateur Radio KE9UW (A.K.A. 'Chuck' in Ham Radio)
BMW K100RS, BMWMOA #224 (A.K.A. 'Jack' in Motorcycles)
hawley@aries.scs.uiuc.edu
Sr. Research Engineer Emeritus
Univ of Ill, Urbana-Champaign

6014. Ferrite Rod..Filament Choke

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: alster@micron.net
Message-ID: <alster-1412951841010001@cs018p05.boi.micron.net>
Source record: 108836

I am trying to find ferrite rod to make a filament choke for a 4-1000A Amp for 160 meters. Ferrite rod used to be easy to find but not anymore. I have tried Palomar Engrs., Amidon, and some industrial sources..nobody has rod, only toroids/beads/binocular cores, etc. Any ideas out there?? Maybe in your stock of treasures?? Thanks
Russ Ellsworth WA6CWV..Boise, Idaho

6015. Re: Can't find source for 2N4

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: jim.horner@minfox.com
Message-ID: <9512141820148335@minfox.com>
Source record: 108837

JG>From: griffithj@ricks.edu (James Griffith)
JG>Subject: Can't find source for 2N4416 JFET It's high output MPF102

JG>Been doing some QRP building and have stocks of the usual transistors and
JG>parts needed for QRP, but can only find the MPF102 and not the 2N4416
JG>higher output version at the ususal sources. i.e., Mouser, Jamco, JDR,
JG>any suggestions.
JG>Jim, WA7NDD
JG>griffithj@ricks.edu

Dan's Small Parts and Kits lists them at $1.50 in the slightly outdated
catalog I have (1994-june95). You can't order by creditcard tho... But
the catalog has tons of cool bits and kits, all for QRP homebrewing ;-)
Address is: Dan's Small Parts and Kits
1935 So. 3rd West N0. 1
Missoula, MT 59801
Ph. 406-543-2872
I bought a kit from this guy a year or so ago. It took a little longer
to arrive than from some places since you have to send a check or MO,
but he sure has a cool list of stuff for sale.
Not a quick source for your 2N4416s perhaps, but I thought this source
worth mention.
Hope this helps someone
...Jim

---
* OLX 2.1 TD * On a beer day, you can pee forever.

6016. Info on QRP kits and QRP rigs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: dwilso02@mail.coin.missouri.EDU
Message-ID: <Pine.SOL.3.91.951214113457.27425A-100000@coinc0>
Source record: 108838

I'm interested in getting into HF QRP and would like to start with a kit or complete hombrew rig. My problem is that I can't find current schematics for into-level rigs or a quality kit manufacturer. Could anyone suggest a good entry point into HF homebrew and QRP?

73 -- drew

Drew Wilson
ARS KB0QIA
dwilso02@mail.coin.missouri.edu

6017. Re: pc board routing program

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: greg@core.rose.hp.com
Message-ID: <DJJv3I.G9n@icon.rose.hp.com>
Source record: 108915

scottc (scottc@pegasus.cc.ucf.edu) wrote:
: Does anyone know of a good check pcb board routing program?
:
: I downloaded easytrak and autotrak but they seem to be complicated to
: use.
:
I haven't used either of those, but PCTRACE seems easy to use. 1 or 2 layer boards, autorouter (not real intelligent, but it works). Works on minimal DOS system (even on my 100LX palmtop!).

Greg KO6TH

6018. Re: Drilling PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: mcline@iquest.net
Message-ID: <DJJx0w.9Mq@iquest.net>
Source record: 108916

Has anyone tried one of those cheap($600) CNC machines to automatically drill boards? I'm thinking of buying one after the first of the year since the old eyes aren't much good for that kind of accuracy anymore.
The one I inquired about comes with a holder for a dremel tool, and a little CAD package to control it. A programmer friend of mine is interested in playing around with it too, and would probably develop some software to read drill files created by a lot of the pcb layout programs.
Mike
N9RJW

6019. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: emwhkj@emw.ericsson.se
Message-ID: <4aomqv$pu8@erinews.ericsson.se>
Source record: 108917
Cross-posted to: sci.electronics,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,de.comm.ham

Phil Knaack (flipk@iastate.edu) wrote:
> In <4am7op$b8j@erinews.ericsson.se>
> emwhkj@emw.ericsson.se (Henrik Johnsson) writes:

> >It would most definitely not do the trick, at least not without large
> >amounts of support logic. The original post was about asynchronous
> >serial transfer. It can be done with the HD6402 as mentioned, but it
> >will take a few extra chips to go along. A microcontroller with onboard
> >PROM would probably give the lowest chip count, but you need some tools
> >that not everyone has available (compiler/assembler, device programmer).

> This sounds like a great deal of overkill to me.

> serial-to-parallel: isn't a UART what is desired? Maybe a couple
> more chips to generate strobe pulses, and a crystal; but that should be about
> it.

That's what I said, wasn't it. The 6402 is a UART, I just pointed out
another option that might save a few chips. Please note that most UARTs
would require a processor both for setup and for data transfer. The 6402
and a few others don't, all setups are done by tying pins high or low and
there are separate 8-bit parallel buses for transmit and receive.

/Henrik

--
_/
_/ Ericsson Microwave Systems AB _/
_/ Henrik Johnsson emwhkj@emw.ericsson.se _/
_/ tel +46 31 671898, fax +46 31 673833 _/
_/

6020. New Ham Web Site with Information Content

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: medcalf@idir.net
Message-ID: <medcalf-1412952119580001@idts1lw19.idir.net>
Source record: 108918
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.swap

A new ham radio related web site is on-line. It contains Articles
and Radio-TNC Wiring Diagrams.

URL: http://www.idir.net/~medcalf/ztx/

Current Articles

Desense: Some Possible Solutions

TOR Modes: Hearing the Difference (includes sound files)

Getting Information from a Weathernode

I plan to add an article approximately once a month. These articles may
be reprinted in amateur radio club newsletters provided that credit is
given to the author.

73 gloria ka5ztx medcalf@idir.net

6021. PCB formats?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: "Steven A. Bailey" <bailey@osb1.wff.nasa.gov>
Message-ID: <4ape7g$bik@post.gsfc.nasa.gov>
Source record: 108919

I am interested in sending a PCB design to a PCB manufacturing house. Unfortunately, my Windows based PCB program (PIA-PCB) does not support Gerber files. However, I can write to Postscript, HPGL, or any format supported as a Windows printer. Do PCB houses support either of these file formats or will they take a negative produced on a transparency? Any advice is welcome!!

Thanks, Steve

6022. Re: Can't find source for 2N4416 JFET It's hig

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1995Dec14.165555.23273@schbbs.mot.com>
Source record: 108920

>Been doing some QRP building and have stocks of the usual transistors and
>parts needed for QRP, but can only find the MPF102 and not the 2N4416
>higher output version at the ususal sources. i.e., Mouser, Jamco, JDR,
>any suggestions.
>Jim, WA7NDD
>griffithj@ricks.edu

My Motorola data book has brief data for 2N5484, 2N5485, and 2N5486 FETs.
For detailed characteristic graphs, it refers to the 2N4416. From this
it appears that these are basically 2N4416 that have been graded into
narrower gate pinch off voltage ranges.

2N4416: Vgs -1 to -5.5v
2N5484: Vgs -0.3 to -3v
2N5485: Vgs -0.5 to -4v
2N5486: Vgs -2 to -6v

For more power gain, the 2N5486 is the hotter device.

The local small parts mail order house I deal with locally here in Phoenix
(DC Electronics 1-800-467-7736) has these parts (2N5484,5,6) for $.75 each.

- Dan Tayloe, WB0NVB, Phoenix, AZ.

6023. Re: Building 50-100W 7 MHz amp - suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4apppo$ifm@hg.oro.net>
Source record: 108921

"Andrew M. Moore" <moore@moore.sr.unh.edu> wrote:

>I plan on building a 50 to 100 watt amplifier for 7 MHz CW, using from
>1 to 5 watts drive. I would like to hear people's suggestions about
>the design, components, gotchas, sources of information, etc. before I
>get started.

>Thanks,
>-Drew

Well, not to put the kibosh on your affinity for solid state thingies, but tubes (hot fets, radios that glow in the dark, etc.) are one hell of a lot easier to build and experiment with the first time around. You can mistune them, overdrive them, have them birdie and oscillate to beat the band and all you will get is a cherry red plate and/or popped fuse. Say "oops" and start over. With a transistor, say "oops" and buy another pair. The transistor will ALWAYS protect the fuse by blowing first.

Go back to the mid-60s to 70s ARRL manuals and you will find literally dozens of designs to choose from using TV sweep tubes, the old faithful 6146 (which, if done carefully, will do a credible job all the way to 144 MHz.) and a host of other methods.

Me, I personally like a pair of 807s plate modulated AM with an 811 ;-}...or even better, a pair of 1625s so I can run the filaments straight from the car battery with a dynamotor for plate voltage (lordy, am I showing my age or what).

The only caveat is that you AIN'T working with 12 volt tickles. 600 volts at half an amp will get your attention, so don't forget the shorting stick when you are working on these beasts.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

6024. Re: Help Needed: Expert Hackers only (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: jmiller@eyes.arizona.edu
Message-ID: <4apips$p8q@news.ccit.arizona.edu>
Source record: 108922

In article <4abce3$kso@solaris.cc.vt.edu>, mkeitz@bev.net says...
located at the patient's chest, at the sternum, and held in place there
by
>>a bra-like attachment garment. The garment features a pocket or holster
in

I question what is being monitored. In most monitoring applications
signal loss is of interest. Intentional patient defeat of systems
intended for their benefit (eg: holter monitoring of EKG) is not an
issue. Before I through in my 0.02, is the variable being monitored
being used to keep someone from escaping something?

My paranoid nature comes through again.

6025. Re: Ham stores/Chicago, 500W dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-14 00:00:00 UTC
From: cmoore@vegas.ch.intel.com
Message-ID: <4apm11$v62@chnews.ch.intel.com>
Source record: 108923

In article <4akgih$j98@flood.xnet.com>,
Gilbert Gwilliam <gwilliam@xnet.com> wrote:
>I am a non-ham who needs to buy a 500 W dummy load (for 13.56 MHz,
>preferably with a BNC connector) for an experiment in an industrial
>setting. Needless to say, I need this soon (like tomorrow). Can anyone
>tell me a ham store in the Chicago area (North/West would be preferable
>but not required) or a mail-order outfit that would be able to supply
>this item quickly?

Fair Radio Sales has an SWR/Power meter, ME165/G, with a built-in
50 ohm 600w dummy load. Used/poor $25, Used/good $45, Unused $125.
Their phone number is (419)227-6573 in Lima, Ohio.

73, Cecil, KG7BK, OOTC (not speaking for my employer)

6026. Re: How to add AGC to a Tube Radio?? (Swan 250)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: n4lq@iglou.iglou.com
Message-ID: <DJLsH3.8nn@iglou.com>
Source record: 108839

The 250 had agc. Maybe you're expecting too much. AGC controls the gain
of the IF stages based on the strength of the signal at the detector.
This is before it even reaches the audio section. You should normally
operate with the RF gain control turned all the way up (if it has one)
and adjust the audio gain for a comfortable level. When strong signals
are tuned in, the sensitivity of the radio should automatically decrease
and prevent the IF amplifiers from overloading. Volume may increase some
anyway since AGC does not regulate the actual audio amplifiers gain.

: This is a tube type radio. I figure a feedback from the audio
: output to the audio amplifier input could do it. Is there any
: other ideas or designs on how to do an AGC on a tube radio
: like the Swan 250?

: I've got the radio for free, so don't tell me to buy a new
: radio. I simply can't afford it!

: Thanks,

: Ken R. Mason
: KC6TEU
: CM98LQ
: Ken_R_Mason@ccm.fm.intel.com

--
Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

6027. Am reception in your teeth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: liao@emedia.net
Message-ID: <liao-1412952015440001@jliao-b.liao.emedia.net>
Source record: 108840

here's a question i've been trying to figure out:
a lot of people claim they can hear AM transmissions through
their dental work or bedsrpings. how does this happen? obiviously,
the metalic structure of the dental work and the springs can act as
antenna's but what is demodulating the signal from the carrier?
and what is used to amplify the sound?

anyways, just doing some wondering.

if you have any ideas, it would be really nice if you emailed it
to me!

mucho gracias!

--
--
Albert Liao
<liao@emedia.net>

6028. *** HELP ! BREWING SOFTWARE, KNOW OF ANY?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: ah8341@mail.eclipse.co.uk
Message-ID: <4aq00d$jia@ganymede.eclipse.co.uk>
Source record: 108841

I've had a request from a work colleague to find out whether there's any brewery type management software available. I've searched, fairly simply with LYCOS etc, but not found anything.

Anybody help, apparently there's a free pint it it!!!!!

Thanks,

Alan.

6029. For Sale TM-742a w/UT-50

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: Robert H&#65533;yvald <72242.477@CompuServe.COM>
Message-ID: <4ashk9ght1@mhafm.production.compuserve.com>
Source record: 108842
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,uk.radio.amateur

To all:

I have a Kenwood TM-742a for sale right out of the box with all
docs and warranties. It is only three months old . Included is the
DFK-7 kit, TSU-7 decoder, and the UT50s module for the extra 50mhz
band, and the Comet SSB-15 tribander antenna as a complete package
for $900.00 plus shipping. There is absolutely nothing wrong with
this unit and the accessories, it has very little TX time less
than an hour, and receive of not more than three hours.

Please E-mail all inquiries to 72242,477
KB2UWJ

6030. Re: Resistor for RF power attenuator help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4as5fj$l30@newsbf02.news.aol.com>
Source record: 108843

Hi Tom,

In article <4aptt8$ec6@hpcvsnz.cv.hp.com>, tomb@lsid.hp.com (Tom Bruhns)
writes:

>In the ten or so responses I've seen here, I've seen folk mention that
>carbon composition resistors are getting hard to find, but nobody
>has mentioned metal oxide resistors. Commonly available in 1 and 2 watt
>sizes and perhaps larger, the ones I've checked in the 25 to 100 ohm
range
>have very low parasitics. I use a pair of 100 ohm, 2 watt, units in
>parallel as a load for testing my handheld, and have measured SWR around
>1.3:1 at 450MHz and for practical dummy load purposes, 1:1 at 2 meters.

Sometimes that is true, sometimes it isn't. I just checked some 2 watt MF
here that have 100 nanohys ind at a test frequency of 60 MHz. This
resistor would be worthless in most parasitic supressor systems.

This varies from manufacturer to manufacturer, my rule is to always check
'em and not assume they are non-inductive. .
>
>Another very low parasitic power resistor is one made by Caddock: it's
>in a TO-220 style case. The biggest problem is the 4 or 5 pF from
element
>to metal tab, used for heat transfer. You can dissipate 50 watts in one
>of these guys if you can heat sink it well enough. I think one of the
>other companies (Vishay?) has recently started advertising a medium-power
>resistor with low parasitics, too.
>
Yes, someone mentioned them. I have some here, they work well. They are
kind of pricey for a tightwad like me. In thousands Allen Bradly *real*
carbon comps are 20 or 30 cents each.

73 Tom

6031. Re: Japanese 2SC380Y substitute ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: <>
Message-ID: <4arj9f$4sn@central.co.nz>
Source record: 108844

In article <4ahigm$ibah@rs2.ccd.harris.com>, dsnowden@ccd.harris.com says...
>
>What is a substitute for the 2SC380Y ? Would a 2N2222 work ? They are
>both npn, but I don't know if the specs are close enough...

The 2SC380 is NPN, described as a FM/Amp/Mixer/Osc for use up to 250 Mhz.
Suggested replacements are: BF 240/241/254/255/594/595. A 2N2369A or 2N2222
should be OK, depending on the application.

Barry Lennox

6032. Re: Can't find source for 2N4

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: kell@mpac.jsc.nasa.gov
Message-ID: <kell-1512951304560001@toad.jsc.nasa.gov>
Source record: 108845

You can't order _anything_ from Dan's right now. He is _not_ available.

Nobody seems to know where he is, but there are lots of rumours.

In article <9512141820148335@minfox.com>, jim.horner@minfox.com (Jim
Horner) wrote:

> JG>From: griffithj@ricks.edu (James Griffith)
> JG>Subject: Can't find source for 2N4416 JFET It's high output MPF102
>
> JG>Been doing some QRP building and have stocks of the usual transistors and
> JG>parts needed for QRP, but can only find the MPF102 and not the 2N4416
> JG>higher output version at the ususal sources. i.e., Mouser, Jamco, JDR,
> JG>any suggestions.
> JG>Jim, WA7NDD
> JG>griffithj@ricks.edu
>
> Dan's Small Parts and Kits lists them at $1.50 in the slightly outdated
> catalog I have (1994-june95). You can't order by creditcard tho... But
> the catalog has tons of cool bits and kits, all for QRP homebrewing ;-)
> Address is: Dan's Small Parts and Kits
> 1935 So. 3rd West N0. 1
> Missoula, MT 59801
> Ph. 406-543-2872
> I bought a kit from this guy a year or so ago. It took a little longer
> to arrive than from some places since you have to send a check or MO,
> but he sure has a cool list of stuff for sale.
> Not a quick source for your 2N4416s perhaps, but I thought this source
> worth mention.
> Hope this helps someone
> ...Jim
>
> ---
> * OLX 2.1 TD * On a beer day, you can pee forever.

6033. Re: 12VDC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DJn2zA.MDx@sunsrvr6.cci.com>
Source record: 108846
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In article <4ajfdc$jg8@news.scruz.net>,
Richard Steven Walz <rstevew@armory.com> wrote:
...
>For garage door openers it is pretty easy to monitor a broad band of
>frequencies and grab your code out of the air. A protection for this

What frequencies do they work on? Is it some audio-shift keying scheme
that could be recorded and played back?

Running through all combinations sounds more reliable, since it
does not require waiting around to record a door opening.

Jim

6034. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <30D208DF.2ABD@arrl.org>
Source record: 108847

Tom Bruhns wrote:
>
> In the ten or so responses I've seen here, I've seen folk mention that
> carbon composition resistors are getting hard to find, but nobody
> has mentioned metal oxide resistors. Commonly available in 1 and 2 watt
> sizes and perhaps larger, the ones I've checked in the 25 to 100 ohm range
> have very low parasitics. I use a pair of 100 ohm, 2 watt, units in
> parallel as a load for testing my handheld, and have measured SWR around
> 1.3:1 at 450MHz and for practical dummy load purposes, 1:1 at 2 meters.

I've recommended these in the past, and have gotten one
complaint that they *look* too inductive to be useful.
I decided his eyeball's weren't calibrated accurately,
since he didn't even have a QRP rig/SWR meter to measure
them... Also, they are awfully rugged. 2 watt resistors
will actually take 2 watts for short periods of time. I've
run also run them at 72% of full rating for a couple hours
with no problems other than some melted insulation on the
clip leads. **Don't** try this with carbon compositions.

Zack KH6CP/1
zlau@arrl.org

6035. Re: NMR physicist needs help in HF-circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: Carl Gregory <cgregory@uiuc.edu>
Message-ID: <4asnni$er0@vixen.cso.uiuc.edu>
Source record: 108848

ddw2@Lehigh.EDU wrote:
>Finally if you checked out the recent TAMU Newsletter you will find an
>interesting ad. Some Canadian company is selling a hand-held device which will
>suit your need. It combines a synthesized RF source, RF bridge/detector and a
>LCD display (graphic). It is a handy little gadge for NMR work. The only
>drawback is that it is pretty pricy.

Check out the handheld swept reflection bridges from Advanced Electronics Applications (AEA, Inc, in Washington state, http://www.mvangel.com/aea/) in any recent ham magazine. These are much less expensive than a commercial swept RF generator, bridge, detector and scope ($200 ?). They can also be used right up to most magnets. The drawback is that they don't cover all the possible frequency ranges NMR folks like to use.

Carl Gregory (K8CG)
Biomedical Magnetic Resonance Laboratory
College of Medicine
University of Illinois
1307 W Park St
Urbana, IL 61801
(217)-244-2350

6036. Re: Info on QRP kits and QRP rigs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4asr6b$ht8@news-f.iadfw.net>
Source record: 108849

dwilso02@mail.coin.missouri.EDU (Drew Wilson) wrote:

>I'm interested in getting into HF QRP and would like to start with a kit
>or complete hombrew rig. My problem is that I can't find current
>schematics for into-level rigs or a quality kit manufacturer. Could
>anyone suggest a good entry point into HF homebrew and QRP?

>73 -- drew

>Drew Wilson
>ARS KB0QIA
>dwilso02@mail.coin.missouri.edu

Drew,
73 Magazine had a couple of real neat transmitters a few years
ago, 1 - 40m and 1 - 80m. I built the 40m, about 3/4 watt, not many
contacts but fun to build. Don't have a scanner, but if you are
interesed I could mail you a photocopy of the schematic. They use
nand gates for oscillators and 2 or 3 2n2222's in the final. Real
simple, mine even worked the first time I turned it on!
Kerry Miller
kmiller@airmail.net

The Voice of Union Valley and All Right-Thinking People of East Texas!

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( oo )
|--------------ooOO--()--OOoo--------------|
| Kerry Miller Royse City, TX |
| |
| WD5ABC |
|----------------------------------------|
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6037. Re: 12VDC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <4asuog$2sg@solaris.cc.vt.edu>
Source record: 108850
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In article <4ajfdc$jg8@news.scruz.net>,
rstevew@armory.com (Richard Steven Walz) wrote:
>In article <4aabpg$g8u@geraldo.cc.utexas.edu>,
>Bruce Bostwick <lihan@ccwf.cc.utexas.edu> wrote:
>>slwork@netcom.com (Steve Work) wrote:
>>> Also, I do not think that 2^8 combinations is particularly un-secure.
>>> Remember that the potential intruder would have to not only try all 256
>>> codes but learn several other details such as frequency, encoding
method,
>>> etc. All of which make their job much more difficult. If it were me ,
I
>>> would stick with what you know can get to work.
>>
>>It's worth mentioning that around here, at least, there are people who
>>specialize in this type of burglary and apparently they're pretty good
>>at it -- we had a special on the news not too long ago about how easy
>>it was to break into houses with garage door openers. I suspect that
>>most of the job nowadays is in the form of hardware you can buy from
>>people who sell shady quasi-legal stuff like this (nominally for
>>educational purposes only, of course, just like 1kW CB linears etc.)
>>so better not count on store-bought stuff for Fort Knox security ...
>>
>><BGB> http://ccwf.cc.utexas.edu/~lihan/
>--
>For garage door openers it is pretty easy to monitor a broad band of
>frequencies and grab your code out of the air. A protection for this
>is to use the interior button to open and the hand transmitter with a
>DIFFERENT code to close. Then have a third code on the hand
>transmitter to re-open if the first code is tried again within 30
>seconds of moving. For the unskilled homeowner, though, it is better to
>make a door opener which has a microcontroller which detects multiple
>attempts nearby to open your door, and it automatically changes the
>open code to a longer code you would need to switch to with your hand
>transmitter!! This also gives you warning that someone may have
>attempted entry! The best is a computer that locks the system and
>calls security if anyone sends a binary sequence of numbers in obvious
>attempt to open yours or nearby garages! Sort of like the ATM machines
>which keep your card if you fail to enter the right PIN number three times
>in a row in any day or week! Don'tcha jus'luv redundancy? "PIN number"!

Steve seems rather excitable!

Anyway, assuming that a potential unautorized user can "grab" the code from
your transmitter over the air, even a long code is not secure as long as it

is constant. The idea of using a different code for "close" is a very good one, as it is useless to a potential burglar and the one that you will transmit when leaving the garage. Unfortuantely, the logic of most garage door openers just has a circuit for "activate" which will either open or close depending on which state the door is in. But a low-security "close-only" receiver could be installed by using a limit switch or other means to disconnect it from the opener unless the door is open.

One low-tech approach that might suit many uses would be to allow the door to be opened by remote control only during certain times of day (when the owner is likely to be returning home). Burglars don't like to be around during these times of day. This does involve quite a trade-off in convenience.

Even simple receivers could be made immune to attempts to try every code by locking out for a period of time if several wrong codes are received. I don't know if manufacturers would boast of that feature or not. Some of the ones on the market are likely to contain it already.

A secure "open" code would have to vary over time, so that a copy of it is useless at a later time. Offhand, I can think of two ways to do this, but both would increase the cost quite a bit.

The first way would be a random challenge. This requires two-way communication though. The receiver generates a random number and sends it to the transmittter. Both units encrypt the random number with a secret number. The transmitter transmits the encrypted response, and if it matches, the receiver accepts it. Even if both sides of the communication are monitored, the secret number can't be determined. So the system is secure from a "code grabber" unless it happens to generate exactly the same random number for him so the same response would work. (and that could be prevented from happening by remembering which random numbers were transmitted recently and not reusing them).

Another way would be to install real-time clocks in both units. When activated, the transmitter encrypts its clock time with the secret number. The receiver accepts codes that are from times near the actual time. This has the problem of maintaining both clocks to the same time. A setup mode of some sort would be required where the transmitter sends its time reading and the receiver sets its clock to that time (this would have to be available only while the owner was present, by pressing a setup button inside the garage for example). Clock drift could be compensated for by the receiver making minor changes to resynchronize its clock with each successful decode.

If the resolution of the clock is on the order of minutes, it could be possible for a "code grabber" to re-use a code. Since the most likely application of the code grabber is to capture the code while the owner is leaving, a seperate "close" code is a very good idea. Another way would be to only accept a particular code once, i.e. require the clock in the transmitter to advance before it can be used again. On the other hand, if the resolution is too fast, cumulative error in the time could disable the

transmitter.

In either of these schemes (especially the random challenge), the secret number needs to be quite large to discourage exhaustive attempts to "crack" it (This wouldn't be as much of a problem with the real-time based scheme, the transmitter would have to be monitored at different times to try and deduce what the real-time setting is as well). Some means of configuring the transmitter and receiver to the same secret number other than the usual DIP switches is likely to be required. Probably the most customer-friendly way to do it is to manufacture each transmitter with a permanent, unique secret number, then transfer it over the air to the receiver during installation. Both the transmitter and the receiver would need "setup" modes, since the transmitter must not transmit the secret number except when no code grabbers are nearby. Unfortuantely, with this approach, if an unauthorized person can get phyical access to the transmitter for a short time, he could use it's setup mode to obtain a copy of the secret number and make a clone transmitter later.

Actually, if a burglar can get physical access to the even the most secure of transmitters, he could just open the door. This is how most garage-door opener facilitated breakins occur, despite the hype over the code grabber. The only defense from this would be to have a keyboard on the transmitter so the owner could enter part of the secret number before each use. This is likely to be too inconvenient for anyone to accept.

-Mike KD4QDM

6038. Re: NMR physicist needs help in HF-circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: ddw2@Lehigh.EDU
Message-ID: <4as8n3$1na3@ns5-1.CC.Lehigh.EDU>
Source record: 108851

In article <4ak6a7$apd@nx2.hrz.uni-dortmund.de>, thorsten@news.hrz.uni-dortmund.
de () writes:

>The trouble is, that I have no straightforward way to get this
>circuit
>1. on resonance
>2. matched to 50Ohms
>
>
>: > ||
>: > >-----||----------
>: > || | |
>: > C2 | |
>: > --- O
>: > C1 --- O
>: > | O coil
>: > | O
>: > | |
>: > GND GND
>:

We have build numerous NMR probes before with the help of a RF sweeper and a
RF bridge w/diode detector. IMO a impedance meter is useless when you start
building the probe from scartch, impedance reading on the meter does not give
you a clue where you are going! With a sweeper, however, you see your resoance
peak and by looking at which way it moves you know where to adjust. The
y axis on the display indicates matching condition (with 50 Ohm match at the
baseline) and the x axis is the frequency. For example, if you resoance is at
the high freq side of your desired freq, you add more capacitance to C1. If
the resonance peak is far above the baseline you increase C2. You are right
abuot that increasing C@ will lower the resonance freq. On a sweeper setup,
you can build a probe in 10 minutes. Go buy/borrow a sweeper and forget about
the impedance meter. The latter is only good when you need to fine-tune the
probe which had been tuned and matched previously (like when you load the
probe with a lossy sample, etc).
In addition, we had replaced the RF bridge with a power combiner/splitter and
works just fine. You simpley feed one of the combine/split input with the
sweeper rf output and connect the sum port of the splitter/combiner to the
probe under tunning. A diode detector is connected to the other combine/split
input. If the load (probe) is tune and matched no voltage (or minimum) will be
detected at the didoe detector output. When your load is mismatched or
off-tuned, you will get a reflective out put at this port. We found this a
cheaper way than buying the RF bridge.
With such a setup, we build up to quadruple tune probe for our experiments.
They are being used by many NMR researchers in the US.

Finally if you checked out the recent TAMU Newsletter you will find an interesting ad. Some Canadian company is selling a hand-held device which will suit your need. It combines a synthesized RF source, RF bridge/detector and a LCD display (graphic). It is a handy little gadge for NMR work. The only drawback is that it is pretty pricy.

Hope this helps and let me know if you have further questions.

DJ

==========

D. J. Wang, Ph.D. N2YKP Lehigh University
Director of Instrumentation Chemistry Department
ddw2@lehigh.edu Seeley G. Mudd Bldg.
(610)758-3463 (Ph) 6 E. Packer Ave.
(610)758-6536 (Fax) Bethlehem, PA 18015

6039. Radar Detector Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: tkomljan@mobility.COM
Message-ID: <30D2023B@msgate.mobility.com>
Source record: 108852

The Radar detector LO receiver is called the VG-2 and is made in Mississauga, Ontario. Stealth radar detectors simply use a redesign receiver/horn with an LO on another frequency that the VG-2 isn't looking for. They still leak like crazy, just not at 11 GHz!

Tony K
VA3TK

6040. Re: Drilling PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: rmc@chem.psu.edu
Message-ID: <4ase2j$1cmf@hearst.cac.psu.edu>
Source record: 108853

In article <DJJx0w.9Mq@iquest.net>, mcline@iquest.net says...
>
>Has anyone tried one of those cheap($600) CNC machines to
>automatically drill boards? I'm thinking of buying one after
>the first of the year since the old eyes aren't much good for
>that kind of accuracy anymore.
> The one I inquired about comes with a holder for a dremel
>tool, and a little CAD package to control it. A programmer
>friend of mine is interested in playing around with it too,
>and would probably develop some software to read drill files
>created by a lot of the pcb layout programs.
>Mike
>N9RJW
>
Mike,
I work in an electronics shop where people need small boards (less than 8.5 x 11 inches) quickly and often, and we got tired of drilling them by hand, with the problems of connectors that wouldn't go in holes, missing holes in ground planes since they're hard to see, etc., so we built ourselves a machine to drill the holes for us. It's made of scrap dot matrix printers, with their precision ground rods, stepper motors, and belt drives. The accuracy is 1/300th of an inch, since the printers were 300dpi. With this machine, we can drill about 1.5 holes per second, and it doesn't miss any, either. My boss wrote the software to take in the pc board files (for small boards we use an old program called Smartworks, from Wintek) and it finds the holes, displays them on the screen, you line up two holes on the opposite corners, and it drills the board. He also wrote some software to interpret ASCII and Orcad drill files. We haven't drilled a board by hand since we built it, almost 3 years ago, and it is a lifesaver for me.
If anyone would like more details they can post to here and I'll see what I can do.

Also, we use a laser printer, sugar paper from DynaArt, a fuser roller from and old laser printer, and a bubble tank with ammonium persulfate with excellent results. Again, we have made hundreds of boards with good success with 16 and 50 mil runs, so if anyone has any questions we can help with, ask.

Regards,
Bob Crable
Engineering Aide
Research Instruments
Electronics Shop
Chemistry Department

Penn State University

6041. Re: 100 W 7 MHz amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: cunliffe@frontiernet.net
Message-ID: <4ascbu$d06@cheatum.frontiernet.net>
Source record: 108854

stoskopf@tri.NET (Lawrence Stoskopf) wrote:

>For this range of power and frequency, a look at an article in May 1995 RF
>Design is in order. They have described in an article "High-Efficiency
>Power Amplifiers for 13.56 ISM and HF Communications", a two (plastic)
>MOSFET amp that puts out 400 W CW with 5 watts in using a 100 V power
>supply. Am thinking about building one for 160 for use when I don't want to
>turn on the big amp.

Beware...this is not for linear amplification and can not be modified
to do so...its purly for class C.

==========
John R. Cunliffe N2NEP
cunliffe@frontiernet.net
http://www.frontiernet.com/~cunliffe

6042. WT: Info on Kokasi 800/900 mhz radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: drp@netcom.com
Message-ID: <drpDJn2Lw.48t@netcom.com>
Source record: 108855

I have a modified Kokasi 800 mhz radio. It has been modified to 900 mhz for operation in the 902 to 928 mhz HAM band. The problem is that I have very little information on it. It has been equiped with a Motorola Motrac control head. It was operational previously. I have tried to power it up with no success. When I apply power to its main + and - power lines and the lines at the control head for ignition connection etc, still no luck. If you might have info on this radio. It is a trunk mount unit, black with a large heat sink at one end and is very neat and modular inside. Each major functional module is in it's own seperate enclosed case.

Any help you can give would be very appreciated.

Randy


```
_____________________________________
| Randy Petersen |
| drp@netcom.com |
| |
| (408) 246-8568 Voice Line |
/)| (408) 246-4295 FAX Line |(\
/ )| KE6IZZ 147.855 440.100 1285.00 |( \
__( (|_____________________________________|) )__
((( \ \ ) /_) (_\ ( / / )))
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6043. Re:Why 1420 MHz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: dave eckhardt <davee@hp5800.desk.hp.com>
Message-ID: <DJnAo7.Gv4@boi.hp.com>
Source record: 108856

I attended the Central States Convention this summer in CS,Co. I did not attend the NF measuring. However, if the L-Band preamps were aimed at SETI, the 1420 MHz frequency is the hydrogen maser emmission frequey. Both the temperature and radial velocity of a distant hydrogen cloud can be measured at 1420 MHz by measuring the broadness of the emmission and the doppler shift from the laboratory reference frame emmission. It is felt that since many "intelligent" look-ee-loos at deep space will be looking at the hydrogen maser emmission. Therefore, its a good place for amateurs to look for possible radio emmissions from other "intelligent" aleins (?).

6044. Re: Ferrite Rod..Filament Choke

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: dsnowden@ccd.harris.com
Message-ID: <4arsr9$atfi@rs2.ccd.harris.com>
Source record: 108857

C. J. Hawley Jr. (hawley@aries.scs.uiuc.edu) wrote:
: Russ Ellsworth wrote:
: >
: > I am trying to find ferrite rod to make a filament choke for a 4-1000A Amp
: > for 160 meters. Ferrite rod used to be easy to find but not anymore. I
: > have tried Palomar Engrs., Amidon, and some industrial sources..nobody has
: > rod, only toroids/beads/binocular cores, etc. Any ideas out there?? Maybe
: > in your stock of treasures?? Thanks
: > Russ Ellsworth WA6CWV..Boise, Idaho

Amidon does have ferrite rod. I just bought 2 8" rods about a month ago.
Doug, N4IJ

: Nebraska Sales, 1-800-244-4567 about $35 for the wound 8 inch choke, and $12 for
: the plain 8 inch #43mix rod.
: --

: Charles Jack Hawley Jr.
: Amateur Radio KE9UW (A.K.A. 'Chuck' in Ham Radio)
: BMW K100RS, BMWMOA #224 (A.K.A. 'Jack' in Motorcycles)
: hawley@aries.scs.uiuc.edu
: Sr. Research Engineer Emeritus
: Univ of Ill, Urbana-Champaign
--
Doug Snowden
dsnowden@ccd.harris.com

6045. Re: homebrew FM radio.. need help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <819052540snz@lfheller.demon.co.uk>
Source record: 108858

In article <4afrlh$ap5@noc2.drexel.edu>
st92ba44@dunx1.ocs.drexel.edu "Antonio Gatta" writes:

> Hello.
>
> Could someone point me in the right direction? I'm looking to built a
> (hopefully simple) FM receiver that is channel specific. I'd like a little
> breadboard project that picks up .. say .. the 90-100 MHz FM range.
>
> I've done alot with shortwave/AM radios, but never've really fooled with
> FM.
>
> Good places to find schematics for FM projects?

The Philips TDA7000 is probably the easiest way to do this - you just
need the one chip (plus some other components, of course).

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

6046. Re: 100 W 7 MHz amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: stoskopf@tri.NET
Message-ID: <199512150413.WAA26611@home.tri.net>
Source record: 108859

For this range of power and frequency, a look at an article in May 1995 RF Design is in order. They have described in an article "High-Efficiency Power Amplifiers for 13.56 ISM and HF Communications", a two (plastic) MOSFET amp that puts out 400 W CW with 5 watts in using a 100 V power supply. Am thinking about building one for 160 for use when I don't want to turn on the big amp.

You might write Richardson Electronics, Ltd, 40W267 Keslinger Road, LaFox,Ill 60147 for a reprint and data sheets. The amp looks simple with no big headaches if you have some experience in homebrew. Suspect someone will have an article out in the ham mags on this soon....it's too good to overlook.
Lawrence E. Stoskopf
N0UU

6047. Re: Ferrite Rod..Filament Choke

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4as55h$l07@newsbf02.news.aol.com>
Source record: 108860

In article <30D1020A.3546@aries.scs.uiuc.edu>, "C. J. Hawley Jr."
<hawley@aries.scs.uiuc.edu> writes:

>Nebraska Sales, 1-800-244-4567 about $35 for the wound 8 inch choke, and
$12
>for
>the plain 8 inch ⌀43mix rod.

Or you could go to Ameritron or another amp builder and buy them much
cheaper!

73 Tom

6048. Battery Monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: lehman@delta1.deltanet.com
Message-ID: <4ar7kj$c6b@news1.deltanet.com>
Source record: 108861

I am building a portable power source and want to build a voltage meter using a few LEDs. I figured I'd use some zener diode circuit. I want to start at 12.6 volts and work down to 12.0 volts. In other words all LEDs lighted when fully charged then to extinguish as the battery drains. I'd appreciate any help.

Thanks, Jeff KD6DHB

6049. Re: LCD counter module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: Crok@crok.demon.co.uk
Message-ID: <19951215.172235.05@crok.demon.co.uk>
Source record: 108862
Cross-posted to: sci.electronics.design,sci.electronics,sci.electronics.basic,sci.electronics.misc,rec.radio.amateur.homebrew

Before being shot for writing article <4ab0v6$cao@steel.interlog.com>, David Mulligan wrote:

> I can swear I saw an LCD counter module at work today in a test jig. Since
> I have no idea who builds them, and as I rarely get to the production
> building at work I will probably not find out that way for a while :(
>
> Anyways my question is are there any LCD counter modules with external
> reset? Well what I am trying to achive is a frequency counter, basically I
> need the each digit to act like a cascading decade counter, to be reset
> once a second, 10 times a second etc... Or is there a better way?
>
> Thanks a bunch....
>
> David
> skipper@interlog.com

There is one available from Maplin.

--
x^ ( ) _________ //
< U O |_|_|_|_|_| O ||
\, |/|\ _________ [ ]
. |/^\ . 2 . /__\
... I am what I am and that's all that I am

6050. Heathkit HW-8 on SSB?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: DICENSODJ%DFL@pcmail.usafa.af.mil
Message-ID: <4as7e3$nk9@usafa2.usafa.af.mil>
Source record: 108863

When cleaning out my shack, I exhumed my old HW-8. Hasn't had any voltage running through it in years. Nostalgia! As I played around with my HW-8, I recalled a relatively simple SSB oscillator module that 73 magazine did an article on maybe 2-4 years ago. Hmm...

Anybody ever tried to go SSB using the venerable HW-8 as a basis? Anyone got any suggestions or observations on the propsects of such a modification?

Thanks for any thoughts or comments.

-- Dave.

6051. Temperature Compensating Tuning Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-15 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-1512951604020001@squaw-d126.sierra.net>
Source record: 108864

There was a brief thread discussing the scarcity of info on this topic here recently.

I contributed the observation of the ARRL Handbook 95 circuit of thermistor bridges used to vary the bias of a tuning diode to act as a variable tempco capacitor.

Have found a pertinent Motorola Application Note AN-551 which specifically addresses temperature compensation techniques for tuning diodes. The material should be available from local Motorola office or from the RF Device Data Book Volume II, Q4/88, DL110, Rev 3.

Good Luck,
Bob T.

6052. Re: Printing directly to PCB with an ink jet printer ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <4av4nn$oai@guava.epix.net>
Source record: 108724
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.cad,sci.electronics

jay@rmii.com (Jay de Halas) wrote:
>Hi;
>
>3. What ink jet printers have a flat paper path ? Color would appease

I don't know of any that would feed PC material.

>4. Is registration any better than what you would get with a laser printer ?

I can't see how they could be as good. In the Horz a laser should be near
perfect. In the vertical both have similar paper movement. Having used
both I find the laser usually seems more accurate.

>5. Any other ideas ?
The only direct print to PC board I have heard of is with a flat bed
plotter. Some have reported drawing directly on the material with
ploters. However my ploter moves the paper in one direction and the pen
in the other. It would seem that you should be able to put a pen in your
cnc drilling machine and draw using it with proper software. Is it a home
brew CNC drill or what. The basics of a plotter and a cnc machine are all
the same.
Garry WB0NNO

>
>
>Thanks !!!
>
>Jay L. de Halas

6053. Re: 100 W 7 MHz amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDJotuI.2Ds@netcom.com>
Source record: 108725

In article <4ascbu$d06@cheatum.frontiernet.net> cunliffe@frontiernet.net writes:
>stoskopf@tri.NET (Lawrence Stoskopf) wrote:
>
>>For this range of power and frequency, a look at an article in May 1995 RF
>>Design is in order. They have described in an article "High-Efficiency
>
>Beware...this is not for linear amplification and can not be modified
>to do so...its purly for class C.

I'm probably totally out of turn (having not read the original article,
but would like to do so) but.... wouldn't it be pretty easy to get the amp
into a linear mode if it's based on FETs ... just bias the gates into the
linear region, or is there something more to it than that? It seems like a
high power solid state amp that runs off about 300V would be a really neat
toy (you could do good AC line isolation and not even have to worry about
the weight of a power transformer for 220VAC operation!)

73 Dave WB0GAZ dgf@netcom.com

6054. Re: How to add AGC to a Tube Radio?? (Swan 250)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <4a1_9512161331@mba.mba.org>
Source record: 108726

Apparently (I missed the original post) somebody acquired a
Swan 250 and wants to add agc to it, or something like that.

Somebody has already said that the rig has AGC. I assume that's
correct, because I can't imagine it not having AGC. On the other
hand, in the early days of the Swan rigs there were articles in
the ham magazines about adding AGC and/or improving it. The details
are fuzzy, and I'm not into searching right now. I'd say that
the very earliest Swan rigs must have needed improvement in the
AGC department. The later rigs, I'm not so sure. THere were plenty
of articles about modifying the Swan 250, but again I can't recall
the details so I couldn't say whether people at the time deemed it
to be lacking in good agc. The problem of the original poster might
be that it wasn't a good implementation (there were variations on
the 250 over it's life; the number remained the same but a letter
was added at the end), or that in his particular rig the there's
a problem in his agc that needs repairing.

Michael VE2BVW
--
| Return Address: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

6055. Re: How to add AGC to a Tube Radio?? (Swan 250)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: ctrask@primenet.com
Message-ID: <4au0ih$h2j@nntp3.news.primenet.com>
Source record: 108727

Ken (KC6TEU) (Ken_R_Mason@ccm.fm.intel.com) wrote:
: All,

: What is the best way to add AGC capability to the SWAN 250
: radio? This radio has no AGC, so when I am listening to a weak
: signal during a contest my ears will get blown out by a local
: contester!

: This is a tube type radio. I figure a feedback from the audio
: output to the audio amplifier input could do it. Is there any
: other ideas or designs on how to do an AGC on a tube radio
: like the Swan 250?

: I've got the radio for free, so don't tell me to buy a new
: radio. I simply can't afford it!

Ah! Winter is here and the tubes are coming out of the closets.

For a vacuum tube receiver, AGC (and MGC) is implemented by ad-
justing the voltage on the control grid(s) of the IF amplifier and RF
amplifier stages. For the most part, pentodes (three grids) were used
for this function as the transconductance curve is more linear.
Variable-u pentodes like the 6AU6, 6BA6, and 6AK5 (my favourite) were
very widely used, so look for something like this in the radio. The
AGC voltage is derived by rectifying the audio, and then conditioning it
as required to achieve the desired results.
There were a number of variable attack- and delay-time AGC
circuits in the ARRL handbooks of the 60's and early 70's (vacuum tube,
of course) and undoubtedly solid-state versions in later years. You might
want to stay with vacuum tube solutions because of the voltages. And, of
course, because you are a purist.
You <ARE> a purist, aren't you (HI)?

--
Regards,

Chris

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
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6056. New Keyer kit on 1" PCB

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: Dave'Doc'Reid <101454.3715@CompuServe.COM>
Message-ID: <4auc18$7vp$1@mhadf.production.compuserve.com>
Source record: 108728

Hi there -

I have developed a small keyer kit - called the uKeyer
(microkeyer) It is a complete iambic micro keyer on a 1" PCB -
designed for use in Homebrew equipment.

Look out for it in your local magazines - will be reviewed in
RadCom in the UK - and hopefully in QST RSN.

It boasts the following features:

5 to 50+ WPM
Low power consumption (1uA in standby)
Small size - 1" (25.4mm) square PCB
TUNE button for 10 secs keydown
stored CQ CQ DE <call> <call> AR PSE K at the press of a
button
Dot/Dash memories
low cost - (£20.00 + 1.00 P+P)
for the kit (£26.00 + £1 P+P for a built PCB.

THIS IS REALLY AN ADVERT - but thoguht you all might like to
know about it...

Email 101454.3715 @ compuserve.com for more info - ta

--

! views expressed do reflect the views of the company
cos I OWN the company !

6057. DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <30D2F9FD.28F7@netaxs.com>
Source record: 108729

A couple of hams that I work with have been kicking around the notion of building a direct conversion receiver using a quadrature NCO for the local oscillator, and a dual input DSP to perform the phase shift and audio filtering functions. Seems that a very high performance unit could be built with extreme reproducability and reasonable cost.
A couple of threads on this topic have started and fizzled here, but I'm wondering if anyone would like to discuss forming a 'virtual project team', either on this group, or some other Internet vehicle to try to pull this off.

Joe
WA3CMQ

6058. Re: How to add AGC to a Tube Radio?? (Swan 250)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: jim@kaiwan009.kaiwan.com
Message-ID: <4avgdg$rqs@kaiwan009.kaiwan.com>
Source record: 108730

In article <4au0ih$h2j@nntp3.news.primenet.com>,
Christopher Trask <ctrask@primenet.com> wrote:
>Ken (KC6TEU) (Ken_R_Mason@ccm.fm.intel.com) wrote:
>: All,
>
>: What is the best way to add AGC capability to the SWAN 250
>: radio? This radio has no AGC, so when I am listening to a weak
>: signal during a contest my ears will get blown out by a local
>: contester!
>
>: This is a tube type radio. I figure a feedback from the audio
>: output to the audio amplifier input could do it. Is there any
>: other ideas or designs on how to do an AGC on a tube radio
>: like the Swan 250?
>
>: I've got the radio for free, so don't tell me to buy a new
>: radio. I simply can't afford it!
>
>
> Ah! Winter is here and the tubes are coming out of the closets.
>
> For a vacuum tube receiver, AGC (and MGC) is implemented by ad-
>justing the voltage on the control grid(s) of the IF amplifier and RF
>amplifier stages. For the most part, pentodes (three grids) were used
>for this function as the transconductance curve is more linear.
>Variable-u pentodes like the 6AU6, 6BA6, and 6AK5 (my favourite) were
>very widely used, so look for something like this in the radio. The
>AGC voltage is derived by rectifying the audio, and then conditioning it
>as required to achieve the desired results.
> There were a number of variable attack- and delay-time AGC
>circuits in the ARRL handbooks of the 60's and early 70's (vacuum tube,
>of course) and undoubtedly solid-state versions in later years. You might
>want to stay with vacuum tube solutions because of the voltages. And, of
>course, because you are a purist.
> You <ARE> a purist, aren't you (HI)?
>
>
>--
> Regards,
>
> Chris
>
>---
>Chris Trask / N7ZWY Circuit Design for the RF Impaired

>ATG Design Services __ __ ____ ___ ___ ____
>ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
> (@ @) / / \ / / / / /__ / \/ /___ /
>----------------------ooO~(_)~Ooo---

--
==========
The Cottage Consultancy..
..where the rubric meets the rote! ..de N6LV

6059. 6V6 and 6K7 data request ??e-mail add

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: Brian Olliver <Brian@briano.demon.co.uk>
Message-ID: <819121663snz@briano.demon.co.uk>
Source record: 108731

i have tried to mail this info to you but it
keeps on bouncing
is your address corupted on the article?
--
Brian Olliver,G8DQQ he who expects nothing won't be disappointed.
(44)01952-413484; 0973-731454
I hate taxes, I want to be free to waste my own money
vive la revolution, but hurry up i'm getting too old.
xxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxx

6060. Pcb Etching question???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: n0nas@hamlink.mn.org
Message-ID: <819109508.AA04602@hamlink.mn.org>
Source record: 108732

>ag722@ccn.cs.dal.ca (Chris Findley) wrote:
> Also, and most important: What can I use to mask
>large areas of the board with??? I am familiar with the photo etch....

I used to use fingernail polish or fingernail hardner. Just paint it on
and let it dry. I tried using tape before but I usually had the edges
loosen up, undercuting the edge and any tape joints. I expect that
something like Testors Enamel model paint would work too. Or probably
any old house paint or maybe even spray paint. The hardest part is
getting some of these materials off the board when done! Use a solvent
to loosen it up. I used to put the fingernail polish on thick and run a
razor blade under it for removal. Always finished up with a light
sanding anyway.

I'll also agree that getting the spray resists to work was very hit and
miss, mostly miss. If you want to spend some time with graphic arts,
the old silk screen techniques are still the best for large quantities
of boards at home. Some of the graphics arts films for silk screening
might also work as a direct application photo resist for the board. What
looks like the most promising technique for one or two boards at a time
is the laser print plastic films. That assumes of course your printer
can do the graphics or the local copier can make a real 1:1 print.
I bought some of the film a few years ago but haven't used it yet so I'd
be interested in hearing other peoples experiances.
Merry Christmas!

Doug Reed, N0NAS email: n0nas@hamlink.mn.org

* SLMR 2.1a * Doug Reed, N0NAS email: doug.reed@hamlink.mn.org

6061. Re: RADAR DETECTOR DETECTOR??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <4avtds$1uj@newsbf02.news.aol.com>
Source record: 108733

I always seem to get a false detection when someone near me is using another detector. I also seem to get interference from the CellPhones.

Would be interested to know what frequency the IF of the radar gun is!

Thanks

6062. Re: Battery Monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <819149239snz@lfheller.demon.co.uk>
Source record: 108734

In article <4ar7kj$c6b@news1.deltanet.com>
lehman@delta1.deltanet.com "Jeff Lehman" writes:

> I am building a portable power source and want to build a voltage meter using
> a few LEDs. I figured I'd use some zener diode circuit. I want to start at
> 12.6 volts and work down to 12.0 volts. In other words all LEDs lighted
> when fully charged then to extinguish as the battery drains. I'd appreciate
> any help.
>
> Thanks, Jeff KD6DHB

The National LM3914/5/6 bargraph driver chips are designed for this sort
of application.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

6063. Re: PCB formats?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: mcline@iquest.net
Message-ID: <DJolw6.8FI@iquest.net>
Source record: 108735

"Steven A. Bailey" <bailey@osb1.wff.nasa.gov> wrote:
>I am interested in sending a PCB design to a PCB manufacturing
>house. Unfortunately, my Windows based PCB program (PIA-PCB) does
>not support Gerber files. However, I can write to Postscript, HPGL,
>or any format supported as a Windows printer. Do PCB houses support
>either of these file formats or will they take a negative produced
>on a transparency? Any advice is welcome!!
>
>Thanks, Steve
>

We had a place make a few boards several of years ago and I sent
them a photo negative made at a school photograohic lab from a
printout made on an old dot matrix printer. I suspect it cost us
extra, but they were able to touchup the negative and produced
excelent boards.

Mike
N9RJW

6064. Info On texscan al-51c

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: n0nas@hamlink.mn.org
Message-ID: <819109508.AA04601@hamlink.mn.org>
Source record: 108736

I'm looking for a schematic or service manual or even operators manual
for a Texscan model AL-51C Spectrum Analyzer. This is a cheap portable
model about 10-15 years old. I also have a model AL-51A which I'll
probably try to fix or use for parts. (Every switch in the AL-51C seems
to be dirty and I think the various stages have drifted with age.)

Does anybody have any info or know if the company still exists? If you
have manuals, please estimate page count or duplication cost. Thanks.

73's. Doug Reed, N0NAS email: n0nas@hamlink.mn.org
2014 Radatz Ave fax: (612) 773-2202
St Paul, MN 55109

* SLMR 2.1a * hAS ANYONE SEEN MY cAPSLOCK KEY?

6065. Optimaltech Ep-2a-28 info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: n0nas@hamlink.mn.org
Message-ID: <819109508.AA04603@hamlink.mn.org>
Source record: 108737

I have an old Optimal Technologies EP-2A-28 Eprom programmer.
But I only have one personality module for the TMS 2532 EPROM.
As far as I know the module is nothing more than a 24 pin header with
jumpers to connect various pins of the EPROM to programming signals.
I'd like to hear from anyone with wiring info for the personality
modules before I decide to throw it away or stip it for parts.
Since it is mainly a gang copier/programmer, it isn't what I need but
I hate throwing things away. Thanks for the help.

Doug Reed, N0NAS email: n0nas@hamlink.mn.org

* SLMR 2.1a * What happened to the Paperless Computerized Revolution?

6066. Re: Heathkit HW-8 on SSB?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4aumvs$bva@cloner3.netcom.com>
Source record: 108738

>Anybody ever tried to go SSB using the venerable HW-8 as a basis?
>Anyone got any suggestions or observations on the propsects of such a
>modification?
>
>Thanks for any thoughts or comments.
>
>-- Dave.

There are two circuits in the W1FB QRP notebook which provide for DSB generation. I imagine you could put such a circuit before the P.A in the HW-8. Very simple, a 741 and a few parts.

Regards,

Tim Hynde, ka8ddz

6067. Re: Battery Monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <4av4ur$oai@guava.epix.net>
Source record: 108739

lehman@delta1.deltanet.com (Jeff Lehman) wrote:
I am building a portable power source and want to build a voltage meter
sing
>a few LEDs. I figured I'd use some zener diode circuit. I want to
start at
>12.6 volts and work down to 12.0 volts. In other words all LEDs
lighted
>when fully charged then to extinguish as the battery drains. I'd
appreciate
>any help.
>
>Thanks, Jeff KD6DHB
>
Use a bargraph driver chip. Radio shack used to sell one and if they
don't I'm sure they can be mail ordered. I have seen just such a circuit
built using these chips. Super simple but I don't have the numbers off
the top of my head.
Garry WB0NNO

6068. Re: How to add AGC to a Tube Radio?? (Swan 250)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: jim@kaiwan009.kaiwan.com
Message-ID: <4avhls$t3h@kaiwan009.kaiwan.com>
Source record: 108740

>
> For a vacuum tube receiver, AGC (and MGC) is implemented by ad-
>justing the voltage on the control grid(s) of the IF amplifier and RF
>amplifier stages. For the most part, pentodes (three grids) were used
>for this function as the transconductance curve is more linear.
>Variable-u pentodes like the 6AU6, 6BA6, and 6AK5 (my favourite) were
>very widely used, so look for something like this in the radio. The
>AGC voltage is derived by rectifying the audio, and then conditioning it
>as required to achieve the desired results.

If memory serves, the 6AU6 and 6AK5 of the above trio are sharp cut-off
pentodes. Application of AGC to these tubes may result in a harsh AGC
characteristic and some interesting overload effects. It can be done,
however.

> There were a number of variable attack- and delay-time AGC
>circuits in the ARRL handbooks of the 60's and early 70's (vacuum tube,
>of course) and undoubtedly solid-state versions in later years. You might
>want to stay with vacuum tube solutions because of the voltages.

Back in the days of the Swan SW140/SW120 AGC-less tranceivers the guys
used to full-wave rectify the secondary of the audio output transformer
and apply the negative voltage to an ad hoc AGC bus connected to the DC
returns of the i.f. amplifier control grids. It sounded harsh, but
worked well.

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==========
The Cottage Consultancy..
..where the rubric meets the rote! ..de N6LV

6069. Re: Building 50-100W 7 MHz amp - suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4at5ha$8ga@globe.indirect.com>
Source record: 108865

"Andrew M. Moore" <moore@moore.sr.unh.edu> wrote:

>I plan on building a 50 to 100 watt amplifier for 7 MHz CW, using from
>1 to 5 watts drive. I would like to hear people's suggestions about
>the design, components, gotchas, sources of information, etc. before I
>get started.

Somewhere in QST about ten years ago there was a circuit for a Class C final using an IRF530 power FET running on 24V. With a good heatsink the author said it would do 50 watts, for less than a watt input. The circuit was awesomely simple, and if you give me a day or so I'll dig around and find the exact issue. It wasn't a feature article; it was in Technical Correspondence.

It could be exactly what you're looking for.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

6070. Re: *** HELP ! BREWING SOFTWARE, KNOW OF ANY?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: ah8341@mail.eclipse.co.uk
Message-ID: <4asr07$ml8@ganymede.eclipse.co.uk>
Source record: 108866

ah8341@mail.eclipse.co.uk (ah8341) wrote:

>I've had a request from a work colleague to find out whether there's
>any brewery type management software available. I've searched, fairly
>simply with LYCOS etc, but not found anything.

>Anybody help, apparently there's a free pint it it!!!!!

>Thanks,

>Alan.
SORRY POSTED TO THE WRONG GROUP , My mistake :-(Alan.

6071. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_819120423@rtfm.mit.edu>
Source record: 108867
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

```
Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb,
rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet
mailing list counterparts and complements. It is intended to serve as a
guide for the new reader on what to find where. Questions and comments may
be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at
jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October
1994 to add the discussion of non-Usenet mailing lists and streamline most
of the history discussion, and to change the moderator information for
rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list
for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions
were held on the mailing list, and sent to the mailboxes of those who had
signed up for it. When the Usenet software was created, and net news as we
now know it was developed, a newsgroup was created for hams: net.ham-radio.
The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became
progressively higher. First one by one, and then as part of two
reorganizations, what was once one group became many. In the process,
developments elsewhere on the net were reflected in the groups as they were
created, most notably the change to place all of the ham radio groups in one
hierarchy.

The collection of newsgroups continues to grow as more people join the net,
and as more topics of discussion gain volume, I expect to see more groups be
created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the
notable exception being rec.radio.swap. There are also a few mailing lists
that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them,
and not to the groups that aren't. The whole idea of having different
```

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

6072. Re: Drilling PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: thb@thegle.demon.co.uk
Message-ID: <819118875.6495@thegle.demon.co.uk>
Source record: 108868

rmc@chem.psu.edu (Robert Crable) wrote:

> I work in an electronics shop where people need small boards (less than
>8.5 x 11 inches) quickly and often, and we got tired of drilling them by
>hand, with the problems of connectors that wouldn't go in holes, missing
>holes in ground planes since they're hard to see, etc., so we built
>ourselves a machine to drill the holes for us. ....

> If anyone would like more details they can post to here and I'll see
>what I can do.
>
Bob,

Sounds brilliant! Yes, please post details.

Tom.

6073. Re: Quick and dirty demostration of AM

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: datwyler@aros.net
Message-ID: <4ate76$7fa@news.aros.net>
Source record: 108869

In article <4a9g80$si9@news.aros.net>, datwyler@aros.net says...
>
>I need to know of a quick and dirty (EASY) demostration of AM modulation for
>an upcoming Boy Scout round table. HINTS, or outright answers are welcome.
>
>
>Douglas L. Datwyler WR7O
>datwyler@aros.net
>
I would like to thank all who replied to my message. They were all great
suggestions. I will be using parts of them upcoming shortly.

Douglas L. Datwyler WR7O
datwyler@aros.net

6074. Re: Building 50-100W 7 MHz amp - suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDJnxMy.K81@netcom.com>
Source record: 108870

The CCI amplifier kits are good starting points. All on board parts, PC board included... you gotta supply enclosure, heat sink, switching, and output filter. I have the AN762 design -- 140 watt max -- waiting to be built. All based on Motorola design bulletins.

Communication Concepts Inc
508 Millstone Dr.
Beavercreek OH 45434
513 426-8600

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <

6075. WTB: 6550/KT88 Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: beard@acca.nmsu.edu
Message-ID: <4atr68$leu@bubba.NMSU.Edu>
Source record: 108871

I need several 6550's or KT88's.
I want either USA or Russian (Sovtek) brands.
I don't care if they are used as long as they age good.
Please e-mail me with what you want to sell/trade.

WA4QGA
David Beard

6076. Varicaps for Texscan Analyzer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <883105248wnr@ifwtech.demon.co.uk>
Source record: 108872

Help, please, to repair a dead Texscan AL-60B spectrum analyzer.

I'm trying to locate a replacement source (or at least some data or equivalents) for the VCO varicap diodes, type VAT51E.

It would be worth replacing or rebuilding the whole VCO, just to get the analyzer going again, so are there any other sources/ideas for a VCO that covers the whole octave from 1.0GHz to 2.0GHz?

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)

6077. Re: How to add AGC to a Tube Radio?? (Swan 250)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-16 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <819138057.27118@pinetree.microserve.com>
Source record: 108873

n4lq@iglou.iglou.com (Steve Ellington) wrote:

>The 250 had agc. Maybe you're expecting too much. AGC controls the gain
>of the IF stages based on the strength of the signal at the detector.

I'm not familiar with the 250's specific AGC circuit, but older rigs
often didn't have the control range we expect by today's standards.
Maybe it's not working. Is the S-meter moving?

73,
Jack WB3U

6078. List Of Stamp Applications [951214]

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: cj@algonet.se
Message-ID: <4b00cg$2nh@prometheus.algonet.se>
Source record: 108741
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
_____________________________________________________ _____
_____________________________________________________// L.O.S.A //_____

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
List Of Stamp Applications Date: 951214
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

Contents

_____________________________________________

1.0 What is BASIC Stamp ?
1.1 What is L.O.S.A all about ?
1.2 How can I contribute to this list ?
1.3 Where could I find L.O.S.A ?
1.4 List of contributions.
1.5 Credits and other things.

_____________________________________________

1.0 What is BASIC Stamp ?
-------------------------

This is being written for people who have no idea of what a BASIC
Stamp is...

BASIC Stamps are small reprogramable single board computers (SBC)
that run BASIC programs and are made by Parallax, Inc. in US. At
first glance, they may seem fairly minimal - and in fact, they are.
But with software that fully utilizes all available hardware, the
Stamps give you powerful features - without the cost of hardware.

Their low cost and simplicity make the Stamps perfect for many
prototyping and control applications. It's suitable for electronics
hobbyists as well as electronics professionals in many different
areas.

Typical application areas for BASIC Stamp's are...

- General electronics
- Home automation
- Robotics
- Mini PLC
- Education
- Prototyping
- HAM related applications
- Special effects in films
```

- Industri control
- Geological instruments
- Computer peripherals
- Scale model hobbyists

As an talent engineer and technical writer expressed it...

- BASIC Stamp is the 555 of the 90's !

1.1 What is L.O.S.A all about ?

I started to compile L.O.S.A because I know there are lots of great ideas and many problems that are solved with the BASIC Stamp and the main purpose of this list is to get an idea of what other people are using their BASIC Stamps for and maybe get some inspiration or hints.

Remeber it's up to all of us if this list are going to be any good and I'm looking forward to receive a description of your application.

1.2 How can I contribute to this list ?

If you have done something with the BASIC Stamp (big or small) that you are willing to tell others please use the form given below and write a short description, nothing fancy is needed just a simple explanation. If you have source code to share that's even better but it's not necessary.

Then e-mail the form to:

cj@algonet.se

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in the L.O.S.A form on the Web-page...

http://www.algonet.se/~cj/losa.html

[--- cut ---]

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------
Title :
Author: Date:

E-mail: (optional)
-------------------------------------------------------------------------
Stamp model : BASIC Stamp/BS1-IC/BS2-IC
```

Code available: YES/NO
Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

1.3 Where could I find L.O.S.A ?

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

You could soon find the latest version on the following URL...

http://www.algonet.se/~cj/losa.html

1.4 List of contributions

==========
Title : Robo-Cat [# 001]
==========
Date : 950807
Author: Gustavson Guy W.
E-mail: GWGUSTAVSO@mpg.norstan.com

Stamp model : BASIC Stamp Rev. D
Code available: N/A
Filename : N/A
URL : http://www.winternet.com/~bigfoot/cat.html

Description :

My cat, Kesha, was recently diagnosed with Heptic Lipodosis. Or
"Fatty Liver", basicly what this means is that for some reason he
stoped eating and his liver started converting body to useable
sugars. The fat deposists biuld up in the liver and cause severe

liver damage. Because the liver isn't working well the cat feels crappy and wants to eat even less. The treatment for this disease is to run a tube down down the cats nose into his stomach, or a PEG tube through the abomine wall into the stomach and feed the cat a liquid diet this way.

I love my cat, but I can't be there every three hours to feed him through the tube for a month. Something about work and deadlines and such. So I went to a local supplus house and got a tiny motor driven pump, a case, some switches, a micro switch, ect...

The micro switch is mounted such that the switch trips for every rotation of the pump shaft. The stamp turns on the pump for on a single rotation at intervels programable from the controll switches on top. An alarm buzzer and LED flash if the pump fails to run for any reason. The unit is programable for 9 differents deleviery rates.

Now he gets a slow continuious feeding and he seems to tolerate this better than the 100ml feeding every three hours.

==========
Title : Logic Rudder [# 002]
==========
Date : 950812
Author: Christer Johansson
E-mail: cj@algonet.se

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : LRUDDER.ZIP
URL : http://www.algonet.se/~cj/filelibrary/BS1-IC/

Description :

Many of the new and very realistic flight sims available today needs rudder to let you get full control. This one uses a digital pot from Xicor (X9104) and 10 other components. Connects to a standard IBM-PC game port and power is taken from the port.

It uses two micro switches for controlling the rudders left or right and to indicate when rudders move there is a red LED that lights up when you press the micro switches and to indicate center there is a green LED. If you press the both micro swithes the rudder will automaticly return to center position.

There is a trim pot to set the desired step rate from slow to very fast and the Xicor pot has 99 steps wich gives a fair resolution.

==========
Title : Interfacing MAX186 8 channel 12bit A/D [# 003]
==========
Date : 950925
Author: Helmut Fligge

E-mail: h.fligge@asco.nev.sub.de

Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : N/A

Description :

This Program interfaces the Stamp1 to the MAX186 A/D converter. Via RS232 2400bps the stamp is asked to measure channel numbern. After conversion the result will be returned to the host computer as an ascii string (0 .. 4096). Conversion rate is about 4 measures per second.

==========
Title : Scrolling LED Sign [# 004]
==========
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D
Code available: Maybe sometime
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Scrolling LED sign, 35 super-bright LEDs in a 5-by-7 matrix in the prototyping area of a Basic Stamp rev D. A scrolling alphanumeric message moves one pixel at a time, just like real scrolling LED signs, except this one only displays one full letter or portion of two letters at a time as the message moves by.

==========
Title : Tone Decoder [# 005]
==========
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D
Code available: Soon
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Listens for telephone touchtones, displays phone numbers on LCD screen and echos them out RS-232 port. Circuitry fits in prototyping area of rev D Basic Stamp:

Microphone preamplifier, touchtone decoder IC.

==========
Title : Pager [# 006]
==========
Date : 950928
Author: Don McKenzie
E-mail: donmck@tbsa.com.au

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : PAGER.BAS
URL : ftp://ftp.parallaxinc.com

Description :

This program for the Basic Stamp is used to monitor 4 hardware signals. If a change takes place, (after testing for a false trigger) then a cheap 2400 baud MODEM is used to dial into a Telecom Alpha-Numeric pager. It leaves a message which consists of a 2 digit I.D. (01 to 99) followed by the 4 signal levels of pins 3 to 0.

Status of the signal levels message: 0=Low, 1=High. EG: "011110" means Unit "01" has pins 3, 2, and 1 high, and pin 0 is low.

A "Ring-In" feature is also included. By ringing the MODEM for a short period, then hanging up, the Stamp will dial your Pager and report the current hardware status of these four signals.

This program uses about half of the available memory, so if the user wishes to add enchancements such as "Multiple Ring-In's" say within a minute, for a command selection, there is plenty of program space left.

==========
Title : HexWalker Mobile Robot [# 007]
==========
Date : 950929
Author: T. R. Thornton
E-mail: mandtsys@ix.netcom.com

Stamp model : BASIC Stamp Rev. D or BS1-IC
Code available: YES
Filename : WALK.BAS
URL : N/A

Description :

HexWalker is a six legged mobile robot that is controlled by a BASIC Stamp or BS1-IC, and driven by three servo motors (similar to Futaba S148). It is the simplest walking machine architecture that can walk forward, backward, and turn left or right.

```
=========================================================================
Title : Robo Bug [# 008]
=========================================================================
Date : 951003
Author: David Novick
E-mail: dkn@cimar.me.ufl.edu
-------------------------------------------------------------------------
Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : http://www.me.ufl.edu/~dkn
-------------------------------------------------------------------------
Description :

Using two stamps, a robot with six legs (2 degrees of freedom each)
was able to walk and turn (at this stage, not very gracefully).

=========================================================================
Title : EXPBOT Robot controlled by Stamp [# 009]
=========================================================================
Date : 951009
Author: Marvin Green
E-mail: marvin@agora.rdrop.com
-------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : EXPBOT.BAS
URL : E-mail author and he will send it
-------------------------------------------------------------------------
Description :

This program allows a cool robot to move abound a room in search of
light. Like a moth. Simple program changes can dramatically change
the robots behavior.

=========================================================================
Title : Andrews Ever Evolving Lego Robot [# 010]
=========================================================================
Date : 951119
Author: Andrew H. Hochheimer
E-mail: softarts@ciaccess.com
-------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: YES
Filename : N/A
URL : http://www.wincom.net/~softarts
-------------------------------------------------------------------------
Description :

Currently the robot can only navigate to the brightest light source
in a room. It's current operation mode has four major steps: - Scan
a 180 Degree Field of "Vision" taking light level readings, and
determining the brightest direction of light. - Decide if it needs
```

to turn left, right, or continue moving forward. - Check for collision with an object while moving, if a collision occurs, display the total travel distance on the display - Move forward for 1.5 Seconds and then repeat the process.

Currently I am using Two Futaba FP-S128 Servos (any RC Car Servos would work) one to sweep it's "sensors" form left to right, and one to "stear" the robot.

You can see pictures and more information on my homepage, just follow the lego robot link.

==========
Title : Factory Monitoring System [# 012]
==========
Date : 951120
Author: Paul Willemse
E-mail: pjwill@merlion.singnet.com.sg

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : E-mail author

Description :

The system presently consists of 4 Basic Stamp units. Each monitors up to 5 inputs. The inputs are 'digital' (switches) and/or analog (temp, airflow, current, etc using commercial sensors). All stamps communicate the results via serial mode to a Macintosh (Yes a Mac!) where the results are graphically displayed and monitored. Alarms are set for certain conditions.

The transmission is simple, one way only. Each stamp sends the info at a 'random' interval not exceeding 2 seconds. The message format is fixed, the Mac will throw away any conflicts in case two or more stamps transmit at the same time. BTW this happens very seldom. The max time any stamp can be 'absent' from the chain before an alarm is raised is six seconds (failure, transmission collisons, etc). This is controlled by the Mac.

The 'system' is presently in beta test, the client wishes to expand up to 20 stamps. At that point we will likely use the BS1-IC or BS2-IC on custom boards located around the facility.

Code is available upon request (e-mail) partial, some is proprietory to my client.

==========
Title : Wave to the Cats/Desk Temperature [# 013]
==========
Date : 951121
Author: Paul Haas

E-mail: paulh@hamjudo.com

Stamp model : BS1-IC
Code available: Yes
Filename : See web server
URL : http://hogwild.hamjudo.com/cgi-bin/stamp

Description :

The Stamp has a serial connection to web server, a cardboard hand, a servo motor to move the hand, and a DS1620 thermostat chip to measure the temperature. The web server can request the current temperature or start the hand waving. See the web page for the source code for the temp and the web server.

It's mostly useless. The cats ignore the hand. A few people find it entertaining.

==========
Title : Gamer's Die Roller [# 014]
==========
Date : 951122
Author: Larry Tremblay
E-mail: ltremblay@domus.com

Stamp model : BS2-IC
Code available: N/A
Filename : N/A
URL : N/A

Description :

The Gamer's Die roller is a little thing I am putting together as my first Stamp Project. The Roller allows cumulative rolls of n dice up to 256 sides, so long as the sum does not exceed 99,999,999(!)

It uses two 74HC161 4 bit counters cycling at 1MHz to draw random numbers off of. Input is achieved via a Grayhill model 38 keypad and a 74C922 keypad decoder. Display is on a Siemens PDSP-2111 8 character smart display (5x7 LED characters) fed by two 74HC164 serial to parallel shift registers cascaded so I can use Shiftout to feed 16 bits of control + data off of 2 pins.

The code is very simple, the most exotic part being the random number generation. In a nutshell, it is:

Begin Loop
S = 8 bit number drawn from the counter (random)
if S < (255/N) x N (integer divide, N is number of sides on die)
exit Loop
End Loop

This gets (pseudo) random numbers whose average is not skewed downwards by the counter's max of 256 (i.e. a 100 sided die is not affected by the extra 56 in the count maximum)

Using gamer's dice notation, (5d6 = sum of 5 six sided dice, 3d10 = sum of 3 ten sided dice), the user can input whatever combination they wish, including just 'd6' for one six sider. The keypad I have has removeable keycaps with legends, so I have 0-9 plus 'd' and '=' on them.

As noted earlier, since I am using an 8 bit counter, the maximum die size is 256, although that could be fixed easily by sampling two, three or more times for each die.

Anyhow, that's it. When the code is done and debugged, I'll be happy to e-mail it to any who want it.

```
==========================================================================
Title : Stamp II Serial I/O [# 015]
==========================================================================
Date : 951128
Author: John Hansknecht
E-mail: Hansknec@cebaf.gov
--------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: Yes
Filename : HAL01.bs2 and HAL01.bas
URL : ftp.parallaxinc.com
--------------------------------------------------------------------------
Description :

A bare-bones demonstation of 2 way serial communications between a
PC running Qbasic and 1 or more Stamp II's.

==========================================================================
```

1.5 Credits and other things

Credits should go to all of you who makes this list possible I hope it suffices to say "Thank you to all who have contributed to L.O.S.A - we all appreciate it."

Special thanks to all of you at Parallax, Inc. who makes and support this great products !

If there is anything you think I've missed (or spelled wrong <g>) I would love to hear from you so we could make this list even better.

You could reach me at the following e-mail address: cj@algonet.se

Stay tuned,

/Christer

Copyright (c) 1995 HTH. All rights reserved. Parallax, BASIC Stamp,
and PBASIC are trademarks of Parallax, Inc. PIC is a registered
trademark of Microchip Technology, Inc. Other brand and product names
are trademarks or registered trademarks of their respective holders.

-=-
>> L.O.S.A is compiled by Christer Johansson, HTH <<
-=-

6079. Re: Phasenoise-FFT-offline

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: rrrath@aol.com
Message-ID: <4b15n9$c21@newsbf02.news.aol.com>
Source record: 108742

Hi,

I have tested two shareware pgms with impressive dynamics which are much
slower then the freq4 or digitize:

a)hpwfft1.zip or hpwfft2.zip (more or less same, 1 MB)
WINDOWS, for soundcards and BB7805 AD or an external
20bitAD described in German ELRAD.
in Compuserve: midiforum and hamnet;
ftp.ix.de/pub/elrad area 20
or http://ix.de/el
More or less offline, impressive dynamics, up to 130db, in help file
some
sample screenshots are included. FFT dsiplay and:
table with THD and SN, offset values etc
Very large FFT with pay-version possible,
My PAS 16 revealed: 2th harmonic -76db, 3rd -90db.

c) cheaper: NEW cooledit vers.152
cool152.zip on cica-sites, compuserve, aol etc.
allows recording and then FFT up to 120db dynamic,
pgm also usefull for wavegeneration etc.

d) Errol Williams has written a FREE tool for wav-files
WINDOWS; incl. spectrum, voiceprint, 3d-spectrum
not best dynamics, but very simple and versatile for recorded
signals (e.g. shortwave etc)
wavwev.zip (52K) : ftp.tpoint.net/windows/sound

?? anybody knows better pgms?
?? anybody adapted for Zoom-FFT

73s and Merry Xmas from Munich
Robert DJ0RA, OE5RRL

ps: please use after dec.29th my CIS ID: 100626,3217@compuserve.com

6080. Re: Phasenoise-CHEAP-FFT-online

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: rrrath@aol.com
Message-ID: <4b1673$c5d@newsbf02.news.aol.com>
Source record: 108743

Hi,
Conventional analysers and panadapters are very slow if used for narrow spans.

I have been experimenting with some pgms for FFT with soundcards (e.g. from Simtel , Cica site), but IMHO the following pgms (FREE!!) are the best:

a) freq4.zip (134KB) DOS from Phil VanBaren
on many sites, or simtel/sound
supports 16bit mode of Pro Audio Spectrum 16 and PA Studio 16,
other soundcards only in SB 8bit mode.
With PAS 16 about 75db dynamic, very useful online change of parameters very fast, also freeze, screenshot possible.

aa) the new freq51a.zip(515K) is more or less the same, somewhat less stable?
but includes version for LINUX and supports Logitech Soundman as well as
cards with VESA AI BIOS.
http://schaeffer.eecs.umich.edu/~phillipv/signal ..also screenshots as well as sonogram.

b) digitize from Matt Park--WINDOWS
dig12b1.exe ftp.transend.com/pub/users/mattpark
less dynamic ..60db, but useable with all soundcards
Author has written it for a friend --panadapter and described in:
Aug.1995 Circuit Cellar Ink, The Computer Applcation Journal

c) A fellow ham and spectrumanlyserdev. was quite impressed by a simple FFT solution at a RFexpo about 1 1/2 years ago,
very small company, owner from India,
offered DEMO disk and brochure as well as soundcard with add. screening.

Unfortunately said Om has lost disk and address
Anybody know??

Any other good and cheap pgsm known??

-see my further info about offline pgms

73 and Merry Xmas from Munich

Robert
DJ0RA, OE5RRL

PS: use after dec.30th my CIS ID: 100626,3217@compuserve.com

6081. Printing to PCB material from a laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: timj@solo.pipex.co.za
Message-ID: <30d42a95.101198859@news.solo.pipex.co.za>
Source record: 108744

Does anyone know of a simple way of getting PC board artwork from a laser printout to the PCB material for etching?

If it were possible to feed the PCB material directly through the printer that would be perfect but it isn't. Not on my Laserjet 4L at any rate, as far as I know.

I've tried printing to glossy paper and then ironing the image onto the PCB but without much luck. Maybe I'm using the wrong paper.

ANY hints, tips or ideas would be most welcome.

Thanks.

--

```
____ ____ __ __
(_ _)(_ _)( \/ ) -= From Sunny South Africa =-
)( _)(_ ) ( Biking weather all year round
(__) (____)(_/\/\_) '82 CBX
```

6082. Re: Info on QRP kits and QRP rigs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: Phil <pmetcalf@xyplex.com>
Message-ID: <4b1e93$rrm@xap.xyplex.com>
Source record: 108745

Drew:

I have to agree with Kerry on the 40 and 80 meter QRPers. I have built the 80 meter job and it worked great. I had a long contact too.

For simple kits you might want to look at Ramsey Electronics. I built several of their kits and with the exception of being short of parts in the list, whioh they replaced at my concerned request, the units worked excellent.

Good luck!

Phil KA1NHZ

6083. Re: NMR physicist needs help in HF-circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: thorsten@news.hrz.uni-dortmund.de
Message-ID: <4b0o2b$h4o@nx2.hrz.uni-dortmund.de>
Source record: 108746

Thanks for all your help, meanwhile I managed to build up a parallel resonator. From some 'old' equipment (RF-sweeper + scope) and a 'Magic-T' I built up some kind of device you suggested. Seems to work fine.
One last (?) question:
the whole trouble started when I tried to change from series resonators to parallel resonators in order to be able to tune externally and to hold losses along the line low. Using just a coil and after n*lambda/2 a series C + paralle C would mean high VSWR and so high losses. Now what if I put the coil and the series C at one end, the matching parallel C at the other end of the line ? This would be a 'normal' (considering our probes) series-resonator, so more used to me. But would this also mean high losses along the line ? I think that the high voltages at resonance (that are responsible for the great losses, if just the coil is at one end) only occur between series C and coil, so that they would NOT be seen on the line in this concept. Am I right with this idea??

Hoping for your patience is

Thorsten

thorsten@fuj.physik.uni-dortmund.de

6084. Re: Battery Monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <4b1qf5$95q@cocoa.brown.edu>
Source record: 108747

In article <4av4ur$oai@guava.epix.net>, Garry Foster <gmfoster@epix.net> said:
>Posted on 16 Dec 1995 at 13:59:39 by Garry Foster
>
>Re: Battery Monitor
>
>From: Garry Foster <gmfoster@epix.net>
>Newsgroups: rec.radio.amateur.homebrew
>Date: 16 Dec 1995 18:59:39 GMT
>Organization: epix.net
>Message-ID: <4av4ur$oai@guava.epix.net>
>References: <4ar7kj$c6b@news1.deltanet.com>
>
>lehman@delta1.deltanet.com (Jeff Lehman) wrote:
> I am building a portable power source and want to build a voltage meter
> sing
> >a few LEDs. I figured I'd use some zener diode circuit. I want to
> start at
> >12.6 volts and work down to 12.0 volts. In other words all LEDs
> lighted
> >when fully charged then to extinguish as the battery drains. I'd
> appreciate
> >any help.
> >
> >Thanks, Jeff KD6DHB
> >
>Use a bargraph driver chip. Radio shack used to sell one and if they
>don't I'm sure they can be mail ordered. I have seen just such a circuit
>built using these chips. Super simple but I don't have the numbers off
>the top of my head.

LM3914 drives 10 diodes linearily with the input voltage. Works down to
5 V I think and as high as 18 V (Vsupply). About $3. You can choose
between single diode or staple display by manipulating one input
pin. I think a sample circuit is in Radio Electronics April 92
as part of an LED based oscilloscope display.

john

6085. WEB and FTP Site update

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: chris@itutech.com
Message-ID: <DJqyv9.Lxw@iglou.com>
Source record: 108748

Hello!

We've recently changed the URL to our ftp and web site. The new URL's
are:

ftp://itutech.com Anonymous FTP
http://www.itutech.com World-Wide-Web site

Please update your links to reflect these changes.

Our ftp and web site features files on Electronics, Amateur Radio, PC
interfacing, PIC programming and other programs of interest to the
electronics/computer enthusiast. Please feel free to upload your
contributions in the incoming directory.

Thanks!

Chris

Chris B. Sakkas (chris@itutech.com) http://www.itutech.com/
ITU Technologies (sales@itutech.com) ftp://itutech.com/
(513) 574-7523 VISA/MC Accepted
*** Complete PIC programming packages starting at only $29! ***
*** See our web page or e-mail us today for more info! ***

6086. Re: IC Chip Identification

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <4b1vop$e16@news1.inlink.com>
Source record: 108749

danns@ix.netcom.com(Paul Spaur) wrote:

>Can someone identify this 16 pin dip IC
>with EUB0002B stamped on it. It is on
>the pc board for a lead acid battery
>charger. A source for them or any
>substitutes available would also help.
>Any help will be appreciated.
>Paul Spaur
>W6IJG
>E-mail danns@ix.netcom.com
Hi Paul

I ran across the same problem last year!

The 16-pin DIP is the charger circuit itself. The numbers stamped on
the package are proprietary and not easily cross referenced.

However, I was able to obtain the chip from an ECG component supplier.
The replacement chip was unmarked, however, my original chips were
marked, UC3906 and UC2906 mfg. by Unitrode.

Apparently, the pin-out for all 16 pin charger chips are identical.

Sorry, that's all the help I can give.

Gary

6087. Re: Printing to PCB material from a laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: "KF9CM turtle"@wwa.com
Message-ID: <4b29p9$k8p@kirin.wwa.com>
Source record: 108750

You might try transparency film for plain paper copiers. You can find it at Office Max and then try photo ectching.

73 Gary KF9CM

6088. Re: Building 50-100W 7 MHz amp - suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4avtn4$7uh@globe.indirect.com>
Source record: 108751

"Andrew M. Moore" <moore@moore.sr.unh.edu> wrote:

>I plan on building a 50 to 100 watt amplifier for 7 MHz CW, using from
>1 to 5 watts drive. I would like to hear people's suggestions about
>the design, components, gotchas, sources of information, etc. before I
>get started.

Home again. If you have access to older QSTs, get the November 1989 issue, and look at "Technical Correspondence" on Page 38. A longish piece on power FET amps follows, which addresses weaknesses in a Doug DeMaw design published in the April 89 QST. On page 40 is the IRF530 amp I mentioned in my earlier response. The text says it can output up to 50W at 14 Mhz with as little as 1.5W of drive. "Similar output is available on 80M driven with nothing more than a crystal oscillator." There's some math to be done in working out the matching networks, and probably a little cut and try, but it's awesomely simple and I hope to put one together at some point.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

6089. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDJpEpA.Jvy@netcom.com>
Source record: 108752

In article <30D2F9FD.28F7@netaxs.com> Rocci <rocci@netaxs.com> writes:
>A couple of hams that I work with have been kicking around the notion
>of building a direct conversion receiver using a quadrature NCO for
>the local oscillator, and a dual input DSP to perform the phase shift
>and audio filtering functions. Seems that a very high performance unit

Well, not quite that sophisticated, but I've been trying an old Ten-Tec PM3A transceiver (DC, 20 & 40M) feeding a Radio Shack DSP40 for audio amplification and selectivity. The combo works reasonably well, but the lack of AGC action in the Ten-Tec makes it awfully hard to hit the preferred input level "window" of the DSP40. I suspect you'd want to work out these AGC issues before getting too committed to this scheme.

73 Dave WB0GAZ dgf@netcom.com

6090. Re: Info on QRP kits and QRP rigs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: lbraden@mail.utexas.edu
Message-ID: <4b01sb$lbg@geraldo.cc.utexas.edu>
Source record: 108753

In article <Pine.SOL.3.91.951214113457.27425A-100000@coinc0>,
dwilso02@mail.coin.missouri.EDU (Drew Wilson) says:
>
>I'm interested in getting into HF QRP and would like to start with a kit
>or complete hombrew rig. My problem is that I can't find current
>schematics for into-level rigs or a quality kit manufacturer. Could
>anyone suggest a good entry point into HF homebrew and QRP?
>

Hi Drew,

You might try Kanga... here's the WWW site:

http://qrp.cc.nd.edu/kanga/

e-mail orders or inquiries to:
kanga@bright.net

US mail also works:
Kanga US
Bill Kelsey
3521 Spring Lake Dr.
Findlay, OH 45840

Bill N8ET runs Kanga US and it's a small business that he does part-time
out of his passion for ham radio, QRP, and building. Try the web site if
at all possible to see the catalog and prices, as well as ordering info.

73 KC5CWG Larry Braden

6091. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <30D4F55F.1902@netaxs.com>
Source record: 108754

David Feldman wrote:
>
> Well, not quite that sophisticated, but I've been trying an old Ten-Tec
> PM3A transceiver (DC, 20 & 40M) feeding a Radio Shack DSP40 for audio
> amplification and selectivity. The combo works reasonably well, but the
> lack of AGC action in the Ten-Tec makes it awfully hard to hit the
> preferred input level "window" of the DSP40. I suspect you'd want to
> work out these AGC issues before getting too committed to this scheme.
>
I'm not sure what a DSP40 is, but I assume that it's some sort of audio filter. Of course, the problem with audio filtering in a DC receiver is that it does nothing to reject the image frequencies. A dual DSP at the quadrature outputs of two mixers would, theoretically, perform near perfect unwanted sideband cancellation. In addition, the DSP program could perform a compound AGC action by performing limited AGC action in software, and also drive a hardware gain reduction circuit at the RF input for increased dynamic range.

Joe

6092. Phasenoise-CHEAP-homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: rrrath@aol.com
Message-ID: <4b100h$bd4@newsbf02.news.aol.com>
Source record: 108755

Hi,
in the previous discussion regarding the HP8640B was mentioned.
Also the 3585 is still quite expensive.
Personally i�m using a Marconi TF2370-2373 or self built 10,7MHz unit:

mixer, filter, TBA120, diff amp driving Xtal discriminator at 10,7 MHz,
followed by lownoise Opamp.

Marconi has published a similar approach about 10??years ago, used
for their own test of synthesizers etc.
mixer, lowpass, lownoise 1,5MHz IF amp with discriminator, then TF2330
waveanalyser.
Indicated measurement limit:
100Hz offset 115db
1 KHz 140db
10KHz 153db
Advantage: no phase lock required, thus alos for free running osc., as not
so sensitive at low offsets thus for old valve osc. with 60Hz sidebands.
Disadvantage: insensitive very close to carrier.

"Marconi Instrumentation Vol 115, no.6,
"Measurement of phase noise in signal generators", D.P.Owen, pp.117-122.

PA0JZ has described in the Dutch Ham magazine VERON may-july92
a cheap doit yourself unit:
mixer (MD108), lownoise preamp with BC149C, amp NE5534, then
2 spot filters at 1 and 10 KHz with 4 opamaps aech and
1 100KHz LC-filter.
2 opamps for phaselockcircuitry.
Measurement limits wtih Xtal osc:
1 KHz offset 140db/Hz
10KHz 165
100KHz 170db.

Idea: why not use FFT with a soundcard at output
-see seperate message.

73s and Merry Xmas
Robert DJ0RA, OE5RRL

ps: use after dec.29th my CIS ID: 100626,3217@compuserve.com

6093. IC Chip Identification

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: danns@ix.netcom.com
Message-ID: <4b199c$8pv@cloner3.netcom.com>
Source record: 108756

Can someone identify this 16 pin dip IC
with EUB0002B stamped on it. It is on
the pc board for a lead acid battery
charger. A source for them or any
substitutes available would also help.
Any help will be appreciated.
Paul Spaur
W6IJG
E-mail danns@ix.netcom.com

6094. Re: Printing directly to PCB with an ink jet printer ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-17 00:00:00 UTC
From: jay@rmii.com
Message-ID: <jay.40.01601A93@rmii.com>
Source record: 108757
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.cad,sci.electronics

> It would seem that you should be able to put a pen in your
>cnc drilling machine and draw using it with proper software. Is it a home
>brew CNC drill or what. The basics of a plotter and a cnc machine are all
>the same.
> Garry WB0NNO

True enough, but my CNC drill is a NCed Sherline mill, and it is slooow. I would have to figure out a way to keep the pen from drying out. The main reason I would like to use a ink jet is I want 10 mil lines with 10 mil spacing. I have been able to get this with a laser printer, but with the registration problems I mentioned before. I don't think I can get this kind of resolution with a plotter, the lines would bleed together.

Jay

6095. tait t520 help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: laurie@sdschool.demon.co.uk
Message-ID: <819230618.27031@sdschool.demon.co.uk>
Source record: 108758

hi all
anybody done work with a tait t520 that uses a multi channel
swithching unit it comprises of 2 x bcd's feeding the board where the
diode matrix board was
the 2 chips {14/16 devices forgot which} are missing hence i cant
dissasemble the chips for the programme
A:have you got any info on the chips
b:have you got any info on the programme that goes into these chips

i believe that they are ttl proms ie as used in the mx290 series etc
any help much app
73's de laurie laurie@sdschool.demon.co.uk

6096. Searching for: how to built a antenna rotator (rortor) KCT compatible ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: Geert Pirens <Geert.Pirens@ping.be>
Message-ID: <4b2in0$css@ping1.ping.be>
Source record: 108759

Hello All,

I am looking for some schematics or pcb's for to built my own computer
rs-232 to an KCT (kansas city tracker) compatible system.

Who can help me ?

Geert Pirens

ONL2057

6097. Searching for: how to built a antenna rotator (rortor) KCT compatible ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: Geert Pirens <Geert.Pirens@ping.be>
Message-ID: <4b2inh$css@ping1.ping.be>
Source record: 108760

Hello All,

I am looking for some schematics or pcb's for to built my own computer
rs-232 to an KCT (kansas city tracker) compatible system.

Who can help me ?

Geert Pirens

ONL2057

6098. Re: Info on QRP kits and QRP rigs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4b45sq$t1b@mksrv1.dseg.ti.com>
Source record: 108761

I like the NN1G designs (there are several, all are superhet transceivers with VFO control on tx and rx). You can contact the inventor, Dave Benson, NN1G, via e-mail:

bensondj@aol.com

I've built three of his rigs, and like them all!

73 / 72,
Dean KC5NG, QRP-ARCI # 8204

6099. Re: NMR physicist needs help in HF-circuit design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: Carl Gregory <cgregory@uiuc.edu>
Message-ID: <4b47cg$c9u@vixen.cso.uiuc.edu>
Source record: 108762

thorsten@news.hrz.uni-dortmund.de () wrote:
>One last (?) question:
>the whole trouble started when I tried to change from series resonators
>to parallel resonators in order to be able to tune externally and to
>hold losses along the line low. Using just a coil and after n*lambda/2
>a series C + paralle C would mean high VSWR and so high losses. Now what
>if I put the coil and the series C at one end, the matching parallel C
>at the other end of the line ? This would be a 'normal' (considering
>our probes) series-resonator, so more used to me. But would this
>also mean high losses along the line ? I think that the high voltages
>at resonance (that are responsible for the great losses, if just the
>coil is at one end) only occur between series C and coil, so that they
>would NOT be seen on the line in this concept. Am I right with this
>idea??

It all depends on the coil (and sample, to the extent that it modifies the coil electrical characteristic, e.g. saline sample). A typical setup might be 100 nH, 1 ohm in the coil. At 100 MHz, this is 1 ohm resistive, 63 ohm reactive. No matter how you adjust it with a single component, you will have a very high SWR on the line.

The losses (outside of the coil and sample) are actually caused mostly by the CURRENT in the line, not by high voltages, unless you have some undesirable materials near the high voltage points.

I find that a useful way to visualize the effects of the external circuit is to imagine the magnetic fields associated with this circuit. Energy is stored in the magnetic fields. What you want is for most of the stored energy to be inside the sample, in order to have a high sensitivity. Thus, any conductor with high current and large size, which stores a correspondingly large amount of energy, will detract from the probe performance.

Carl Gregory
Biomedical Magnetic Resonance Laboratory
College of Medicine
University of Illinois
1307 W Park St
Urbana, IL 61801
(217)-244-2350

6100. $29 PIC Programmer special ends 12/31/95!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: itutec@aol.com
Message-ID: <4b2ten$34v@newsbf02.news.aol.com>
Source record: 108763

Your chance to get the PIC-1 programmer at our special introductory pricing is running out! This special pricing will end December 31, 1995. Don't miss your opportunity to purchase our PIC programmer at this special price. Call us today to place your VISA/MasterCard order!

This is the same popular programmer you saw mentioned in Electronic Products, MicroComputer Journal, Electronics Now, Nuts and Volts, and Popular Electronics. Hurry, get your order in today to guarantee the special pricing on this incredible deal!

To summarize our pricing:

* PIC-1 KIT $29
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* PIC-n-GO KIT $39
* PIC-n-GO Assembled/Tested $59
* ZIF upgrade for above programmers $11
* additional PIC16C84-04/P with purchase of PIC-n-GO Package $7

ALSO AVAILABLE:
* 40/28 PIN DIP Adapter Assembled/Tested $25
(includes ZIF Socket for programming 40 and 28 PIN PICs)

THIS SPECIAL OFFER WILL END 12/31/95! ACT NOW! VISA/MC Accepted!

Please include $5 shipping/handling for orders inside North America, $10 outside of North America.

You may place your VISA/MasterCard order by telephone at (513) 574-7523 or by fax at (513) 574-4245 between 9AM and 5PM EST.

Your personal check or money order is also accepted.
Our address is : ITU Technologies, 3477 Westport Ct., Cincinnati, OH, 45248. Due to the insecure nature of the Internet, we do not recommend credit card orders via e-mail.

If you have any other questions, or need more information about our programmers, please feel free to e-mail us. See our World-Wide-Web page for a photo of our programmer and specifications. The URL is:
http://www.itutech.com

ITU Technologies (513) 574-7523 MasterCard/Visa Accepted
E-Mail: sales@itutech.com OR itutec@aol.com
FTP: ftp:\\itutech.com WEB: http:\\www.itutech.com

*** See our Web page for more exciting kits and electronic products! ***

6101. Re: Measuring phase-noise with HP 8640B

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4b354o$7gt@hpscit.sc.hp.com>
Source record: 108764

In article <DJL74K.G9n@hpqmoea.sqf.hp.com>,
David Stockton <dstock@hpqmdla.sqf.hp.com> wrote:
>
>
> Commercial phase noise testers are fine if you have access to them
>but may not be adequate for true state of the art work.
>
> VCXO mixdown will outperform the 8640 and threaten the commercial
>tester, for an even lower price but is 1 freq per VCXO
>
> Mixdown of an identical pair of the devices under test can be
>similarly cheap AND state of the art.
>
> Cheers
> David GM4ZNX

Regarding the "state-of-the-art" in phase noise measurement:

For the record, the state-of-the-art is owned by the patented
cross-correlation system sold by Femtosecond Systems in Boulder, Co.
Far better than you would need for ham radio work.

Rick N6RK
rkarlqu@scd.hp.com

6102. $29 PIC Programmer special ends 12/31/95!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: itutec@aol.com
Message-ID: <4b2tif$365@newsbf02.news.aol.com>
Source record: 108765

Your chance to get the PIC-1 programmer at our special introductory pricing is running out! This special pricing will end December 31, 1995. Don't miss your opportunity to purchase our PIC programmer at this special price. Call us today to place your VISA/MasterCard order!

This is the same popular programmer you saw mentioned in Electronic Products, MicroComputer Journal, Electronics Now, Nuts and Volts, and Popular Electronics. Hurry, get your order in today to guarantee the special pricing on this incredible deal!

To summarize our pricing:

* PIC-1 KIT $29
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* PIC-n-GO Assembled/Tested $59
* ZIF upgrade for above programmers $11
* additional PIC16C84-04/P with purchase of PIC-n-GO Package $7

ALSO AVAILABLE:
* 40/28 PIN DIP Adapter Assembled/Tested $25
(includes ZIF Socket for programming 40 and 28 PIN PICs)

THIS SPECIAL OFFER WILL END 12/31/95! ACT NOW! VISA/MC Accepted!

Please include $5 shipping/handling for orders inside North America, $10 outside of North America.

You may place your VISA/MasterCard order by telephone at (513) 574-7523 or by fax at (513) 574-4245 between 9AM and 5PM EST.

Your personal check or money order is also accepted.
Our address is : ITU Technologies, 3477 Westport Ct., Cincinnati, OH, 45248. Due to the insecure nature of the Internet, we do not recommend credit card orders via e-mail.

If you have any other questions, or need more information about our programmers, please feel free to e-mail us. See our World-Wide-Web page for a photo of our programmer and specifications. The URL is: http://www.itutech.com

---
ITU Technologies (513) 574-7523 MasterCard/Visa Accepted
E-Mail: sales@itutech.com OR itutec@aol.com
FTP: ftp:\\itutech.com WEB: http:\\www.itutech.com

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6103. Re: Drilling PC boards Simple PC Board Drilling Machine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: rmc@chem.psu.edu
Message-ID: <4b4b6n$10jb@hearst.cac.psu.edu>
Source record: 108766
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,sci.electronics.cad

Drilling PC boards has always been the most tedious part of any homemade pc board, so a solution to get rid of the missed holes and inaccurate holes is a lifesaver in our shop. This article will describe the basics of our machine, and hopefully enable other people to build a machine of their own.

The theory behind the machine is that stepper motors can be controlled by a computer and told
to move. This machine uses the computer printer port, as it is very inexpensive and has enough
outputs to do the job easily. The outputs from the printer port are latched into IC latches,
and the proper latch is strobed to move the motor needed.

If some stepper motor theory is needed, here are the basics: a stepper is a permenant magnet
motor with no brushes; it is made to move by energizing different windings in a sequential pattern. This pattern is well suited to do with a computer, as it is simple and repetive.

The above basically covers the electronics for the machine, an interface from the computer to the motors, and a power supply for the motors are the only electronics required for the system.

The mechanical aspects of the machine can be more involved, but, in essence, consist of assembling two axes (the X and Y axes), with one of the two carrying a third (Z axis), which
in turn holds a motor tool.

We have built several versions of the system, the original using the ground rods and stepper
motors from scrap dot matrix printers along with purchased aluminum supporting material, with
another using the actual assemblies from the printers mounted on a piece of wood, one horizontal
and one vertical, with the vertical axis holding a z axis and it in turn holding a drill.

Up to this point, I have not mentioned that these machines have z axes as well as x and y, what this means is that this machine is also capable of doing 3-D surfacing, which differs from
some of the commercial machines used for drilling in that their z axis is normally a spring loaded solenoid, while this is a machine with as much z axis travel as is required.

This is the hardware aspect of the machine, while it takes some time to build it, the majority of the time in our project was devoted to writing the Quickbasic programming. This program is designed to find the pc board holes, which it can find in ASCII, Orcad, and most other popular pc board programs that can output an x and y pair, and read them into and array.

It then takes this array and displays it on the screen as drill holes, and asks to align with
the smallest and largest x,y hole pairs, which it displays in red. After this is completed, it

sets the drill depth and drills the board. The program can be paused if there are problems such
as a broken drill bit, etc. (By the way, our machine wears out the bits before it breaks them,
try to do that with a drill in a press!).
The software has also been written to interpret most of the basic HPGL commands, so it is able to engrave things that have been plotted. We have also used it with great success to draw
words and lettering on front panels with a plotter pen fitted in a holder.
With all of this said, to draw the schematic on here would not be easy, nor could I include the software, since my boss has a lot of time wrapped up in it, but if enough people were interested, maybe we could offer the schematics, pc board?, and software for a nominal fee. The
actual machine construction is easy for people with a drill press, maybe a hacksaw, and lots of
patience, but it can vary depending on the type of printer you use and the way it was assembled.
If I try and come up with a drawing of our machine, are there preferences for the format I use, eg. DXF, Bitmap, etc.?
I will try to work on the design some more during my spare time, if you're still interested,
post here or e-mail me, especially if you would like to see a software, schematic and maybe pc
board kit. We need to see how much interest there is in this project to decide whether to make
pc boards, clean up the software, make drawings, etc.
Regards,
Bob Crable
Engineering Aide
Research Instruments
Electronics Shop
Chemistry Department
Penn State University

6104. Re: Transmitting loop near miss

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4b4k1b$i81@newsbf02.news.aol.com>
Source record: 108767

Hi David,

In article <4b496l$eb@inews.sc.intel.com>, Dave Curtis
<david_b_curtis@ccm.sc.intel.com> writes:

>I get sharp SWR dips on all bands 80-20, so it does
>tune. I just never see an SWR below about 4:1 Also, it
>seems to be more broadband that I would have suspected.
>As measured by an Autek RF-1, it shows Z of about 40 ohms,
>max, at the tuned frequency. (I know, 40 ohms ain't 4:1 --
>haven't figured that one out. Of course, nobody would
>confuse my instruments with an NBS secondary standard...)
>
>1) could coupling to near by metal be causing low Q and
>this much loss? house and fence are stucco walls, so
>probably have masonary wire in them. Roof also has
>copious amounts of metal flashing, etc under the tiles.

Yes, that could be a problem.

>2) is diamter of the material used to build the coupling
>loop (not the loop diameter itself) a critical dimension?
>do I need to recalculate the coupling loop diameter?

No, except for losses or unless the conductor diameter starts to become
large compared to the loop radius.

>3) the only connections where I am suspicious of resistive
>loss are to the VVC. Since I can't/won't weld to the VVC,
>the copper pipe is flattenned and bolted down to the VVC
>using plated screws, mating to plated surfaces, with
>liberal amounts of penetrox. could this still be a source
>of loss?

Everything can be, because the current is so high! If the loss is
concentrated in one small are it will get hot. Are the connections getting
hot or warm?

>4) any experience with gamma feed v. inductive?

Either will work fine, I use inductive feed on my small loops. On one
commercial application I used gamma feed to reduce complexity.

I'd get the loop away from everything else and try again, or rotate the
thing 90 degrees and see what happens. When I lay receiving loops flat
over earth on 160, they just about go dead. Maybe the stucco screen is
providing you with that problem?

73 Tom

6105. Mailbox Frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: thomas.biber@ku-eichstaett.de
Message-ID: <4b4gdd$e5e@eo-sun-info.ku-eichstaett.de>
Source record: 108768

Hello dear OMs!

I'm a newcomer in amteur radio, and I am fascinated from digital communication especially on
short wave. So I thought it may be the best solution to write a message in the internet, maybe
there will be someone who can help me:

1. I'm looking for all kinds of rtty, packet and amtor mailboxes. I'm interested in the callsigns and the frequencies. (in amtor: call & selcall!)

2. I'm looking for the frequencies of fax- stations for receiving all kinds of fax, especially
wefax.

3. I'm looking for the frequencies of all kinds of commercial transmissions, which are not encoded.

4. I'm running a pk232 mbx with pc-pakratt software. I'm looking for a PC- software, which is
able to decode the numbers which are transmitted in the weather reports on rtty, and a programm
which decodes the navtex code.

I hope that there will be somebody, who can help me, and send the message via e-mail to me.
My call is DL2MHL (I'm not QRV in UHF or VHF packet)

Thanks already now, and best 73

I wish you a good 1996

Stephan DL2MHL

e-mail: thomas.biber@ku-eichstaett.de

6106. Re: WWVB Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: jwc@col.hp.com
Message-ID: <4b4nla$a44@nonews.col.hp.com>
Source record: 108769

: Have you considered using television network burst processed for an
: accurate source. Any time your local t.v. station is broadcasting
: network feeds, their 3.57954545 signal is good out to upteen decimal
: places. About 10 years ago I phase locked a crystal oscillator to the
: crystal of a small solid state color receiver on the bench. Divide by
: 88 and multiply by 63 and you've got 5.000000000 Mhz. Turns out our
: local NBC affiliate kept the station locked to network black-burst
: even while they were originating locally . . . made for a rather
: simple way to get lots of zeros behind the integers . . .

: Regards,

: Bob, K0DYH

I believe you will find this not valid anymore. Since every local station
started using local syth'ized systems.

We used to do this also but hat to stop and go back to WWVB.

John, N0KIC

6107. Re: Lowest PC Memory Prices!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4b359p$7io@hpscit.sc.hp.com>
Source record: 108770

In article <30CF82F6.73A7@roadrunner.com>,
Rudy <kpedersn@roadrunner.com> wrote:
>High Sales Volume = Lowest Prices!
>
>Because of high volume sales to the US Government, State
>Government, and National Laboratories, Atomic City Electronics,
>Inc. of Los Alamos, New Mexico is offering PC memory at
>outstanding prices:
>
>4 MB (1X32) $129.95
>8 MB (2X32) $249.95
>16 mb (4x32) $479.95
>
>All are new NP 70 ns 72 pin Simms.
>
>Call (505) 662-7059: Ask for Rudy.
>FAX (505) 662-6647: Attention Rudy.

FWIW, these prices are about 25% higher than the street
price at any of the usual outlets in Silicon Valley (e.g. Fry's, etc.)

6108. Re: Transmitting loop near miss

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: Carl Gregory <cgregory@uiuc.edu>
Message-ID: <4b4tb2$nnd@vixen.cso.uiuc.edu>
Source record: 108771

Dave Curtis <david_b_curtis@ccm.sc.intel.com> wrote:
>I get sharp SWR dips on all bands 80-20, so it does
>tune. I just never see an SWR below about 4:1 Also, it
>seems to be more broadband that I would have suspected.
>As measured by an Autek RF-1, it shows Z of about 40 ohms,
>max, at the tuned frequency. (I know, 40 ohms ain't 4:1 --
>haven't figured that one out. Of course, nobody would
>confuse my instruments with an NBS secondary standard...)
>
>1) could coupling to near by metal be causing low Q and
>this much loss? house and fence are stucco walls, so
>probably have masonary wire in them. Roof also has
>copious amounts of metal flashing, etc under the tiles.

>3) the only connections where I am suspicious of resistive
>loss are to the VVC. Since I can't/won't weld to the VVC,
>the copper pipe is flattenned and bolted down to the VVC
>using plated screws, mating to plated surfaces, with
>liberal amounts of penetrox. could this still be a source
>of loss?

YES! And the loss would account for lower Q and failure to
match correctly, as mentioned above. You should be able to
get the published Q values with proper construction and
installation.

73, K8CG

6109. Transmitting loop near miss

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: Dave Curtis <david_b_curtis@ccm.sc.intel.com>
Message-ID: <4b496l$eb@inews.sc.intel.com>
Source record: 108772

This weekend I did my first rf tests on a homebrew transmitting loop. It's acting a little wierd, and I have some troubleshooting questions.

Here's the scoop:

20 foot circumference loop, made of 3/4" water pipe in an octogon.

15KV 10-350 pF VVC.

Feed is a 38 inch circumference loop. (inductive feed, like QST article from last year, not gamma feed, as in antenna book). Loop is made of 1/4 inch copper tubing.

Given this design, I expect to have acceptable performance on 40,30, and 20M, and inefficient performance on 80M if I were to add a ground plane.

For testing, it is installed with the bottom about 30 inches off the ground. It is tie-wrapped to my deck. It is about 4 feet from the house wall and about 3 feet from a fence. It's a crummy location to be sure, but I have very limited space for testing (or anything else, for that matter).

Questions:

I get sharp SWR dips on all bands 80-20, so it does tune. I just never see an SWR below about 4:1 Also, it seems to be more broadband that I would have suspected. As measured by an Autek RF-1, it shows Z of about 40 ohms, max, at the tuned frequency. (I know, 40 ohms ain't 4:1 -- haven't figured that one out. Of course, nobody would confuse my instruments with an NBS secondary standard...)

1) could coupling to near by metal be causing low Q and this much loss? house and fence are stucco walls, so probably have masonary wire in them. Roof also has copious amounts of metal flashing, etc under the tiles.

2) is diamter of the material used to build the coupling loop (not the loop diameter itself) a critical dimension? do I need to recalculate the coupling loop diameter?

3) the only connections where I am suspicious of resistive loss are to the VVC. Since I can't/won't weld to the VVC, the copper pipe is flattenned and bolted down to the VVC

using plated screws, mating to plated surfaces, with liberal amounts of penetrox. could this still be a source of loss?

4) any experience with gamma feed v. inductive?

I don't have a good measure of the antenna's efficiency, but subjectively speaking I'd say it sucks. Only a few loud signals found on any band -- I could not copy signals that other locals could. Made a couple of Q's and got lousy (although sympathetic) signal reports.

Thanks es 73,
Dave NG0X

6110. Cmos Super Keyer & TS-820

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: slay@netcom.com
Message-ID: <slayDJspAD.MI6@netcom.com>
Source record: 108773

A chum of mine recently built the CMOS Super Keyer III and now finds that he can't use it to drive his old Kenwood TS-820. Anybody care to point us in a direction where a suitable interface circuit may be found?

Thanks & 73
Sandy

6111. wwvb rcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: "W4KZL SPARKS afn01212"@afn.org
Message-ID: <4b4sng$4ag@huron.eel.ufl.edu>
Source record: 108774

```
True, almost all stations use a frame store so even tho they are in 'sync'
with the net your frequency standard bits the dust
```

6112. Re: Info on QRP kits and QRP rigs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: James Garland <garland@ohstpy.mps.ohio-state.edu>
Message-ID: <4b3ru7$kji@pacific.mps.ohio-state.edu>
Source record: 108775

Probably the most sophisticated QRP kits are the ARK-series (ARK-40 is 40 meters, ARK-20 is 20 meters, etc.) by S&S Engineering. They're frequency synthesized cw transceivers, with an xtal filter, audio filter, digital frequency selection, and built-in keyer. They're built like a tank, with extremely high quality innards. Not for beginners, however.
Jim W8ZR

6113. RAMSEY kits - converting from battery - Problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: scicon@ix.netcom.com
Message-ID: <4b4tfr$j40@ixnews5.ix.netcom.com>
Source record: 108776

I have a couple of Ramsey kits that run great on the battery, but when I try to hook them up to a power supply they don't work as well.

My CW-7 keyer sounds like a strangled cat, and my VOX switch kit is always on.

Both work perfect with a 9V battery.

The CW-7 is hooked up to 12vdc power supply and the VOX is hooked up via a 7808 regulator.

Any suggestions?

de KE6LBX

6114. Re: WWVB Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4b4tdr$cf9@nntp.Stanford.EDU>
Source record: 108777

In article <4b4nla$a44@nonews.col.hp.com> jwc@col.hp.com (John Chapman) writes:
>: Have you considered using television network burst processed for an
>: accurate source. Any time your local t.v. station is broadcasting
>: network feeds, their 3.57954545 signal is good out to upteen decimal
>: places. About 10 years ago I phase locked a crystal oscillator to the
>: crystal of a small solid state color receiver on the bench. Divide by
>: 88 and multiply by 63 and you've got 5.000000000 Mhz. Turns out our
>: local NBC affiliate kept the station locked to network black-burst
>: even while they were originating locally . . . made for a rather
>: simple way to get lots of zeros behind the integers . . .
>
>: Regards,
>
>: Bob, K0DYH
>
> I believe you will find this not valid anymore. Since every local station
>started using local syth'ized systems.
>
> We used to do this also but hat to stop and go back to WWVB.
>
>John, N0KIC
>

Just to confirm this, I have used a vectorscope and video waveform
monitor to compare sync and color timing of network feeds via satellite
to the same feed retransmitted by local affiliates (San Francisco) and
have noticed that they are NOT phase stable with respect to each other.

Getting a satellite receiver and using the direct network feed might be
one idea. Short term stability would be good, long term stability will
be subject to daily satellite dirft in space. You can get very good
NBC reception from the Satcom K2 satellite with a 4ft. dish. It would
be interesting to compare its burst with a real standard.

Steve Muther, WF6R
stevem@w6yx.stanford.edu

6115. Single-chip FX xmitters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-18 00:00:00 UTC
From: David Skinner <david@drspc.demon.co.uk>
Message-ID: <152926416wnr@drspc.demon.co.uk>
Source record: 108778

X-SMTP-Posting-Host: drspc.demon.co.uk [Mon, 18 Dec 95 22:18:25 GMT]

Can anyone help me??

Do any of the major semiconductor manufacturers make an off-the-shelf
IC which operates as a low power FX transmitter? You know, the sort
of thing one might use to build a cordless baby alarm or bugging
device.

Thanks in advance for any info!

--
David Skinner david@drspc.demon.co.uk
PGP key available on request
==
Reality.sys corrupted. Universe halted. Reboot(Y/N) ?
==

6116. Re: Printing to PCB material from a laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: mcline@iquest.net
Message-ID: <DJt97z.LrF@iquest.net>
Source record: 108779

timj@solo.pipex.co.za (Tim Jackson) wrote:
>Does anyone know of a simple way of getting PC board artwork from a
>laser printout to the PCB material for etching?
>
>If it were possible to feed the PCB material directly through the
>printer that would be perfect but it isn't. Not on my Laserjet 4L at any
>rate, as far as I know.
>
>I've tried printing to glossy paper and then ironing the image onto the
>PCB but without much luck. Maybe I'm using the wrong paper.
>
>ANY hints, tips or ideas would be most welcome.
>
>Thanks.
>

There are special films made exactly for that purpose.
One of the best is called PnP Blue, It's a little over
$1 afor an 8.5x11 sheet and does a pretty good job atleast
on my Laserjet IIP.
Mike

6117. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: abbot@ayrton.eideti.com
Message-ID: <4b6fcu$8bs@ayrton.eideti.com>
Source record: 108780
Cross-posted to: de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

Richard Evans (richarde@salsa.inmos.co.uk) wrote:
: In article <1995Dec6.103431@atl.com>, ldesot@atl.com (Larry DeSoto) writes:
: |> In article <4a383p$a74$1@mhadg.production.compuserve.com>, Brian Webb
<102670.1206@CompuServe.COM> writes:
: |> > I'm trying to find either an IC or a schematic for converting
: |> > serial-parallel.
: |> >
: |> > I own a solid state radioteletype decoder (circa 1980) designed
: |> > to work with serial printers. However, my printer, like virtually
: |> > all others is parallel.
: |>
: |> You need a Universal Asynchronous Receiver Transmitter (UART). One
: |> entirely satisfactory device I've used is a Giant AY-1013. This is
: |> an old device and I don't know if they are still being manufactured.
: |> If you can get one, it is easy to use in that it requires minimal
: |> support (a clock and maybe a level converter for the serial line).

: The 6402 is also suitable. This may be pin compatible with the AY-1013,
: and is definitely still available. You can choose parity/stop bits etc
: by hard wiring various pins high or low, and it will run up to 100Kbps.
: This version needs a clock input, but there's also a 6403 which has a
: clock generator built-in so you can just add a Xtal.

You could probaly pick-up a cheap serial printer
for less aggravation and dollars.

6118. Re: design transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: kirkland@bnr.ca
Message-ID: <4b6j67$7lf@bcarh8ab.bnr.ca>
Source record: 108781

In article <m0tRvys-000RuYC@on-ramp.ior.com>,
wayneb@on-ramp.ior.COM (wayne barnhart) wrote:
>>Does anyone know of a simple way of getting PC board artwork from a
>>laser printout to the PCB material for etching?
>
>
>Can you run a transparancy through your laser printer?

I've found that a single transparency is not dark enough. Hold it up to a light and you will probably be able to see plenty of pin holes. I have heard that layering 3 copies together works. This may not be good enough for very fine detail work.

Bill Kirkland

6119. Re: RAMSEY kits - converting from battery - Problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4b6s3p$d9h@newsbf02.news.aol.com>
Source record: 108782

> I have a couple of Ramsey kits that run great on the battery, but when
>I try to hook them up to a power supply they don't work as well.

Several things come to mind:

1) Is the regulator you are using connected properly? (If you monitor the voltage on the output side of the regulator, are you seeing the voltage that you expect to see? Done assume! Check it with a voltmeter!

2) I am not familiar with the 7808. Is this a variable voltage regulator, or a fixed 8 volt device? If the latter, this may be your problem. Maybe your 9 volt equipment *needs* 9 volts!

3) Are you using the recommended filtering/decoupling capacitors? The app notes I have seen for the 7805, for example, usually feature a small electrolytic cap on the input side, and something on the order of .1uf on the output side (with respect to ground). If your equipment is analog in nature and more sensitive, you might need more extensive filtering. If you can, check the output with a scope.

4) Does your 12 volt supply have sufficient *current* capacity to power your equipment? What is the milliamp requirements of your equipment, and what is the milliamp capacity of your 12 volt supply? Obviously, the sum of the former values should be less that the latter value.

Hope that helps!
/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

6120. 2SC2688 equiv. & burn rem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: wautelet@innet.be
Message-ID: <ACFCC47B96683B4B8@pool02-20.innet.be>
Source record: 108783

Hello,

As the title said, I'm looking for an equ transistor 2sc2688,
TO126 box used in switching (either US or European).

Also, a carbon resitor burn, leaving some black, bad smelling
burns on the pc board. What should I use to remove it ?

Thanks for help,
Thierry

Internet : wautelet@innet.be A PowerMac User !
CIS : 76334,337
Ham : ON7KL@ON7RC.#BT.BE.EU

6121. RS-232 Specification

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: gayle@ldd.net
Message-ID: <4b8sd2$5fm@sparky.midwest.net>
Source record: 108784

Hello, Folks:

Since I have had little, if any, luck getting an RS-232 cable for multiple nodes to work and even less luck with buying a commercial unit, I have decided to just do what I should have done to start with... Design one.

I am hoping that someone on the group can save me some time and point me to a site that has the IEEE spec for the RS-232 port. No sense in doing just another non-standard system that works some of the time... We have plenty of those already!

Thanks!

Marty Albert -- KC6UFM
PO Box 717
Fredericktown, MO 63645

6122. THANK'S TO ALL FOR 2N4416 SOURSES

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: griffithj@ricks.edu
Message-ID: <DJuHJv.K17@ricks.edu>
Source record: 108785

I have really enjoyed this group. They have always been very helpful.
Thank you to all those who have given me a source for the 2N4416, and to
Pieter for those that are in the mail.
TNX Jim, WA7NDD
A Merry Christmas to all and happy hollidays.

6123. Radio Station Database Demo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: charles bolland <chuck@flinet.com>
Message-ID: <4b6egr$pve@news.flinet.com>
Source record: 108786
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy

Friends

For those who have received the RADIO STATION DATABASE DEMO,I may have typed the unzip instructions incorrectly. They should read as follows if they don't:

PKUNZIP.EXE DATABASE.ZIP C:\DEMO2

If you did not get a copy of the DEMO and would like one, send your EMAIL address and I will return the Demo to you via EMAIL

Thanks

Chuck Bolland
KA4PRF

6124. Re: How to add AGC to a Tube Radio?? (Swan 250)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: "Ken (KC6TEU)" <Ken_R_Mason@ccm.fm.intel.com>
Message-ID: <4b7c88$lrk@ornews.intel.com>
Source record: 108787

jackl@pinetree.microserve.com (WB3U) wrote:
> n4lq@iglou.iglou.com (Steve Ellington) wrote:
>
>>The 250 had agc. Maybe you're expecting too much. AGC controls the gain
>>of the IF stages based on the strength of the signal at the detector.
>
>I'm not familiar with the 250's specific AGC circuit, but older rigs
>often didn't have the control range we expect by today's standards.
>Maybe it's not working. Is the S-meter moving?
>
>73,
>Jack WB3U
>

Jack,

This is an older radio, There is NO S Meter!!!! Just how good is that signal?
I say "Oh it sounds good...." I'll look at the schematic and look for something
that looks like a AGC control and see if I can improve it.

73,
Ken, KC6TEU
CM98LQ
Ken_R_Mason@ccm.fm.intel.com

6125. graphics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: wayneb@on-ramp.ior.COM
Message-ID: <m0tSAhz-000RuDC@on-ramp.ior.com>
Source record: 108788

Drilling PC boards Simple PC Board Drilling Machine -

I don't want to sound like a stick in the mud but couldn't this have been uploaded somewhere where those interested could access it? I believe that those hooked up to a commercial service like AOL and not directly tied to the Internet are paying the many bucks to get this list.
No flame, just a comment...

Wayne Barnhart WB7WHI Dirt is good!
Spokane, Wa.

6126. uKeyer and uTutor on WWW

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: Dave'Doc'Reid <101454.3715@CompuServe.COM>
Message-ID: <4b5for$9r0$1@mhafn.production.compuserve.com>
Source record: 108789

Hi - Just to let you all know

that details of the new D.R.Computer products Kits
are available on the WWW at

http://ourworld.compuserve.com/homepages/DRCP

or - you can EMail me with info on the format you would
like a graphics file of the Kits - and I'll send you
an electronic version of the DataSheets

Cheers es 73 fer nw

DE Dave G0BZF (owner of D.R.C.P.)

EMail DRCP@compuserve.com (or 101454.3715@compuserve.com)
Packet Radio G0BZF @ GB7DEO.#32.GBR.EU

--

Dave 'Doc'Reid Owner and proprieoter of D.R.Computer Products
Bringing radio amateurs everywhere into the digital age
Callsign G0BZF GQRP # 3677 RSGB (UK organiser of LY96BDX)

6127. design transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: wayneb@on-ramp.ior.COM
Message-ID: <m0tRvys-000RuYC@on-ramp.ior.com>
Source record: 108790

>Does anyone know of a simple way of getting PC board artwork from a
>laser printout to the PCB material for etching?

Can you run a transparancy through your laser printer? If not take the artwork down to a copy shop and they can do it. Coat your board with photo-resist and lay the transparance on top. Used to do it this way in the old (?) days.

:)

Wayne Barnhart WB7WHI Dirt is good!
Spokane, Wa.

6128. Re: need help identifying components

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4b5lk6$gs4@nntp.Stanford.EDU>
Source record: 108791

In article <4b5ilv$bp8@geraldo.cc.utexas.edu> lbraden@mail.utexas.edu (Larry Braden) writes:
>I'm scavenging some components out of an old satellite receiver
>and needed some help identifying components which I don't
>have reference books on.
>
>1. a Wavetek filter, metal can, with a black "25" on it.

This is probably the IF bandpass filter. Probably 70MHz
center frequency with a bandwidth of 25MHz (just a guess).

>2. IF transformer cans with "9050" on it

I believe JW Miller made IF cans with 9000 series part numbers.
I don't seem to have one of their catalogs.

>3. a six-legged (3 on each side) device from MiniCircuit Labs
> that is marked "T4-1" -- a transformer?

This is a broadband RF transformer with a 4-1 turns ratio
and is listed in the MiniCircuit Catalog.
>
>There's a bunch of nice ICs, mostly from Motorola, which I have
>the data books on - no problem. Any help with any of the above
>components would be greatly appreciated.
>
>Thanks in advance. 73 Larry Braden KC5CWG
>

Steve M. WF6R.

6129. Re: homebrew FM radio.. need help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: l42398@alfa.ist.utl.pt
Message-ID: <4b669o$f1v@ci.ist.utl.pt>
Source record: 108792

Antonio Gatta (st92ba44@dunx1.ocs.drexel.edu) wrote:
: Hello.

: Could someone point me in the right direction? I'm looking to built a
: (hopefully simple) FM receiver that is channel specific. I'd like a little
: breadboard project that picks up .. say .. the 90-100 MHz FM range.

: I've done alot with shortwave/AM radios, but never've really fooled with
: FM.

: Good places to find schematics for FM projects?

: thanks in advance,
: -tony.

You can use the TDA7000 to begin building FM receivers up to 110MHz.
The TDA7000 is has internal mixer, VFO, FM descriminator (I think),
Which makes a good FM receiver. I don't have the schematics on-line,
but I can digitalize it if you couldn't find it. I think you will find
the scheme in the data book that contains the TDA7000 (if you don't
have one ask in your local store to see it), and you will only have to
add the audio amplifier.

73 Luis Martins
CT1FNK

6130. Info useful in positioning photovoltaic collectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: tm_crw4d@srv.net
Message-ID: <4b5idv$qvq@mars.hyperk.com>
Source record: 108793

PASSIVE SOLAR DESIGN USING COMPUTER GENERATED SUNCHARTS

The sunchart is an interesting and useful solar energy design tool. Basically it is a map of the sun's path across the sky during the year. It can be used as a basic solar energy design tool to aid solar designers in efficiently and easily designing and positionally optimizing solar collectors, solar electrical panels, passive solar homes, greenhouses, and other solar devices.

Optical Physics Technologies has placed an html article, "PASSIVE SOLAR DESIGN USING COMPUTER GENERATED SUNCHARTS," on the internet which provides information in using suncharts in passive solar design. It also provides a source of sunchart generating software and other solar energy design tools. This article can be found at:

http://www.srv.net/~tm_crw4d/sunchrt.html

For those without Netscape access, send me an e-mail message, and I will e-mail basically the same information to you. Unfortunately it won't have the same quality, but it should be useful. You can e-mail me at:

tm_crw4d@srv.net (note - my server is case sensitive)

As a last resort, I can also snail-mail a booklet with the same information, but I will need to recover my costs for postage, handling, and copying. If you want a hard copy snail-mailed, send $6.00 to cover postage, handling, and copying expenses. If you are outside the USA, send $7.00 in US currency. Send this request to:

Optical Physics Technologies
PO Box 51506
Idaho Falls, ID 83405-1506
USA

6131. need help identifying components

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: lbraden@mail.utexas.edu
Message-ID: <4b5ilv$bp8@geraldo.cc.utexas.edu>
Source record: 108794

I'm scavenging some components out of an old satellite receiver
and needed some help identifying components which I don't
have reference books on.

1. a Wavetek filter, metal can, with a black "25" on it.
2. IF transformer cans with "9050" on it
3. a six-legged (3 on each side) device from MiniCircuit Labs
that is marked "T4-1" -- a transformer?

There's a bunch of nice ICs, mostly from Motorola, which I have
the data books on - no problem. Any help with any of the above
components would be greatly appreciated.

Thanks in advance. 73 Larry Braden KC5CWG

6132. RIAA Preamp for Mag Cartridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: dickv@cis.co.za
Message-ID: <4b7ach$a6j@africa.cis.co.za>
Source record: 108795
Cross-posted to: sci.electronics.design,rec.audio.tech,rec.radio.amateur.homebrew

The problem I have is a turntable with a magnetic cartridge (output around 2mv) and a mini stereo system which only has an AUX input (around 700mv) and I need to get the output from the turntable up to a suitable level to drive the system. I guess I will need RIAA compensation as well.
Can anyone help me with a suitable design, probably built around a single IC. I have 12V DC available in the turntable so power should not be a problem.

Thanks in advance

Dick Vogt (dickv@cis.co.za)

6133. Re: RIAA Preamp for Mag Cartridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <819452237.28942@pinetree.microserve.com>
Source record: 108796
Cross-posted to: rec.audio.tech,rec.radio.amateur.homebrew

dickv@cis.co.za wrote:

>The problem I have is a turntable with a magnetic cartridge (output
>around 2mv) and a mini stereo system which only has an AUX input
>(around 700mv) and I need to get the output from the turntable up to a
>suitable level to drive the system.

I wouldn't even bother trying to build something. Go to a large stereo
service company and tell them you need a junker. Then just rip out the
phono preamp/EQ circuitry.

73,
Jack WB3U

6134. Audio Filters & AGC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <819458675.1774@pinetree.microserve.com>
Source record: 108797

The HF transceiver I'm using employs audio-derived AGC and has an internal audio notch filter. I also use an external audio filter. The problem is that that both filters are in the signal path after the AGC detector. They do nothing to prevent a strong interfering station from activating the AGC and burying a weaker desired signal.

I'm thinking about modifying the circuit to place the detector after the internal filter, and to also allow injecting audio from my external filter at a point ahead of the AGC detector.

Assuming the external filter is unity gain, does anyone know a technical reason not to do this? Does anyone know if any commercial units are configured like this (Ten Tec maybe)? Alternately, I might simply add an outboard switch to turn off receive AGC altogether, but I don't think this would be entirely satisfactory. The desired signal isn't always weak, and AGC action is often needed even though the filters are in use.

Any suggestions or ideas on this problem will be appreciated.

73,
Jack WB3U

6135. Re: RAMSEY kits - converting from battery - Problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4b6vjp$ste@mksrv1.dseg.ti.com>
Source record: 108798

Poor regulation? Too much ripple? Maybe 8v not enough?
Try inserting two 1N4001 diodes in series in the ground
lead of the 7808 to raise it 1.4v higher, making it act
like a "7809.4" (hi hi). I've seen ckts that were kinda
picky about voltage, this may help.

GL de KC5NG ar k

6136. Re: RAMSEY kits - converting from battery - Problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4b70c3$4o@mksrv1.dseg.ti.com>
Source record: 108799

I got to thinking after I posted my first response. Could also be common mode hum or something along those lines. Try adding bypass caps on all leads into and out of the equipment. if it seems like an RF problem, also use shielded cables in addition to the bypass caps.

GL de KC5NG ar k

6137. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: Jon Bloom <jbloom@arrl.org>
Message-ID: <30D706E3.60B8@arrl.org>
Source record: 108800

Rocci wrote:
>
> David Feldman wrote:
> >
> > Well, not quite that sophisticated, but I've been trying an old Ten-Tec
> > PM3A transceiver (DC, 20 & 40M) feeding a Radio Shack DSP40 for audio
> > amplification and selectivity. The combo works reasonably well, but the
> > lack of AGC action in the Ten-Tec makes it awfully hard to hit the
> > preferred input level "window" of the DSP40. I suspect you'd want to
> > work out these AGC issues before getting too committed to this scheme.
> >
> I'm not sure what a DSP40 is, but I assume that it's some sort of audio
> filter. Of course, the problem with audio filtering in a DC receiver is that
> it does nothing to reject the image frequencies. A dual DSP at the
> quadrature outputs of two mixers would, theoretically, perform near perfect
> unwanted sideband cancellation.

Not only in theory but in reality, too. (See Campbell's Jan 1993 QST article.)
But in practice, "near-perfect" is problematic; you'll have trouble getting more
than about 40 dB of opposite sideband rejection from this approach. It's
interesting to note that the current crop of commercial amateur-grade
transceivers that use DSP do the demodulation at a low IF (up to 15 kHz or so).
By processing a single IF signal (not two signals in quadrature), they eliminate
any worries about amplitude and phase balance between two analog channels. While
such an approach is viable only in a superhet design, the complexity of the
needed superhet circuitry is not substantially more than that of a quadrature
D-C design.

Jon Bloom, KE3Z | jbloom@arrl.org
American Radio Relay League |
225 Main St., Newington CT 06111 |

6138. Pls Help with Digital Frequency Display

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: jhschutt@bambi.tayloru.edu
Message-ID: <1995Dec19.163723.2641@bambi.tayloru.edu>
Source record: 108801

Can you help me? I recently bought a TenTec Century 21 rig. It's my first as I'm a newbie. I'd sure like to have a digital display to know the exact (or close) frequency on which I'm transmitting. Someone suggested that I get a frequency counter. Someone else suggested that I get a permanant digital readout display. Whatever I do, I'd like not to spend a fortune. (If I had a fortune, I'd have bought a digital rig in the first place :)) So, what do you pros recommend? I think that I could build something if I had a kit or perhaps even a schematic? Can someone help me out? THANKS in advance.--

---

John Robert Schutt /\ jhschutt@tayloru.edu
Taylor University- Fort Wayne //\\ (219) 456-9061
1025 W. Rudisill Blvd. ///\\\ FAX: (219) 456-2119
Fort Wayne, IN 46807 ||

6139. Low power FM transmitter ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: David Skinner <david@drspc.demon.co.uk>
Message-ID: <565751427wnr@drspc.demon.co.uk>
Source record: 108802

Can anyone help me??

Do any of the major semiconductor manufacturers make an off-the-shelf IC which operates as a low power FM transmitter? You know, the sort of thing one might use to build a cordless baby alarm or bugging device.

Thanks in advance for any info!

(P.S. I already posted this question once but, for some unexplained reason, my news software changed "FM" into "FX" in both the subject line and in the post itself! I would put one such mistake down to a typo but *exactly the same mistake twice??* I don't think so! It'll be interesting to see if the same happens this time!)

--

David Skinner david@drspc.demon.co.uk
PGP key available on request
==========
Reality.sys corrupted. Universe halted. Reboot(Y/N) ?
==========

6140. Tower R.F. Choke info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: kennedy@aol.com
Message-ID: <4b73va$hmt@su102w.ess.harris.com>
Source record: 108803

I have an rf choke in my possesion with a part # 7871
10A./.75mh TOWER R.F. Choke. I'd like a catalog from the company
but I cant locate them. They are not Tower Electronics, Tower
Manufacturing,or Tower equipment. Can someone help me out?
This thing is bulky, about 6" long and 4" high. 2"OD form.
Please post. Thanks

6141. Re: graphics

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: gdenthoutx@aol.com
Message-ID: <4b7n69$pe5@newsbf02.news.aol.com>
Source record: 108804

FWIW (I'd hate to get flamed for being "an AOL newbie"...I have had .edu
and .compuserve addresses for some time) I just thought my computer had
locked up!!
Lost track of how many minutes (on a 14.4-dedicated line) and when
downloaded the (admittedly lame) default AOL viewer won't display.

6142. Where to find 2.5mm stereo phono plugs and jacks?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: pmbutter@wb.xerox.com
Message-ID: <NEWTNews.819386780.18117.Pbutterf@butter-pc.ess.mc.xerox.com>
Source record: 108805

I have struck out finding 2.5mm stereo phono plugs and jacks. You know the kind; they're used as mic connectors in HTs. Radio Shack doesn't have 'em. Nor does AES or DigiKey. Local industrial electronics suppliers don't have 'em either. Anyone know of a source of these? Or better yet, a source for the combo plug used with Icom HTs which has one stereo 2.5 mm and one mono mini phono plug adjacent for use with speaker mic. Application is homebrew voice "keyer" and also TNC interface.
Regards,
Paul
KB2TCG

6143. Transverter question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: pmbutter@wb.xerox.com
Message-ID: <NEWTNews.819386451.17043.Pbutterf@butter-pc.ess.mc.xerox.com>
Source record: 108806

Just purchased inexpensive module to allow Icom 730 HF rig to emit low level
RF signal for use with a transverter. Now am wondering where to go from here.
Are there inexpensive kits available that might get me 2m or 70cm SSB and CW?
Can anyone provide leads to a supplier? Anyone have any used offerings?
Regards,
Paul
KB2TCG

6144. Impedance matching HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: rrives@aol.com
Message-ID: <4b7rtg$ruj@newsbf02.news.aol.com>
Source record: 108807

I am trying to biuld a 15 meter amp for my mfj 9015 qrp rig. I need help matching the 50 ohm output impedance of the rig to the low input inpendance of the mrf 450 transistor that I am using for the amp. I would like to use a pi-network to match the impedance but I dont know what the input impedance of the transistor is. Can anyone help me. The amp is a class C amp in the common emitter configuration.

6145. Re: Printing directly to PCB with an ink jet printer ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: root@moki.toppoint.de
Message-ID: <5-9Rta0p36B@moki.toppoint.de>
Source record: 108808
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,sci.electronics.cad

> > It would seem that you should be able to put a pen in your
> >cnc drilling machine and draw using it with proper software. Is it a home
> >brew CNC drill or what. The basics of a plotter and a cnc machine are all
> >the same.
> > Garry WB0NNO

I'm using my cnc machine right now. I wrote a program that converts hpgl
files and controlls the cnc machine. If anybody needs something like that,
I can give it to you. Maybe I'll make shareware out of it.....
It's slow but it works pretty nice.

Moritz

Moritz von Buttlar | "Und denkt daran....Viel Wurstwasser trinken..
Kiel, Northern Germany | Das schaerft den Verstand !" Werner
CrossPoint v3.02

6146. FS: Valves (tubes)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-19 00:00:00 UTC
From: dmbrown@iinet.net.au
Message-ID: <4b6u6k$ab8@classic.iinet.com.au>
Source record: 108809
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap,rec.audio.tubes

I have the following unused tubes for sale:

5Y3GT 43
6AV6 42
6AQ5 28
EL85 29
5933S (807 equivalent) 30
955/VT121 (acorns) 22
OB2 10
108C1 5
6AX5GT 5
6J6 567!!

Please email for details if interested.
--
---------- ----------
email Red Pepper WWW page
dmbrown@iinet.com.au http://www.iinet.com.au/~dmbrown/
---------- ----------

6147. Re: Impedance matching HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <4b9d2j$1eki@lamar.ColoState.EDU>
Source record: 108624

Thomas C. J. Sefranek (sefranek@iii.net) wrote:
: Does it help if I repeat the book...?

Which book? I recommend if you're going to build amps, etc that you
go get (like, right now) the ARRL book 'Solid State Design for the Radio
Amateur". It covers all these subjects and more.

galen, KF0YJ

6148. Re: RAMSEY kits - converting from battery - Problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: mikeheit@aol.com
Message-ID: <4b9dn3$f3c@newsbf02.news.aol.com>
Source record: 108625

I had problems with common-mode hum in a Ramsey receiver kit.
The unit would sound fine when powered from batteries but hum like
crazy when connected to a power supply.

Be sure your power supply is filtered properly, including bypass
capacitors on all leads to and from the kit. Use shielded cables,
too. All these things helped with my kit, but I didn't completely
eliminate the hum until I modified the power supply itself, adding
bypass and filter capacitors in various places.

Good tips for fixing common mode hum can be found in several
textbooks, including the QRP Notebook.

73 de Mike - KF0SO

6149. Re: Single-chip FX xmitters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: David Skinner <david@drspc.demon.co.uk>
Message-ID: <638920373wnr@drspc.demon.co.uk>
Source record: 108626

Glad you picked up the typo - FX instead of FM!
I'll get onto Motorola's web site and get a data sheet for these chips.

Do you know of any modules that make it even easier - with just
battery, input signal, tuning pot & antenna connections?

David Skinner david@drspc.demon.co.uk
PGP key available on request
==========
Reality.sys corrupted. Universe halted. Reboot(Y/N) ?
==========

6150. wanted: Coast Guard differential-GPS beacon receiver design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: Jim <jdd@cellnet.com>
Message-ID: <4b9rev$h7r@mirrors.cellnet.com>
Source record: 108627

The Coast Guard transmits GPS differential correction information from a network of longwave transmitters using an MSK modulation at 100 baud (I think). Has anyone seen a simple receiver design for such a receiver/demodulator suitable for hobby construction?

Thanks.

Jim, WU0I

6151. Re: Impedance matching HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4ba207$em5@news.azstarnet.com>
Source record: 108628

"Thomas C. J. Sefranek" <sefranek@iii.net> wrote:
>Does it help if I repeat the book...?

>@ 30 Mhz. 50 Watts, input = 1.56 - j.89

>So, my guess is @ 21 Mhz, you'd have 1.75 ohms and -j1.0 .

>Mind you! It's a guess, but I bet a 5:1 transformer would work O.K.

Careful here. Generally when speaking about impedance matching transformers, it is the impedance ratio that is specified. In this case, the turns ratio is given.

>Use a ferrite core intended for HF, 5 turns of small wire, (#20)
>wrapped around a single turn of #16.

Can't comment on the performance of this, however, matching this large a ratio is usually done in a couple of steps especially when reactive matching.

>It's not optimized, but I've had great success anyway.

Good old ham ingenuity at work.
>
>Tom
>WA1RHP
>

Regards,

Wes -- N7WS

6152. Re: RS-232 Specification

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: "James P. Meyer" <jimbob@acpub.duke.edu>
Message-ID: <Pine.SOL.3.91.951220123319.3354A-100000@godzilla5.acpub.duke.edu>
Source record: 108629

On Tue, 19 Dec 1995, Gayle Albert wrote:

> Since I have had little, if any, luck getting an RS-232 cable for
> multiple nodes to work and even less luck with buying a commercial
> unit, I have decided to just do what I should have done to start
> with... Design one.

RS-232 was never intended to work with multiple nodes. If you
design something that *does*, you will have designed something that is
not compatable with RS-232.

RS-422 or RS-485 may be what you really want. I'm sure a little
searching will locate a .faq or three or twenty that will help.

Jim

6153. Re: MFJ QRP SSB Rigs - Worth the $$?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: jgrib@aol.com
Message-ID: <4b9rjj$kg2@newsbf02.news.aol.com>
Source record: 108630

Hi,

I did use a 20 meter MFJ from the car with a Hustler mobile whip on the rear quarter panel of the wagon. I worked a few stations in Fla, and one in the USSR. It does work, the only reason I don't do it all the time is the traffic here in Del. can be pretty nasty especially at rush hour. I received reasonable (ie. 559, 439 etc.) signal reports from it. I wouldn't want to run it say on 40 meters early in the afternoon due to the QRM from broadcast stations, but it's fun for a change from 2 meters FM.

73,

Joe KI3B

6154. Info on QRP kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: w4qo@america.NET
Message-ID: <Pine.SV4.3.91.951220154929.5329M-100000@atl1>
Source record: 108631

For the price/performance, most folks prefer the kits put out by the major QRP clubs to the commercial ventures, although many of them are fine quality. IMHO, I personally would check with owners of the Ramsey kits before buying them. Check this www site for reviews etc.

http://qrp.cc.nd.edu/qrp-l/

or join the QRP list at listserv@lehigh.edu with

subscribe qrp-l <name> <call>

The unit in Nov 1994 QST from NN1G is a very popular unit for 80, 40, 30, 20 single band. Good luck.

73/72/jim/w4qo

6155. High Dynamic Range, Low Phase Noise Front End

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: Randall_Rathbun@SMTP.rc.trw.com
Message-ID: <Randall_Rathbun-2012951254130001@rathbun.rc.trw.com>
Source record: 108632

Can anyone point me to recent work on low phase noise, high dynamic range receiver front ends? I am looking for something comparable to the new Icomm750 DSP with 105dbm dynamic range and excellent phase noise for the LO. QST had a Feb 93 article on it, but I am looking for newer information. Digitally synthesized oscillators are the magic words. Thanks for your help!
Please email responses to:
Randall_Rathbun@SMTP.rc.trw.com
- Randall NG6J

6156. Re: RIAA Preamp for Mag Cartridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: grohe@galaxy.nsc.com
Message-ID: <DJwK6r.89@nsc.nsc.com>
Source record: 108633
Cross-posted to: sci.electronics.design,rec.audio.tech,rec.radio.amateur.homebrew

In the newsgroup sci.electronics.design.
grohe@galaxy.nsc.com (Paul Grohe) from
National Semiconductor unthoughtfully misposted:

:Burr-Brown http://burr-brown

OOPS!

Burr Brown http://www.burr-brown.com

Sorry...Dain Bramage! %^}

Regards,
Paul Grohe

Paul Grohe National Semiconductor Corp.
Sr. Electronics Technician 2900 Semiconductor Drive
AMPS New Products Eng Group Mail Stop C2693
Email: grohe@galaxy.nsc.com Santa Clara, CA. 95052-8090 USA
(408) 721-7389 Tel (408) 721-2513 Fax

For technical assistance, literature, or samples call
Canada & US: (800) 272-9959 Europe: (49) 814 110-3720
Email Support: mailto:support@tevm2.nsc.com
NSC datasheets online at: http://www.natsemi.com
Usenet Disclaimer: Any opinions expressed are mine, not NSC's
---

6157. Re: RIAA Preamp for Mag Cartridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDJy43p.Iqn@netcom.com>
Source record: 108634
Cross-posted to: sci.electronics.design,rec.audio.tech,rec.radio.amateur.homebrew

in <4b7ach$a6j@africa.cis.co.za>, dickv@cis.co.za wrote:
: The problem I have is a turntable with a magnetic cartridge (output
: around 2mv) and a mini stereo system which only has an AUX input
: (around 700mv) and I need to get the output from the turntable up to a
: suitable level to drive the system. I guess I will need RIAA
: compensation as well.
: Can anyone help me with a suitable design, probably built around a
: single IC. I have 12V DC available in the turntable so power should
: not be a problem.

Equalized preamp modules were a stock item 20-25 years ago. Just a
little metal box with a couple of RCA jacks for input and output, and
a power cord. Find an electronics/stereo store that's old enough to
have a decent back room. They were used to adapt record players that
used ceramic pickups for new turntables that used magnetic ones.

A quick search turned one up in the MCM catalog for $US 12.75. So also
check with distributors that specialize in repair parts.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

6158. fire alarm supervisory circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: jmjones@mcs.com
Message-ID: <jmjones.58.00128DF0@mcs.com>
Source record: 108635

Anyone have some info on old fire alarm circuit which used end-of-line resistor and pair of relays. One was energized continuously by current flow thru circuit which on an open would cause trouble alarm. N/O detectors were wired in parallel with e-o-l resistor and would operate alarm relay if any one closed. Values of resistor and coil voltages/resistance etc would be greatly appreciated.

John M. Jones, Lombard, Illinois
email: jmjones@mcs.com

6159. Re: Transverter question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1995Dec20.095143.428@nad.com>
Source record: 108636

In article <NEWTNews.819386451.17043.Pbutterf@butter-pc.ess.mc.xerox.com>,
pmbutter@wb.xerox.com writes:
>
> Just purchased inexpensive module to allow Icom 730 HF rig to emit low level
> RF signal for use with a transverter. Now am wondering where to go from here.
> Are there inexpensive kits available that might get me 2m or 70cm SSB and CW?
> Can anyone provide leads to a supplier? Anyone have any used offerings?
> Regards,
> Paul
> KB2TCG

Hi Paul,
Down East Microwave
Frenchtown, NJ
(908) 996-3584

Steve has good stuff for 50-10368mhz

See ya,
Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

6160. 222 MHz Tx designs ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8195012486505@lss.humnet.humberc.on.ca>
Source record: 108637

I'm thinking of building a transmitter for the FM portion of the
220 MHz band and using my scanner as a reciever just to try out
the local repeater activity. Wondering if anyone has any neat
designs ?
My initial approach is to borrow the 220 MHz RF strip from
"The Elevator" 222 MHz trasnverter article (Jan.90 QST) and running
a PLL/VCO synth into it. This design uses 2 MMICs, a 2N5179 and an
MRF227 for about 1 or 2 watts of 222 MHz RF.

Any comments/suggestions welcomed.

Thanks...

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

6161. Wanted Vhf Rx Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: Carlo Gregori <MC0287@mclink.it>
Message-ID: <819464374.MC0287@mclink.it>
Source record: 108638

Is there anyone that can help me in finding the
manual (with diagram) of the aeronautical VHF tube
receiver model IA/R-2/GRC-3?
This receiver was manufactured in Italy in the 60s
by Marelli and Philips, as far as I know.
Thank you
Carlo

6162. Re: Serial-to-Parallel Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: chroman@mirror.postech.ac.kr
Message-ID: <4b7nub$iol@xpat.postech.ac.kr>
Source record: 108810
Cross-posted to: de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

Nicholas Abbot (abbot@ayrton.eideti.com) wrote:
: Richard Evans (richarde@salsa.inmos.co.uk) wrote:
: : In article <1995Dec6.103431@atl.com>, ldesot@atl.com (Larry DeSoto) writes:
: : |> In article <4a383p$a74$1@mhadg.production.compuserve.com>, Brian Webb
<102670.1206@CompuServe.COM> writes:
: : |> > I'm trying to find either an IC or a schematic for converting
: : |> > serial-parallel.
: : |> >
: : |> > I own a solid state radioteletype decoder (circa 1980) designed
: : |> > to work with serial printers. However, my printer, like virtually
: : |> > all others is parallel.

You may be able to make a serial-to-parallel converter. But, I guess you
might have good solution after you go through your printer manual. It
probably has a serial interface option or already have one.

--
Dickson 2.4
"People even being as stupid as me should still survive,
strive to learn, and attempt to contribute."
- from somebody's signature

6163. Re: RIAA Preamp for Mag Cartridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: grohe@galaxy.nsc.com
Message-ID: <DJvnAL.JKD@nsc.nsc.com>
Source record: 108811
Cross-posted to: sci.electronics.design,rec.audio.tech,rec.radio.amateur.homebrew

On Tue, 19 Dec 1995 21:21:30 GMT,
dickv@cis.co.za
from Worldnet Africa Usenet Server thoughtfully posted:

> The problem I have is a turntable with a magnetic cartridge (output
> around 2mv) and a mini stereo system which only has an AUX input
> (around 700mv) and I need to get the output from the turntable up to a
> suitable level to drive the system. I guess I will need RIAA
> compensation as well.
> Can anyone help me with a suitable design, probably built around a
> single IC. I have 12V DC available in the turntable so power should
> not be a problem.

> Thanks in advance

> Dick Vogt (dickv@cis.co.za)

Dick,

There are external phono pre-amps available commercially. Radio Shack
(or whatever they are called in .za) used to sell them and most
electronics supply houses (MCM) will have them for around $15 US.

Almost any databook that deals with low noise op-amps will have a few
schematics for phono amps. Check out Burr-Brown, Analog Devices,
Linear Technology, Phillips/Signetics, and (of course) National. Keep
in mind that most of them will be for split supplies (+/- 15V). but
they are easily adaptable to single supply.

Take a look at Application Note 142 from Phillips at:

http://server1.pa.hodes.com/ps/philips5.html#5

Our LM381 and LM382 are optimized for single supply tape head and
phono amps. Most of the needed circuitry is built in, so less parts
are required (LM382=5 parts/ch). Take a look at these at:

http://www.natsemi.com

In LINEAR/AUDIO CIRCUITS find the LM381, LM382 and AN-299.

Unfortunately, AN-64 is not available on-line. It gives some very good
info on how to design an RIAA pre-amp. Contact support@tevm2.nsc.com
for it.

I used the LM382 years ago for a tape head amp. Be very careful about
layout. Because these circuits are relatively high gain, they have a

tendency to oscillate. One-point grounds, good shielding and power supply bypass caps are essential.

Also take a peek at:

Analog Devices http://www.analog.com
Burr-Brown http://burr-brown

Check out the 'low-noise' op-amp datasheets for any phono-amps.

Good Luck,
Paul Grohe

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For technical assistance, literature, or samples call
Canada & US: (800) 272-9959 Europe: (49) 814 110-3720
Email Support: support@tevm2.nsc.com
NSC datasheets online at: http://www.natsemi.com
Usenet Disclaimer: Any opinions expressed are mine, not NSC's
---

6164. HELP! Where is K7JF??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: jkaplan@seikotsi.com
Message-ID: <4b7lfv$8qn@news1.seikotsi.com>
Source record: 108812
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.swap

I'm looking for my friend, Jeff Freedman, K7JF. Last known QTH was Lakewood (Tacoma), WA Any info appreciated, phone, e-mail or packet address. Of course, you may give him my info if you like.

Tnx - KG7FU

"YOU kill what YOU fear and YOU fear what YOU don't understand"

jkaplan@seikotsi.com
kg7fu@aol.com
kg7fu@kb7ogd.or.usa.noam

6165. ? Do you know W1OX or N7ART

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <30D87845@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 108813

Hello,

First: Does anyone of you know Edward L. Meade, W1OX or Russ Miller, N7ART.
Do they have an email adress?

I am looking for their (our your?) help: They designed high-power-amps for
2m and 70cm. I got some russian tubes (GS35B and GIxxx) and want to know if
these are working in 3CX1500 or similar designes.

Second: Is there anyone who can give me a copy if W6PO's articles on 220MHz
144MHz amps published in Radio Handbook, 23rd ed. (Indianapolis: Howard W.
Sams and Co., 1987), pp. 18-2 through 18-7 and pp. 18-11 through 18-15?

Thanks a lot!

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
DL4MEA@AMSAT.ORG (Internet)
HTTP://WWW.SCN.DE/~KOELLNER (WWW)

6166. Re: Single-chip FX xmitters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: mcline@iquest.net
Message-ID: <DJv6A7.HIG@iquest.net>
Source record: 108814

David Skinner <david@drspc.demon.co.uk> wrote:
>X-SMTP-Posting-Host: drspc.demon.co.uk [Mon, 18 Dec 95 22:18:25 GMT]
>
>Can anyone help me??
>
>Do any of the major semiconductor manufacturers make an off-the-shelf
>IC which operates as a low power FX transmitter? You know, the sort
>of thing one might use to build a cordless baby alarm or bugging
>device.
>
>Thanks in advance for any info!
>
>--
>David Skinner david@drspc.demon.co.uk
>PGP key available on request
>==
> Reality.sys corrupted. Universe halted. Reboot(Y/N) ?
>==
>
Yes indeed, Motorola makes an MC13175 and MC13176 that are
single chip crystal controlled xmitters. Just a crystal a couple
of resistors and caps, and a coil. They can operate AM or FM.
They will operate up to about 1GHZ. The 175 runs at 8 times the
crystal frequency, and the 176 runs at 32 times the crystal freq.
I think DC Electronics has them in the surface mount package.

Mike
N9RJW

6167. Simple QRP projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4b7pr5$aav@news-f.iadfw.net>
Source record: 108815

Boy, I didn't know there was this much interest. Ever since I opened my mouth about a 40m transmitter built out of nand gates I've been inundated by requests for schematics! Sounds like we need to have a qrp net...

I don't have the schematics in electronic form, but I do have a few references to get you started looking them up. After Christmas I'll see what I can do about scanning them so I can e-mail them instead of using snail-mail.

First, there are several schematics, albeit ascii drawings, at this URL:
www.acs.ncsu.edu/HamRadio/HF/qrp/projects/

Here are a few fairly recent articles with simple projects:

August 1995 CQ, pg 71 - 250 mW tx with nand gate oscillator, a nand buffer, 4 "nands" in the final (!) and a nand gate to key it. Even simpler than my tx which has 2 - 2n2222's in the final!

Nov. 1994 QST, pg. 84 - Single chip tx using a 74HC240, claims 1/2 watt, probably a bit optimistic.

An older article for a single transistor rx is in the Oct. 1986 73, page 54. I have several others, but I left them at work to copy them. More to come when I find them. The bad news is that I still haven't located the original article I mentioned about the 40m and 80m transmitters. They were from 73 magazine, around 1990 or 1991. The 2 rigs were called something like "Ether duster" and "Cloud Buster" or something catchy like that. If anyone is familiar with this article, please post if for those who are interested. Judging by the amount of e-mail I've gotten, there must be more interest in QRP and simple construction projects than I thought!

I'll post the other references later, and will try to get the schematics scanned after Christmas.

73,
Kerry Miller
WD5ABC

6168. EUREKA! QRP Plans Found!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4b7u25$nd3@news-f.iadfw.net>
Source record: 108816

Ok, so now the whole internet world knows how disorganized my shack really is! I found the article about the 40m and 80m transmitters, called "ether duster" and "wave bender". I was close.

The article was in the May, 1991 73 Magazine, pages 26 through 29. Don't panic, most of it is advertising (way to go, Wayne...). The 80m version uses a color burst xtal and 4 - 2n 3904's in the the final. the 40m version has fewer parts and has a pair of 2n3904's. I used 2n2222's because I had a bag full and it didn't matter if I blew up a few!

More references to come, I'll try to scan some of this stuff in after Christmas.
73,
Kerry Miller
kmiller@airmail.net

PS MERRY CHRISTMAS!

6169. HF installation in Toyota pickup

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: zygo@azstarnet.com
Message-ID: <zygo-2012950753440001@usr7ip18.azstarnet.com>
Source record: 108817

I expect to take delivery of a new Toyota pickup soon and wonder if anyone has had experience installing an HF rig and antenna in one. I'd be interested to know of mechanical arrangements that have worked and especially whether any unusual receiving noise problems or car electronics problems were encountered. If so, any solutions. My tentative plan is to install a screwdriver or bugcatcher at the outer left rear of the bed. There will be a fiberglass shell, which hopefully will have little effect on the antenna. Thanks and 73.

Jim, KG5KP

6170. Re: Pls Help with Digital Frequency Display

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4b9762$5ca@news.azstarnet.com>
Source record: 108818

jhschutt@bambi.tayloru.edu (Dr. John Robert Schutt) wrote:
>Can you help me? I recently bought a TenTec Century 21 rig. It's my first as
>I'm a newbie. I'd sure like to have a digital display to know the exact (or
>close) frequency on which I'm transmitting. Someone suggested that I get a
>frequency counter. Someone else suggested that I get a permanant digital
>readout display. Whatever I do, I'd like not to spend a fortune. (If I had a
>fortune, I'd have bought a digital rig in the first place :)) So, what
>do you pros recommend? I think that I could build something if I had a kit or
>perhaps even a schematic? Can someone help me out? THANKS in advance.--
>_____

Hi John:

I hope you don't take offense at this, no flame intended. My question is, why do want better resolution than the Century 21 offers. A number of years ago, I tought a radio class at the local Community Collage where the radio club had one of these rigs. If memory serves me (always a dubious proposition), the dial had at least 1-2 KHz accuracy, if not better.

If you avoid the band edge by this amount, why worry? Thousands of us entered ham radio with equipment no better than this, often worse, and everybody used to get by without a digital readout. I'm working weak-signal tropo, meteor scatter and EME without one.

By all means build things, it's a great part of ham radio. If you build a counter, fine, but don't do it because you are reluctant to operate without it.

Best wishes for a long and fulfilling ham experience.

Wes -- N7WS

6171. Re: Printing to PCB material from a laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: ajsklar@aztec.asu.edu
Message-ID: <4b8c5s$n4h@news.asu.edu>
Source record: 108819

Hi All..
PnP Blue and PnP wet has an add in Radio Fun...
The Company it called Techniks Inc
PO Box 463
Ringoes NJ 08551
or Phone (908) 788-8249

I put the address here for info only...
I do not know anything about this company...
Enjoy..
de Allen AA7BJ

--

6172. Re: Audio Filters & AGC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: Dieleman@cid.fgg.eur.nl
Message-ID: <4b8v4f$ni6@newton.fgg.eur.nl>
Source record: 108820

jackl@pinetree.microserve.com (WB3U) wrote:

>The HF transceiver I'm using employs audio-derived AGC and has an
>internal audio notch filter. I also use an external audio filter.
>The problem is that that both filters are in the signal path after
>the AGC detector. They do nothing to prevent a strong interfering
>station from activating the AGC and burying a weaker desired signal.

>I'm thinking about modifying the circuit to place the detector after
>the internal filter, and to also allow injecting audio from my
>external filter at a point ahead of the AGC detector.

>Assuming the external filter is unity gain, does anyone know a
>technical reason not to do this?

One reason to be careful is the fact that the AGC doesnt't react to
the total received signal strength within the IF passband. The filter
removes a significant portion of the signal, so AGC-action results in
higher gain and as a result the IF-amolifier or other amplifers more
up-front may get too much signal and operate non-linearly. This is
most likely in case you filter out a strong carrier or CW signal.

...(Rest of original post deleted)

Hope this helps

Ad Dieleman

6173. Ext mic mod for HTX-202 and HTX-404

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: SJJK62A@prodigy.com
Message-ID: <4b9bnj$hfq@useneta1.news.prodigy.com>
Source record: 108821

There is a web page that describes how to modify the ext speaker mic sold by Radio Shack. The modified mic will provide the proper level needed by the radio for good modulation. The information can also be applied to other brands of speaker mic's. Check out :

http://pages.prodigy.com/CA/LA/htx202htx404/htx202htx404.html

6174. Re: Impedance matching HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4b95dq$rvr@news.iii.net>
Source record: 108822

Does it help if I repeat the book...?

@ 30 Mhz. 50 Watts, input = 1.56 - j.89

So, my guess is @ 21 Mhz, you'd have 1.75 ohms and -j1.0 .

Mind you! It's a guess, but I bet a 5:1 transformer would work O.K.

Use a ferrite core intended for HF, 5 turns of small wire, (#20)
wrapped around a single turn of #16.

It's not optimized, but I've had great success anyway.

Tom
WA1RHP

6175. Re: Impedance matching HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-20 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4b9dll$f29@newsbf02.news.aol.com>
Source record: 108823

In article <4b7rtg$ruj@newsbf02.news.aol.com>, rrives@aol.com (RRives)
writes:

>I am trying to biuld a 15 meter amp for my mfj 9015 qrp rig. I need help
>matching the 50 ohm output impedance of the rig to the low input
>inpendance of the mrf 450 transistor that I am using for the amp. I would
>like to use a pi-network to match the impedance but I dont know what the
>input impedance of the transistor is. Can anyone help me. The amp is a
>class C amp in the common emitter configuration.
>
>
>

The series equivilent input impedance is spec'ed at 1.56 -j.89 ohms at 30
MHz.

73 Tom

6176. Re: RIAA Preamp for Mag Cartridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: rocker@ohana.com
Message-ID: <4bamjb$bt9@rigel.pixi.com>
Source record: 108639
Cross-posted to: sci.electronics.design,rec.audio.tech,rec.radio.amateur.homebrew

dickv@cis.co.za wrote:

>The problem I have is a turntable with a magnetic cartridge (output
>around 2mv) and a mini stereo system which only has an AUX input
>(around 700mv) and I need to get the output from the turntable up to a
>suitable level to drive the system. I guess I will need RIAA
>compensation as well.
>Can anyone help me with a suitable design, probably built around a
>single IC. I have 12V DC available in the turntable so power should
>not be a problem.

>Thanks in advance

>Dick Vogt (dickv@cis.co.za)

There used to be cheap phono preamps available for your application at
radio shack (ack) and other parts suppliers. Call around and see what
you can find. If there are no more, e-mail me and I'll find you
something. Why not canibalize and old stereo am;plifier from a swap
meet or garage sale? The phono preamps were often on dedicated PCB's.

Erik Nagley
rocker@ohana.com

6177. Re: RIAA Preamp for Mag Cartridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: major@rodent.ecn.uoknor.edu
Message-ID: <4bc7bp$2rc@norm.uoknor.edu>
Source record: 108640
Cross-posted to: sci.electronics.design,rec.audio.tech,rec.radio.amateur.homebrew

In article <4b7ach$a6j@africa.cis.co.za>, <dickv@cis.co.za> wrote:
>The problem I have is a turntable with a magnetic cartridge (output
>around 2mv) and a mini stereo system which only has an AUX input
>(around 700mv) and I need to get the output from the turntable up to a
>suitable level to drive the system. I guess I will need RIAA
>compensation as well.
>Can anyone help me with a suitable design, probably built around a
>single IC. I have 12V DC available in the turntable so power should
>not be a problem.
>
>Thanks in advance
>
>Dick Vogt (dickv@cis.co.za)
>
>
An American electronics magazine (Radio Electronics) has had several
small amplifiers in recent editions. If you're interested, e-mail
me your address. I'll copy the articles and mail them to you. All
I ask in return is some stamps, or maybe a Rand note or two (I collect
stamps and paper money from around the world).

6178. Re: RIAA Preamp for Mag Cartridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.819589921.6683.jwicklun@mycroftxxx.halcyon.com>
Source record: 108641
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,rec.audio.tech

> in <4b7ach$a6j@africa.cis.co.za>, dickv@cis.co.za wrote:
> : The problem I have is a turntable with a magnetic cartridge
(output
> : around 2mv) and a mini stereo system which only has an AUX input
> : (around 700mv) and I need to get the output from the turntable
> : up to a suitable level to drive the system. I guess I will need
> : RIAA compensation as well.

If you have access to the National Semiconductor 1994 Linear Applications Handbook, look at AN-346 for several example RIAA preamp circuits using the National LM833 op amp. The same circuits should work equally well with any good op amp. The LM833 is optimized for audio preamp applications, but you shouldn't have any trouble substituting.

Jay

6179. Cupric Cloride PCB Etching

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: rex_allers@3mail.3com.com
Message-ID: <3994@bridge2.NSD.3Com.COM>
Source record: 108642

Last week, someone asked about using Cupric Cloride solution to etch PC Boards. They mentioned an old article in Ham Radio. I lost the original message so I can't reply in that thread, but here's some info on a different description of the process...

I don't recall seeing the Ham Radio article, but I have a book that has a chapter on the subject. The book is "Electronic Prototype Construction" by Stephen Kasten, copyright 1983. The CuCl2 method sounds good, but I have never got around to trying it.
His formula is: solid CuCl2 200 g, Conc. HCl 100 g, Water to make 1000 ml. Etching reduces Cupric Cloride to Cuprous Cloride. By bubbling Oxygen (air) through the solution in the presence of HCl the Cuprous Cloride is turned back into Cupric Cloride for more etching. The solution starts as bright emerald green. As etching converts it to Cuprous Cloride, the color goes to murky olive-brown.
The author used a bubble etcher made from a cooler (plastic kind used for drinks and food). The solution was heated to make etching go faster. The bubbles agitate the solution during etching, then are kept going after etching until the color of solution is restored. The solution grows as time passes (kind of like sourdough) but must be kept up by adding water and HCl.
The book has several paragraphs on how to maintain the solution, but basically it comes down to specific gravity to determine how much water to add and titration of a sample with NaOH to determine hydrocloric acid level.
It all sounds very good, but like I said, I haven't tried it myself. The book was good on this subject, but I assume it is out of print now. Some of the rest of the book is a bit dated, but not a bad reference overall.

6180. ALC ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: aga@mandalay.corp.sun.com
Message-ID: <4ba9i4$bbo@jethro.Corp.Sun.COM>
Source record: 108643

I have a commercial amplifier using an Eimac 8877. This amp has a tank only capable of 14 mhz operation (Converted sputtering generator). I'd like to add an ALC circuit to permit reliable SSB operation and was considering the Capacitive voltage divider circuit of the 3-500z amp in a previous handbook. Is this a good idea? Anyone have a better suggestion? Simple is better to me. I am going to control the IF stage in an FT-101ZD. TIA

Tony

WA6LZH

6181. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <30D91F60.3CF6@netaxs.com>
Source record: 108644

Jon Bloom wrote:

> Not only in theory but in reality, too. (See Campbell's Jan 1993 QST article.)
> But in practice, "near-perfect" is problematic; you'll have trouble getting more
> than about 40 dB of opposite sideband rejection from this approach. It's
> interesting to note that the current crop of commercial amateur-grade
> transceivers that use DSP do the demodulation at a low IF (up to 15 kHz or so).
> By processing a single IF signal (not two signals in quadrature), they eliminate
> any worries about amplitude and phase balance between two analog channels. While
> such an approach is viable only in a superhet design, the complexity of the
> needed superhet circuitry is not substantially more than that of a quadrature
> D-C design.

Traditional phasing DC receivers are limited to about 40 dB of sideband rejection because it
is very difficult in hardware to obtain the amplitude and phase balance required to achieve total cancellation. On the other hand, if the local oscillator were supplied by the quadrature outputs of an NCO, and the audio phase shifting was done in software (DSP), then the only source of imbalance would be the differences between the two mixers, nes pas? Thereafter, every conceivable AGC, selectivity, and noise reduction feature would come almost "free" because they would all be software functions.

Joe
WA3CMQ

6182. Re: Transverter question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: pbutlalj@ia.net
Message-ID: <4baptl$2qf@hera.ia.net>
Source record: 108645

In article <NEWTNews.819386451.17043.Pbutterf@butter-pc.ess.mc.xerox.com>,
pmbutter@wb.xerox.com says...
>
>
>Just purchased inexpensive module to allow Icom 730 HF rig to emit low
level
>RF signal for use with a transverter. Now am wondering where to go from
here.
>Are there inexpensive kits available that might get me 2m or 70cm SSB and
CW?
>Can anyone provide leads to a supplier? Anyone have any used offerings?

Well Paul I don't know about inexpensive. But good is Down East
Microwave with the No-Tune transverters. They come as assembled or partial
or complete kits. Also the parts can be obtained and then put together.

Several people I have asked around here have told me that is the way
to go and with the end of a lot of traveling for work now I am going to
order a 432 MHz transverter from them.

Good luck on your search and I hope this is of some help to you.

BTW. One can obtain the address for Down East Microwave from QST,
CQ or 73 magazines.

--
Allan Butler KA0IES
ajbutler@ia.net

6183. Re: Audio Filters & AGC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: andy@moose.mv.com
Message-ID: <DJx9Hx.56H@mv.mv.com>
Source record: 108646

In article <819458675.1774@pinetree.microserve.com>,
jackl@pinetree.microserve.comï¿½ says...
>
>The HF transceiver I'm using employs audio-derived AGC and has an
>internal audio notch filter. I also use an external audio filter.
>The problem is that that both filters are in the signal path after
>the AGC detector. They do nothing to prevent a strong interfering
>station from activating the AGC and burying a weaker desired signal.
>
>I'm thinking about modifying the circuit to place the detector after
>the internal filter, and to also allow injecting audio from my
>external filter at a point ahead of the AGC detector.

Besides the front-end overload problem, placing notch filters and such in the
agc feedback path could cause horrible transient response, ringing, etc.
Could possibly make it unstable. It could also slow down the agc response,
which is always a problem with audio agc anyway. An el cheapo way to design
comm receivers, in my opinion.

Course, if you like to experiment...

--
Andy Borsa -- !!!The Universe is discretely analog!!!

6184. 3 phase mains supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1995Dec21.110622.58778@ucl.ac.uk>
Source record: 108647

This is not really connected with ham radio, but perhaps someone here will know the answer.

Are the electric companies compelled to provide a 3ph mains supply to a domestic installation if someone wants it? I have all 3 phases at home, which I assume was fitted since the house uses electric heating and so has a fairly large load. A colleague want to run a small lathe which has a 3ph supply. Although I've thought of ways at proving 3 phases from 1, by far the simplist solution is to have the electic company provide him with all three phases.

Has anyone requested 3 phases in a house? I guess power supply ripple would be less of a problem and so smooting caps could be smaller, so it could be useful for ham applications.

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

6185. Re: RS-232 Specification

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <4bbehj$ffp@proffa.cc.tut.fi>
Source record: 108648

Gayle Albert (gayle@ldd.net) wrote:

> Since I have had little, if any, luck getting an RS-232 cable for
> multiple nodes to work and even less luck with buying a commercial
==========
> unit, I have decided to just do what I should have done to start
> with... Design one.

I assume you are talking about connecting multiple TNCs together using
some kind of diode arrays between the RS-232 ports.

Sorry to be sarcastic, but,
if the devices are truly RS-232C compatible, this should _not_ work.

The original RS-232C standard was about connecting the computer (DTE
Data Terminal Equipment) to the modem (DCE Data Communication Equipment).
The standard does not contain anything about connecting two computers
together (requires a "null-modem", two modems connected back to back,
which can be simplified to a few crossed lines) and the standard definitely
does not talk about multidrop (one master and many slaves) and even less
about LAN configurations (peer-to-peer).

The diode array systems I have seen requires that the TNCs violates
the RS-232C standard by inverting the RTS signal and through a couple of
diodes inhibit others from transmitting by feeding the signal to the
CTS inputs.

> I am hoping that someone on the group can save me some time and point
> me to a site that has the IEEE spec for the RS-232 port. No sense in
> doing just another non-standard system that works some of the time...
> We have plenty of those already!

Sorry, I did not find a direct reference for it, but be warned, that the
standard is quite complex and deals only with the DTE-DCE connection.

The best definition of "RS-232 compatible" equipment that I have heard,
is that the manufacturer, when the product is initially released,
does know a specific _reason_, why the device would _not_ work
with some unspecified device that is said to be RS-232 compatible.
This does not imply that the two devices will work together if the
compatibility would ever be tested :-)

Paul OH3LWR

--
Phone : +358-31-213 3657 Mail: Hameenpuisto 42 A 26
Internet: Paul.Keinanen@cc.tut.fi FIN-33200 TAMPERE

Telex : 58-100 1825 (ATTN: Keinanen Paul) FINLAND
X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

6186. RE : Shortwave radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: paula mcketty <uccaptm@ucl.ac.uk>
Message-ID: <1995Dec21.132335.63115@ucl.ac.uk>
Source record: 108649

I am a keen shortwave lintener. In my search for perfection I have decided to attempt to build a shortwave radio based on DIGITAL sampling techniques. I am looking for a design that can :

1. Sample a 0Mhz - 30Mhz signal, digitally filter and pick out desired program.

2. Any other high performance method.

I know this is asking a lot but that must be a "WHIZZ" kid out there that knows a design or some way of doing this! Oh additonally the design must be as economically restrained as possible.

My initial thoughts around the problem were to use a standard front end and mix the incoming singnal down to somthing more managable but this presented more problems!

Thanks! for any idears given!

6187. Re: Audio Filters & AGC

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4bbou1$kr@news.azstarnet.com>
Source record: 108650

jackl@pinetree.microserve.com (WB3U) wrote:
>The HF transceiver I'm using employs audio-derived AGC and has an
>internal audio notch filter. I also use an external audio filter.
>The problem is that that both filters are in the signal path after
>the AGC detector. They do nothing to prevent a strong interfering
>station from activating the AGC and burying a weaker desired signal.

>I'm thinking about modifying the circuit to place the detector after
>the internal filter, and to also allow injecting audio from my
>external filter at a point ahead of the AGC detector.

>Assuming the external filter is unity gain, does anyone know a
>technical reason not to do this? Does anyone know if any commercial
>units are configured like this (Ten Tec maybe)? Alternately, I might
>simply add an outboard switch to turn off receive AGC altogether, but
>I don't think this would be entirely satisfactory. The desired signal
>isn't always weak, and AGC action is often needed even though the
>filters are in use.

>Any suggestions or ideas on this problem will be appreciated.

Jack:

An *excellent* article on AGC systems was by Mark, KN5S, and
appeared in the October 1995 issue of QEX.

Mark's article will answer most of your concerns and give you
some insight into why your proposed approach is impractical.

If you need a copy, let me know.

73, Wes -- N7WS

6188. picking harmonics off of vfo inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: lbraden@mail.utexas.edu
Message-ID: <4bbvo6$gs7@geraldo.cc.utexas.edu>
Source record: 108651

A question for the more experienced builders -

Is it possible to successfully pick off the 2, 3,or 5th harmonic
off a VFO inductor by placing a coil wound for the harmonic close
to the inductor, both wound on a form positioned vertically off the
groundplane and trimmed with small trimmer caps? Perhaps wrapping a
single link of insulated wire around both coils?

Or would the mutual inductance cause problems. What I am wondering if
it isn't possible to pick off 50 mhz energy from a 10 mhz 30m vfo coil.
Of course, there are other more standard and successful approaches to
frequency doubling and tripling, but I am curious whether anyone has
tried this?

Thanks

Larry Braden KC5CWG

6189. Pls Help with Digital Display

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: jhschutt@figmnt.tayloru.edu
Message-ID: <1995Dec21.124320.2647@figmnt.tayloru.edu>
Source record: 108652

Thanks for reading this post.

Does anyone know of a reference that contains directions to build a digital display for an older analog rig (specifically the TenTec Century 21.) The 1996 ARRL Handbook doesn't have one. Do you know where I can find such a beast?

Alternatively, do you know of a manufacturer, kit or otherwise, who sells one? I'd like to build/get one.

Thanks for your time.

John KB9KSM

John Robert Schutt /\ jhschutt@tayloru.edu
Taylor University- Fort Wayne //\\ (219) 456-9061
1025 W. Rudisill Blvd. ///\\\ FAX: (219) 456-2119
Fort Wayne, IN 46807 ||

6190. Re: Transmitting loop near miss

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: dave eckhardt <davee@hp5800.desk.hp.com>
Message-ID: <DJyCuH.5Mw@boi.hp.com>
Source record: 108653

Just relate my experience on a 4-foot diameter 5/8" Cu tubing loop I tried. I am able to resonate it on 40, 30, and 20 with a 250 pF 5kV air variable and loop feed. When originally built, I connected the variable C to the ends of the loop with the braid from a good grade of RG-8U. I was quite surprised to find this braid warmed enough at 100 watts that the flux left from the soldering operation smoked! I finally replaced the braid with three paralleled lengths of #10 AWG Cu wire. It only barely warms to the touch after 10 minutes of CW transmitting. Lots of current in spite of the voltage! Operating inside a stuccoed house on the ground floor, it is about 10 dB lower than the outdoor center-fed Zepp. Not bad for a small antenna INSIDE the house amoungst filing cabinets and metal shelving.

Dave Eckhardt W6LEV
dave_eckhardt@HP-Greeley_om2.om.hp.com (work)
dave_eckhardt@gnn.com (home)

6191. Location of Ranger Communications, Inc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: "G.D.Fender" <eureka@datasync.com>
Message-ID: <4bcapn$vgp@osh2.datasync.com>
Source record: 108654

Does anyone have the address or phone number for Ranger Communications, Inc...Please send e-mail.

Thanks,

Gary W6SZX
eureka@datasync.com

6192. Re: Impedance matching HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: dave eckhardt <davee@hp5800.desk.hp.com>
Message-ID: <DJyECH.7vv@boi.hp.com>
Source record: 108655

I would strongly recommend against attempting this project with no knowledge of the device you have chosen to use. Get a copy of the Motorola RF Manual which I believe ARRL offers for a nominal price. I could walk you through the procedure, but you need some background of the device characteristics. The Mot book also gives a number of good tutorials on various methods of matching from HF to uwave.

Dave Eckhardt W6LEV

dave_eckhardt@HP-Greeley-om2.om.hp.com (work)
dave_eckhardt@gmm.com

6193. Re: Transmitting loop near miss

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4bch9c$ksd@newsbf02.news.aol.com>
Source record: 108656

In article <DJyCuH.5Mw@boi.hp.com>, dave eckhardt
<davee@hp5800.desk.hp.com> writes:

>Just relate my experience on a 4-foot diameter 5/8" Cu tubing loop I
>tried. I am able to resonate it on 40, 30, and 20 with a 250 pF 5kV air
>variable and loop feed. When originally built, I connected the variable
>C to the ends of the loop with the braid from a good grade of RG-8U. I
>was quite surprised to find this braid warmed enough at 100 watts that
>the flux left from the soldering operation smoked! I finally replaced
>the braid with three paralleled lengths of #10 AWG Cu wire. It only
>barely warms to the touch after 10 minutes of CW transmitting. Lots of
>current in spite of the voltage! Operating inside a stuccoed house on
>the ground floor, it is about 10 dB lower than the outdoor center-fed
>Zepp. Not bad for a small antenna INSIDE the house amoungst filing
>cabinets and metal shelving.
>
>Dave Eckhardt W6LEV

Hi Dave,

Braid is notoriously lossy at RF. It isn't suprising you noticed the heating in a high current application like the loop. Smooth conductors are much better than woven conductors, as your test shows. That's a good thing to keep reminding people of.

Look at the ground straps on antennas or stations with that experience in mind. If you tell others how crummy braid is for a RF connection some of them will think you're full of it, hi. Think about the articles recommending using coax braid for the whole antenna, or recommend using braided coax to make capacitors! And what about those bazooka antennas that use lossy braid for an element?

73 Tom

6194. Home Brew Laser Comms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <4bcda3$tej@alpha.pcix.com>
Source record: 108657

Gudday,
Dave here still looking to QSO with Laser Types. I recently changed Server and lost the addresses.
Please re-mail to me and lets share Laser Stories.
I'm using 5mw diodes for transmit, and PIV-transimpedance amps. So far 12 miles comms. with plenty of sigs left over.
Hw?
daveaa1a @pcix.com

6195. Home Brew Laser Comms

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <4bcd52$tej@alpha.pcix.com>
Source record: 108658

[No readable article body recovered]

6196. Re:Phono Preamp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9511218195.AA819582849@mails.imed.com>
Source record: 108659

Call MCM electronics:

(800)543-4330

Part number 40-630 page 272 of latest catalog.

Price $13.50.

I'm amazed they still sell stuff like that for vinyl.

Ray Mack
WD5IFS
mack@mails.imed.com

6197. pre-amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: steps@bashful.einsteininfo.com
Message-ID: <4bd276$5d8@bashful.einsteininfo.com>
Source record: 108660

Could someone direct me to where I might find a schematic of a small pre-
amp I could build? I run a two element quad beam,and tx is not a problem
I'd just like to pull in some distant stations more or less just to "sand
bag" on the frequency.If possible,a plan for an AC unit would be preferred
as I don't run a power supply.THANX
steps@einsteininfo.com

6198. Re: 3 phase mains supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30DA0DE0.2789@jpaw.com>
Source record: 108661

Dave Kirkby wrote:
> A colleague want to run a small lathe which
> has a 3ph supply. Although I've thought of ways at proving 3 phases from
> 1, by far the simplist solution is to have the electic company provide him
> with all three phases.
>

Someone in another newsgroup provided this pointer
http://tbr.state.tn.us/~wgray/index.html

One of the items discussed there is techniques for making 3-phase
converters

It looked like a pretty thorough discussion.

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

6199. Re: Transmitting loop near miss

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: gdenthoutx@aol.com
Message-ID: <4bd10k$qk1@newsbf02.news.aol.com>
Source record: 108662

Ya'll
I'll publically display my ignorance and inquire as to the prevailing opinion is that braid 1)IS or 2)IS NOT a good material to use for station grounding. Seems to me that any energy that you would desire to be conducted directly to ground from a cabinet; chassis; grounding strip, etc. would be either DC (lightning hit?) or 60Hz (ground fault). Is there an additional desirablility to passing RF through such a connection that I'm missing or is braid bad only for radiating elements of antennas?
Yours in ignorance, Gerald
GDentHouTX@aol.com

6200. Any idea's for building a good antenna for my home stereo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: chad@mail
Message-ID: <NEWTNews.819610651.24205.chad@chad.psci.net>
Source record: 108663

Does anyone have any good idea's on how to build a good antenna for a home stero? Please e-mail me at chad@mail.psci.net

Thanks,

Chad H.

6201. Re: 100 W 7 MHz amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951221155024.32522C-100000@biggulp.callamer.com>
Source record: 108664

Lawrence....Let me put a flag of warning up before you go too far off
base with the special MOSFET amp in RF Design. Those FET's are so highly
"tweeked" for the 13 MHz frequency that they might not work on 160
meters. You might get them on 20 meters without too much trouble..W6HDO

On 15 Dec 1995, Lawrence Stoskopf wrote:

> For this range of power and frequency, a look at an article in May 1995 RF
> Design is in order. They have described in an article "High-Efficiency
> Power Amplifiers for 13.56 ISM and HF Communications", a two (plastic)
> MOSFET amp that puts out 400 W CW with 5 watts in using a 100 V power
> supply. Am thinking about building one for 160 for use when I don't want to
> turn on the big amp.
>
> You might write Richardson Electronics, Ltd, 40W267 Keslinger Road,
> LaFox,Ill 60147 for a reprint and data sheets. The amp looks simple with no
> big headaches if you have some experience in homebrew. Suspect someone will
> have an article out in the ham mags on this soon....it's too good to overlook.
> Lawrence E. Stoskopf
> N0UU
>
>
>

6202. ECP/EPP bidirectional PC parallel ports

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: forrerj@ucs.orst.edu
Message-ID: <4bck80$sbp@news.orst.edu>
Source record: 108665

Hi all,

Does anyone perhaps know how to use/program the new ECP/EPP parallel ports that one see nowadays on PC parallel interface cards?

I understand that they support the older nybble-based printer standard, but in addition also support a full bidirectional interface, which of course will make them that much more attractive for interfacing to ham-radio projects.

Any information or pointers would be much appreciated.

--Johan Forrer, KC7WW

6203. Re: Transmitting loop near miss

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <4bcq1v$ia@news.vcd.hp.com>
Source record: 108666

Hi Dave OM,

Your experience with braid matches mine and many others: Braid is a
terrible RF conductor. I once used some of that "ultra flexible woven
copper rope" sold at various outlets for connections to my balanced-tank
antenna tuner for tuned-feeders and center fed dipole. The wire became
so hot at 400W out, that it melted the solder joints in the wire connections,
and the wire discolored/turned blue as you watched. Replacing it with
stranded #14 insulated automotive wire eliminated all noticeable heating under
identical conditions.
A loop about that size/material at 20 meters has a theoretical BEST
efficiency
of about -6 dB referenced to a dipole, with both antennas in the clear
completely. This is easily verified using equations in either edition
of Kraus's "Antennas" textbook. Once the loop is placed in a poor environment,
efficiency will fall dramatically, due to coupling losses to nearby objects.
You don't need to add very much loss resistance to the 10 MILLIohm radiation
resistance to reduce efficiency a lot!

Happy experimenting, and 73,
Don, W6JL

6204. Making PC boards from laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: rhyolite95@aol.com
Message-ID: <4bd8a1$t1n@newsbf02.news.aol.com>
Source record: 108667

I have a bunch of TEC-200 transparency material from Meadowlake Corp. This stuff was to be used in a copier and then ironed onto a bare PC board.

Has any one tried it in a laserprinter??

Mine is an HP-4L and has an envelope mode that feeds straight through.

Will it work??

6205. Re: Any idea's for building a good antenna for my home stereo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4bdrh5$n7d@crash.microserve.net>
Source record: 108668

chad@mail wrote:

>Does anyone have any good idea's on how to build a good antenna for a
>home stero?

Radio Shack sells an omnidirectional antenna for $14.99 that works
very well (I have one in my attic). It's part no. 15-2164, and it
consists of two folded dipoles mounted at right angles to each other.

At that price, I think you'd be hard pressed to build anything as good
for general use.

Jack WB3U

6206. Re: Any idea's for building a good antenna for my home stereo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4bdrn6$n7d@crash.microserve.net>
Source record: 108669

chad@mail wrote:

>Does anyone have any good idea's on how to build a good antenna for a
>home stero?

Radio Shack sells an omnidirectional antenna for $14.99 that works
very well (I have one in my attic). It's part no. 15-2164, and it
consists of two folded dipoles mounted at right angles to each other.

At that price, I think you'd be hard pressed to build anything as good
for general use.

Jack WB3U

6207. Re:Phono Preamp needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-21 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4bds0o$n7d@crash.microserve.net>
Source record: 108670

mack@mails.imed.COM wrote:

>I'm amazed they still sell stuff like that for vinyl.

That's because vinyl still sounds better than CD's. :-)

6208. Re: Pls Help with Digital Display

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4bd4bm$1ua@news.iii.net>
Source record: 108671

Hi Dr. John,
If you get no better idea's, E-Mail me, we can design one!

Tom
WA1RHP

6209. Re: Single-chip FX xmitters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4bcuaq$s0g@globe.indirect.com>
Source record: 108672

mcline@iquest.net (Mike Cline) wrote:

>>Do any of the major semiconductor manufacturers make an off-the-shelf
>>IC which operates as a low power FX transmitter? You know, the sort
>>of thing one might use to build a cordless baby alarm or bugging
>>device.

Motorola makes a number of them, as a previous respondent mentioned.
I've done a fair amount of work with the MC2833, which is a
single-chip NBFM transmitter designed for the 49Mhz cordless phone
market. I've built several transmitters with that chip, which is
quite cheap and available from DC Electronics, in Scottsdale AZ, which
is where I buy most of my RF ICs. (Get their catalog if you don't
have it! Their phone is 602-945-7736. FAX 602-994-1707. Fine
folks!)

The MC2833 has an on-chip oscillator that works in the 12-20 Mhz
region, with a varactor modulator and audio preamp. Two uncommmitted
transistors on the die allow some frequency multiplication and
buffering. For 6M work I use a ~17Mhz crystal and triple to 6M.

If you use both transistors in the suggested fashion (there are
circuits in the specs that I followed fairly closely) you get between
5 and 10 mW output into 50 ohms. You can hear that a LONG way off
with a reasonable receiver.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

6210. Re: picking harmonics off of vfo inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4bd8sd$gr7@news.azstarnet.com>
Source record: 108673

lbraden@mail.utexas.edu (Larry Braden) wrote:
>A question for the more experienced builders -
>
>Is it possible to successfully pick off the 2, 3,or 5th harmonic
>off a VFO inductor by placing a coil wound for the harmonic close
>to the inductor, both wound on a form positioned vertically off the
>groundplane and trimmed with small trimmer caps? Perhaps wrapping a
>single link of insulated wire around both coils?
>
>Or would the mutual inductance cause problems. What I am wondering if
>it isn't possible to pick off 50 mhz energy from a 10 mhz 30m vfo coil.
>Of course, there are other more standard and successful approaches to
>frequency doubling and tripling, but I am curious whether anyone has
>tried this?

Larry:

One would hope that the loaded Q of this circuit remains high. If this
is the case, then the harmonic content is necessarily low. If you
attempt to couple out a harmonic at this point, there will be little
available unless you use very tight coupling/loading which will lower
the Q, thereby increasing the harmonic level and lowering the stability.

You said it yourself, there are more standard and sucessful methods <g>.

Regards,

Wes -- N7WS

Remember, this is a shareware opinion only. For a registered version,
please send $29.95 to my callbook address. Specify 3.5 or 5.35" disk.

6211. 90 ohm cable on 300 ohm antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: lcoe@convex.com
Message-ID: <4beib0$892@concave.convex.com>
Source record: 108674
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

i am experimenting with connecting a 90ohm coax directly to a 300ohm fm antenna. so far it seems to be at least as effective as using a matching xfmr. my application is receiving stock quotes on SSB in an office bldg (no possibility of an outside installation).

what determines the impedance of an antenna? is there anything i can do to mitigate the need for a matching xfmr.

is it easy to build a 90ohm antenna or convert a 300ohm model?

thanks,

loren

6212. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <30DAE910.681A@arrl.org>
Source record: 108675

WA3CMQ Rocci wrote:

> Traditional phasing DC receivers are limited to about 40
>dB of sideband rejection because it
> is very difficult in hardware to obtain the amplitude
>and phase balance (reformatted for clarity)

I've measured as much as 50 dB with an analog design. Don't know
how much it will drift over the next decade, though. I think phasing
can work much better than the filter method for a CW only receiver.

1) No problem with low pitched CW. With the filter method your
opposite sideband supression degrades as you lower the
pitch.
2) You can create a deep opposite sideband null at your
favorite pitch. Much harder to accomplish with
the filter technique.

DSP designsers should not assume that the mixers are matched,
particularly ones using little ferrite cores. Two mixers on
the same piece of silicon ought to do a lot better, but I don't
know of any high dynamic range ones available to amateurs.

Zack KH6CP/1

6213. Re: Transmitting loop near miss

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4behsn$bpo@newsbf02.news.aol.com>
Source record: 108676

In article <4bd10k$qk1@newsbf02.news.aol.com>, gdenthoutx@aol.com (GDentHouTX) writes:

>Ya'll
> I'll publically display my ignorance and inquire as to the prevailing
>opinion is that braid 1)IS or 2)IS NOT a good material to use for station
>grounding. Seems to me that any energy that you would desire to be
>conducted directly to ground from a cabinet; chassis; grounding strip,
>etc. would be either DC (lightning hit?) or 60Hz (ground fault). Is there
>an additional desirablility to passing RF through such a connection that
>I'm missing or is braid bad only for radiating elements of antennas?
>Yours in ignorance, Gerald
>GDentHouTX@aol.com

Hey Gerald,

Lightning behaves more like RF than dc, so braiding *stinks* for lightning grounds.

Braiding is actually only good for very low frequency (power line or audio) or dc grounds.

73 Tom

6214. ? Design GS35B/3CX1500 for 2m and 70cm

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <30DB04E0@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 108677

Hello OMs,

recently I got some russian tubes GS35B (triode, Ua=3000V, Pa=1500W, fmax=1000MHz). It is large and heavy (2.8kg). Its datas seem to be comparable to the 3CX1500/8877 exept the maximum operating frequency.

Now I am looking for a design of an amp for it. I already have some suitable designs for 2m (K1AGB in QST 12/73, N7ART in QST 12/94 and OZ9ZI private copy). But as far as I know the 3CX1500 is not working on 70cm I never saw any design. Do you know a design? Maybe also another for 2m?

Also, I specially look for the articles references by N7ART: W.Orr, Editor, Radio Handbook, 23rd ed. (Indianapolis: Howard W. Sams and Co., 1987), pp 18-2 to 18-7 and pp 18-11 to 18-15. Anyone who could send me a copy?

Thanks a lot in advance and Merry Christmas and a Happy New Year!

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
DL4MEA@AMSAT.ORG (Internet)
HTTP://WWW.SCN.DE/~KOELLNER (WWW)
UO-22, KO-23 & KO-25 (Pacsats)

6215. picking harmonics off of vfo inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199512221302.IAA29792@service1.cc.uky.edu>
Source record: 108678

At 07:33 PM 12/21/95 PST, Larry Braden KC5CWG wrote:

>Is it possible to successfully pick off the 2, 3,or 5th harmonic
>off a VFO inductor by placing a coil wound for the harmonic close
>to the inductor, both wound on a form positioned vertically off the
>groundplane and trimmed with small trimmer caps? Perhaps wrapping a
>single link of insulated wire around both coils?
Almost all the energy in the tuned circuit of an oscillator
is at the fundamental frequency. Probably less than a percent
at any harmonic. You could use a loop and a diode to produce the
harmonics or a non-linear amplifier.

73
Bill ko4ww

William L. Fuqua III P.E.
Department of Physics and Astronomy
CP-177 Chem. Phys. Bldg.
University of Kentucky
Lexington, Ky 40506-0055
E-mail WLFUQU00@POP.UKY.EDU
Phone (606) 257-4155

6216. 3 phase mains supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: tkomljan@mobility.COM
Message-ID: <30DAE54E@msgate.mobility.com>
Source record: 108679

The European philosophy in using 3 phase is very different than North America. Many European countries offer 3 phase mains supply to households (especially farms) as a matter of course.

In North America, many non-industrial areas (residential and rural) only have single phase available. Why? Because the whole street is fed on the primary side with only one phase. Loads are balanced by alternating the streets and their respective phase. It would not be possible to obtain 3 phase power on such a street.

Now the big disadvantage, even if 3 phase is available: More expensive metering! Single phase customers under 50 kVA pay only for real power, as measured by a kW/Hr meter. Three phase customers also pay for "demand", that is, a penalty based on their highest load for the month. The biggest users also pay for power factor, either 90% of kVAR or kW/HR, which ever is greater. The minimum billed for a month is also higher for 3 phase customers.

While in Europe, finding a single phase motor larger than 1 HP is unusual, in North America, single phase motors to 7 HP can be obtained. These motors are usually much more expensive and larger than their 3 phase cousins, and require some capacitive power factor correction, due to their poor power factor. While PF is not charged at the meter, the lines supplying such a large motor will suffer much loss, if the current and PF are not improved.

Despite the initial high cost of a single phase motor, the more economical solution in North America for operation of a small lathe or table saw, is to go down to the motor rewinding shop, buy a single phase motor and convert the device it drives.

Cheers!

Tony K, VA3TK

6217. Re: 3 Phase power

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9511228196.AA819650458@mails.imed.com>
Source record: 108680

Hi:
The answer to your question is "You can do it. For a price."
I'm not sure the power company can be compelled to do anything they
don't want to do, but dangle enough money in front of them and they
will oblige.

The problem is 2 fold. Some residential areas don't have all
three phases distributed. If your poles have three wires going
across, then there is three phase available. If the three phases are
available, they will probably only charge for the 2 extra transformers
(several kilobucks here) and for the power lines run to the house.
Then, of course, you have to have the house wired according to the NEC
and local codes. The local codes are probably more of a stumbling
block than anything.

I sincerely doubt that you have 3 phase to your residence,
unless someone went to a lot of trouble. Just having electric heat
does not indicate a need for 3 phase. What you probably have is 3
wires from the transformer. This is called sometimes 2 phase. What
it is really is a 240 volt center tapped single phase. Each 120V side
is 180 degrees out of phase with the other side of Neutral. You can
pull an incredible number of amps from a single phase 240V drop
depending on the transformer.

The cheapest thing for your buddy to do is to buy a new motor
for $200 to $300 and convert his lathe to a single phase 240V
connection. Of course, if he REALLY wants 3 phase, I will design and
build him a converter for about $1000.00 depending on load current!
They aren't that hard to do if you are driving a motor.

Ray Mack
WD5IFS
mack@mails.imed.com
for 12/23 to 1/1 use: RayMackJr@aol.com

6218. Re: 3 Phase

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9511228196.AA819651064@mails.imed.com>
Source record: 108681

Oops! Stupid me.

I should read the "byline" before replying. I keep forgetting this is an international venue.

All of my responses were applicable only in the USA. It turns out that power distribution is one of the MOST nationalistic areas still left in the world other than telecom. Hopefully, someone in the UK can give you an appropriate local answer.

Most of my ideas probably still hold. The cheapest approach is still to just change the motor with a single phase motor.

Ray Mack
WD5IFS
mack@mails.imed.com

6219. Looking for Amplifier Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: prosper@iadfw.net
Message-ID: <4bek1a$4g9@news-f.iadfw.net>
Source record: 108682

I am looking for plans to a 10 - 160 amplifier. I want it to run 1.5 kw without pushing it to the limit. Also, I would prefer to use one of the lesser expensive tubes (i.e. no 8877's). Any help would be appreciated.

Thanks all - 73 de Brent (KI5JC)

6220. Re: Any idea's for building a good antenna for my home stereo

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: randy@pulsar2.rdrc.rpi.edu
Message-ID: <4bei6h$6ro@usenet.rpi.edu>
Source record: 108683

the best antenna for FM use is your LOG PERIODIC TV antenna! It has
high gain, narrow beamwidth, and works like a champ.

Of course if you wanted an INDOOR antenna, that's another
discussion.

-_-_randy-_-
WB2GCR (among other things)

6221. Re: ? Design GS35B/3CX1500 for 2m and 70cm

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4bektv$mpa@news-f.iadfw.net>
Source record: 108684

guenter.koellner@oen.siemens.DE (Koellner, Guenter) wrote:

> But as far as I know the 3CX1500 is not working on 70cm I never saw
>any design. Do you know a design? Maybe also another for 2m?
>vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
> DL4MEA@AMSAT.ORG (Internet)
> HTTP://WWW.SCN.DE/~KOELLNER (WWW)
> UO-22, KO-23 & KO-25 (Pacsats)

Guenter,
I am pretty sure one of the last ARRL handbooks has a schematic
for an 8877 2m amp, but I don't remember seeing one for 70cm. If you
don't find one, I'll look it up for you.
73 es Merry Christmas,
Kerry Miller
kmiller@airmail.net

6222. Re: 3 Phase power

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: CFHarris@gnn.com
Message-ID: <4bescb$3qu@news-e1a.megaweb.com>
Source record: 108685

Hi,
The cheapest way to 3 phase power from a single phase line is to
build yourself an idler motor. Here's how you do it. Get yourself a
3 phase "Y" motor that is twice the horsepower of the largest motor you
want to start. Go to your refrigeration supplier and get a "super starter"
that will handle a 5 ton A/C unit. A super starter is a positive temp
coef. thermistor that is very low resistance when cold, and high when hot.
And find yourself an oil motor run capacitor of about 25-50uf per HP of your
idler motor. It must be AC rated for at least 330VAC!

I call the phases of your idler motor A,B, and C, and the power line L1, L2.
I call the phases of the load A,B, and C.

```
240VAC L1----BREAKER-------------------------IDLER-A---MAG-SWITCH--LOAD-A

240VAC L2----BREAKER--+----------------------IDLER-B---MAG-SWITCH--LOAD-B
|
+-SUPERSTARTER--CAP---+--IDLER-C---MAG-SWITCH--LOAD-C
| |
+---RUN-CAP-----------+
```

The "RUN-CAP" is optional, but will help with power factor correction and
balance of the phases. The only suggestion I can give for run cap is it
must be oil, and around 5-10uf/HP. To get to the correct value, you
measure the current in all three phases of the load motor, and adjust the
run cap for best current balance.

The "MAG-SWITCH" is usually called a magnetic starter control box. It is
basically a latching on off switch that will default to off if primary power
is lost momentarily. It should already be part of the machine you are trying
to power. You can use a "Knife switch", but make sure the load is
turned off before switching on the power to the idler motor.

The "SUPERSTARTER" should only cost $20 or so. If you can't find one, you
can replace it with a high current momentary switch. Turn it on until the
motor starts, and then turn it off. Note, if power fails, you will blow your
breakers when it comes back on! Also note, that the superstarter takes a few
seconds to cool off and reset itself, so you might lose a breaker if power
fails for a short period of time. I find that if there is any rotation of
the idler's shaft, the run capacitor will start it back up, so this isn't a
biggie.

This is the basis of the rotary phase converters made by companies like
RONK, and moliphase and cost $1000. You can build yours for under $100.

Chuck Harris - WA3UQV

cfharris@gnn.com (for now)

6223. Re: Looking for Amplifier Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: James Garland <garland@ohstpy.mps.ohio-state.edu>
Message-ID: <4bervn$p19@pacific.mps.ohio-state.edu>
Source record: 108686

Brent, you shouldn't cross off the 8877 because of expense. They are beginning to turn up with great frequency on the surplus market, often out of medical imaging amplifiers. I picked up my last one for $160, which compares favorably with a pair of 3-500Z's.

6224. Re: design transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: hbrown@ew0203.resd
Message-ID: <4beqhe$eq1@morgan.vf.mmc.com>
Source record: 108687

I have used conventional copy machine overhead projector clear film and special laser clear film on my HP 4L and both worked fine. I couldn't find much of a difference in quality.

73, Harry, W3IIT

6225. Re: ? Design GS35B/3CX1500 for 2m and 70cm

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: hbrown@ew0203.resd
Message-ID: <4beqt2$eq1@morgan.vf.mmc.com>
Source record: 108688

Guenter,

I know that I say an article on using a 3CX1500 (8877) on 432 MHz. It likely was in ham radio magazine in the 70's. It's a little out of the specified frequency range for the tube but it worked.

I'll look for it over the hollidays.

73, Harry, W3IIT

6226. Re: HW 8 HW9

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: tmeudt@liberty.com
Message-ID: <361.6563T997T938@liberty.com>
Source record: 108689

>I need an hw8 working would be great but as long as the front end works I

>could use it . Also intersested in HW9 with warc bands.

>Thanks

>Vic wm3b

I have a hw-8 that has been sitting in a collection of my dad's stuff (w9jox)

probley cost more to ship than it would be worth. $20.00 & you pay shipping

i'm in so. ca.

tom ka6eyu

tmeudt@liberty.com

6227. CB to 10m/6m conversions...

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: Marcos Antonio Gallego <mgallego@br.homeshopping.com.br>
Message-ID: <c167cb$e35b.3a0@news.sisna.com>
Source record: 108690

Hi,

I am looking for information in converting my CB transceiver Lafayette
LMS 40 (AM/SSB) to 10m or 6m.
Any information will be welcome.
Thanks.

Marcos

6228. VHF PLL Home brew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: steve@hamlab.demon.co.uk
Message-ID: <819666836.13255@hamlab.demon.co.uk>
Source record: 108691

Recently I've seen several postings re PLL's, I designed one using a TSA6057 PLL chip from PHILIPS controlled by a PIC micro.....Any body interested?

From Steve Drury. Email steve@hamlab.demon.co.uk

6229. Re: Looking for Amplifier Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4bfb9l$5n5@news-f.iadfw.net>
Source record: 108692

prosper@iadfw.net (Brent Childers) wrote:

>I am looking for plans to a 10 - 160 amplifier. I want it to run 1.5
>kw without pushing it to the limit. Also, I would prefer to use one
>of the lesser expensive tubes (i.e. no 8877's). Any help would be
>appreciated.

> Thanks all - 73 de Brent (KI5JC)

Brent,
I hate to sound like a broken record, but I think there is an amp schematic in the handbook for a pr of 3-500z's. There is also one for 8877. You should be able to get a used 8877 if you shop carefully. Both amps are a little over-designed with features, IMHO. If you build one with 8877's or any other ceramic tube, you need to be sure to include any grid current limiters or grid trips, fuses, etc. Excessive drive/grid current will wipe out a ceramic tube in a hurry. I am using (however infrequently) a pr of 3-500's. They sure light up pretty, lets see you do that with an 8877!
Alpha used 8874's for a long time, you might find some of them second hand too. If you buy them second hand, make sure you can get your money back or get the guy to demonstrate them in his amp. You can't tell my looking if they are good or not. At least a glass tube you can tell if the plate has holes blown in it!
Have fun building the amp. If you have old tubes lying around, I think I also have plans (somewhere) for a pr of 813's and one for 2 or 3 - 811's. This is a big switch from the qrp schematic thread I was in!
73,
Kerry

6230. Re: 3 Phase power

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951222172314.24299B-100000@biggulp.callamer.com>
Source record: 108693

Lets not forget the old old trick of making a rotary transformer by exciting one phase of a three phase motor with a flywheel attached! If you can find an old three phase motor inexpensively of about the same rating as the one in the lathe, then one simply applies single phase power, kick start the flywheeled "transformer" and apply the three phase connection to the lathe motor. Do pay attention to the current rating of both when you do this. You can start and stop the lathe without turning off the "transformer" as well! Cliff Buttschardt W6HDO

On 22 Dec 1995 mack@mails.imed.COM wrote:

> Hi:
> The answer to your question is "You can do it. For a price."
> I'm not sure the power company can be compelled to do anything they
> don't want to do, but dangle enough money in front of them and they
> will oblige.
>
> The problem is 2 fold. Some residential areas don't have all
> three phases distributed. If your poles have three wires going
> across, then there is three phase available. If the three phases are
> available, they will probably only charge for the 2 extra transformers
> (several kilobucks here) and for the power lines run to the house.
> Then, of course, you have to have the house wired according to the NEC
> and local codes. The local codes are probably more of a stumbling
> block than anything.
>
> I sincerely doubt that you have 3 phase to your residence,
> unless someone went to a lot of trouble. Just having electric heat
> does not indicate a need for 3 phase. What you probably have is 3
> wires from the transformer. This is called sometimes 2 phase. What
> it is really is a 240 volt center tapped single phase. Each 120V side
> is 180 degrees out of phase with the other side of Neutral. You can
> pull an incredible number of amps from a single phase 240V drop
> depending on the transformer.
>
> The cheapest thing for your buddy to do is to buy a new motor
> for $200 to $300 and convert his lathe to a single phase 240V
> connection. Of course, if he REALLY wants 3 phase, I will design and
> build him a converter for about $1000.00 depending on load current!
> They aren't that hard to do if you are driving a motor.
>
> Ray Mack
> WD5IFS
> mack@mails.imed.com
> for 12/23 to 1/1 use: RayMackJr@aol.com

>
>
>

6231. Re: Printing to PCB material from a laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: lepage@bluefin.net
Message-ID: <4bd57i$pim@service-2.bluefin.net>
Source record: 108694

In article <DJt97z.LrF@iquest.net>, mcline@iquest.net (Mike Cline) says:
>
>timj@solo.pipex.co.za (Tim Jackson) wrote:
>>Does anyone know of a simple way of getting PC board artwork from a
>>laser printout to the PCB material for etching?
>>
>>If it were possible to feed the PCB material directly through the
>>printer that would be perfect but it isn't. Not on my Laserjet 4L at any
>>rate, as far as I know.
>>
>>I've tried printing to glossy paper and then ironing the image onto the
>>PCB but without much luck. Maybe I'm using the wrong paper.
>>
>>ANY hints, tips or ideas would be most welcome.
>>
>>Thanks.
>>
>
>There are special films made exactly for that purpose.
>One of the best is called PnP Blue, It's a little over
>$1 afor an 8.5x11 sheet and does a pretty good job atleast
>on my Laserjet IIP.
>Mike

Mike,

This product is exactly what I'm looking for also...Where might one order
this material? Is the method you refer to a heat transfer process as well?

Any additional info or distributors would be greatly appreciated.

Peter / KD1XZ

6232. Re: Printing to PCB material from a laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: filip@alpha.smi.med.pitt.edu
Message-ID: <4bdbbu$3a6@usenet.srv.cis.pitt.edu>
Source record: 108695

Greetings. You can find the address for ordering PnP as well as a bunch
of testimonials & advice at URL:

http://www.paranoia.com/~filipg/HTML/FAQ/BODY/F_Home_PCB.html

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg | Sci.Electronics, RC, Misc FAQs + MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

6233. Re: Making PC boards from laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: timj@solo.pipex.co.za
Message-ID: <30da564f.89541169@news.solo.pipex.co.za>
Source record: 108696

>I have a bunch of TEC-200 transparency material from Meadowlake Corp. This
>stuff was to be used in a copier and then ironed onto a bare PC board.
>
>Has any one tried it in a laserprinter??
>
>Mine is an HP-4L and has an envelope mode that feeds straight through.
>
>Will it work??

You can definitely feed it through your 4L. I have done it on mine
without any problem. The process the printer uses is essentially the
same as that of a plain paper copier.

The problem is that I couldn't get a good transfer from the film onto
the PCB.

6234. Re: Impedance matching HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: Ilkka Kontola <ilkka.kontola@nmp.nokia.com>
Message-ID: <4bdrb2$8ph@ns.nmp.nokia.com>
Source record: 108697

rrives@aol.com (RRives) wrote:
>I am trying to biuld a 15 meter amp for my mfj 9015 qrp rig. I need help
>matching the 50 ohm output impedance of the rig to the low input
>inpendance of the mrf 450 transistor that I am using for the amp. I >would
>like to use a pi-network to match the impedance but I dont know what the
>input impedance of the transistor is.

The MRF454 is supposed to be some kind of a replacement to the MRF450.

MRF454 has (at 12.5 V, 60 W out, 30 MHz) the following input
and output impedances:

Zin = 1.66 - j0.844 ohms
Zout = 1.73 - j0.188 ohms

73, Ilkka
--
Ilkka Kontola Amateur radio: oh3njc
Nokia Mobile Phones
Tampere, Finland

6235. Re: HF installation in Toyota pickup

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <4bfmrr$ps2@newsbf02.news.aol.com>
Source record: 108698

Have a 1992 toyota P? with an aluminum cap. have run my yaesu FT-757GX with a tuner in it with no problems whatsoever. When I bought it, I asked if it has computer chips, electronic controls, etc... the dealer said no. I said "good- I'll take it!" (this was in the U.S, BTW). Works FB- no noise that the factory supplied Yaesu NB couldn't take care of on any band. Keep leads to ground really short and U should be fine.

My truck is a 2 wheel drive STRIPPED base model, not 4WD, not the T-1000 or Tacoma, BTW.

I have abused the living shit out of this truck- missed oil changes, high miles (100,000 since march 1992), put in and take out a military radio shelter (I had to add $245 worth of rubber spring savers- REALLY WORTH WHILE INVESTMENT if U are going to be using it HARD. Mine worked fine for 2 1/2 years w/o them, but needed to add them when I got the radio shelter. Have filled it to the brim with books, wood, moved 3 times, etc, etc.- has never let me down. Not bad for a $7,800 investment New.

Again, NO RF PROBLEMS AT ALL. Good luck!

VE3IEY

6236. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <30DBA42F.7A08@netaxs.com>
Source record: 108699

Zack Lau wrote:
>
> I've measured as much as 50 dB with an analog design. Don't know
> how much it will drift over the next decade, though. I think phasing
> can work much better than the filter method for a CW only receiver.
>
> 1) No problem with low pitched CW. With the filter method your
> opposite sideband supression degrades as you lower the
> pitch.
> 2) You can create a deep opposite sideband null at your
> favorite pitch. Much harder to accomplish with
> the filter technique.
>
> DSP designsers should not assume that the mixers are matched,
> particularly ones using little ferrite cores. Two mixers on
> the same piece of silicon ought to do a lot better, but I don't
> know of any high dynamic range ones available to amateurs.

The DSP approach I'm thinking about would use hardware for the mixers, post mixer lowpass filters (needed to keep out of band sigs from overloading the DSP), and pre-DSP audio amplifiers. The phasing, variable bandwidth filtering, and AGC would be done in software. The DSP processor could also control an input attenuator for compound AGC.
Of course, there would be considerable potential for differential amplitude and phase between the two DSP input channels, but an adaptive equalizer could be programmed which determines these errors by tuning across a reference carrier and building an equalization table. The resulting receiver would be high performance, feature rich, extremely reproducable, and easy to adapt for multi-band operation.

Joe
WA3CMQ

6237. Re: 90 ohm cable on 300 ohm antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-22 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <819715207.9118@pinetree.microserve.com>
Source record: 108700
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

lcoe@convex.com (Loren Coe) wrote:

>i am experimenting with connecting a 90ohm coax directly to a 300ohm
>fm antenna.

I would use a 300 ohm to 75 ohm transformer at the center of the
antenna (the type sold for use with 300 ohm TV antennas at Radio
Shack). They cost less than $3.00 and the mismatch between the
90 ohm coax and the 75 ohm input to the transformer will be
insignificant in terms of receive efficiency.

73,
Jack WB3U

6238. Re: ? Design GS35B/3CX1500 for 2m and 70cm

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: Wes Stewart <N7WS@azstarnet.com>
Message-ID: <4bfi38$8pi@news.azstarnet.com>
Source record: 108701

guenter.koellner@oen.siemens.DE (Koellner, Guenter) wrote:
>
>Hello OMs,
>
>recently I got some russian tubes GS35B (triode, Ua=3000V, Pa=1500W,
>fmax=1000MHz). It is large and heavy (2.8kg). Its datas seem to be
>comparable to the 3CX1500/8877 exept the maximum operating frequency.
>
>Now I am looking for a design of an amp for it. I already have some suitable
>designs for 2m (K1AGB in QST 12/73, N7ART in QST 12/94 and OZ9ZI private
>copy). But as far as I know the 3CX1500 is not working on 70cm I never saw
>any design. Do you know a design? Maybe also another for 2m?

The max freq rating for the 8877 is 250 MHz, so this probably explains the
lack of articles for 432. The 8938 is essentially the same tube with
a coaxial base and is rated to 500 MHz. I believe there is a published
design using the 8938 on 432, but I don't have it at hand.
>
>Also, I specially look for the articles references by N7ART: W.Orr, Editor,
>Radio Handbook, 23rd ed. (Indianapolis: Howard W. Sams and Co., 1987), pp
>18-2 to 18-7 and pp 18-11 to 18-15. Anyone who could send me a copy?

I don't have this edition, but perhaps it is the same as in the 22nd edition.
If this is the case, the design was first published in "ham radio magazine",
August 1971 and reprinted as an EIMAC note AS-47. I am using this amp on
two meters and it performs flawlessly. I highly recommend it. If this sounds
interesting, email your address and I will forward a copy.
>
>Thanks a lot in advance and Merry Christmas and a Happy New Year!

73 and happy holidays,

Wes -- N7WS

6239. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: cj@algonet.se
Message-ID: <4bi4r7$hum@prometheus.algonet.se>
Source record: 108702
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something with the BASIC Stamp (big or small)
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@algonet.se

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.algonet.se/~cj/losa.html

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

[--- cut ---]

=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
New Contribution [ ] Update [ ]
-----------------------------------------------------------------------------
```

Title :
Author: Date:

E-mail: (optional)

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer

6240. Re: 90 ohm cable on 300 ohm antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <4bh14p$c0u@crl2.crl.com>
Source record: 108703
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Loren Coe (lcoe@convex.com) wrote:
: matching xfmr. my application is receiving stock quotes on SSB in an

SSB? Surely you mean SCA...

--

Don Miller
dmiller@crl.com

6241. Re: Do DSP's really help?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: yee@mipg.upenn.edu
Message-ID: <YEE.95Dec23151240@mipgsun.mipg.upenn.edu>
Source record: 108704
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

>Experimenting is a good idea, it's fun and sure helps us learn.
>
>But DSP's fast enough to do anything at a real IF aren't cheap, and
>neither are the A/D converters. Expect to spend several times what the 101
>cost you if you take this route.
>
>Ham manufacturers do radio DSP by using a very very low IF. So low it's
>almost at audio. So it's almost exactly like audio DSP anyway!!!!

This brings an interesting point. How far should one go in hacking an old rig? Personally, I own the rig not because of its resale value. I don't figure on ever selling it. Yes, I am a major packrat. I figure that if I ever get rid of it, it will because I have toasted the rig so badly that I can't even salvage parts. At that point, I'll buy another one and start all over.

The high price of DSP chips is a case in point. In order to add it, I will be spending MORE on the enhancement than the actual worth of the rig. Does it bother me all that much? Not really. I figure that I run a higher risk of toasting the DSP chip while experimenting than actually enhancing the rig's performance. But what the heck! I consider it a pretty neat hack and worth while doing all by itself. The trick however, is to choose a project that is sufficiently difficult that you end up learning something useful but not so difficult that you give it all up entirely.

As someone who is building single units and not mass producing anything, cost effective manufacturing is not a factor. I can try things that any sane manufacturer would never try if they are interested in staying in business. I don't have to worry about the marketability and pricing of the unit. Profitability is not an issue. My benefit from playing with the rig is the hack itself.

Personally, I think more hams should try picking up a soldering iron. So what if you get burned once in awhile from the soldering iron because you are extra clumsy or if you decide to build something that toasts your equipment? The aim of the game is to try to do something that you could do before or thought that you can never do. Who knows, you might surprise yourself! But then, to each his own. Different folks for different strokes.

P.S. A great starter project for those who are inclined is the CMOS Super Keyer. While I haven't personally seen version III, version II is very easy to build. From the article in QST in August, none of the changes made in version III would make it

any harder to build. You end up with a useful unit with only an afternoon's work. There is nothing so tight that it is difficult to solder. The problem with the keyer is that once you build the kit, you might actually become tempted to become proficient at CW.

Try it, Mikey, you might like it.

Another problem with the kit is that source code is not available for version III but that is another thread entirely :) Does anyone have the code to version II lying around? I have been meaning to ask for it.

--
| 73 de Conway Yee, N2JWQ | DON'T
| EMAIL : yee@mipg.upenn.edu | TREAD
| TELEPHONE : | ON
| FAX : | ME!

6242. VHF MARS mod for IC-706

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <4bhsn7$149m@stealth.mindspring.com>
Source record: 108705
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

>From: NS1R@KA1TUZ.FN42JH.MA.USA.NOAM

>The additional items to in the Tech bullitain to restore out of two
>meter transmit are as follows (not endorsed or denied by icom USA):
>remove Diode #60 and cut the jumper next to it labled "W4". Then
>remove either (Q38 or R353 resitor) on the main PCB (about one inch to
>right of Diode #60. Then turn over the radio and cut a trace (You need
^^^^^^^^^^^^^^^^???
>picture of schematic to see clearly and install a jumper froM IC32 pin
>11 to the point where you cut the trace. This will restore transmit
>from 135 to 175 MHZ.

I was looking at the information given in this mod and comparing it to the schematic. This mod seems to be legit. The jumper labeled W4 on
the schematic appears to be the green 0 ohm resistor just to the rear of D59. In the USA version removing D60 and removing W4 would be the
same thing.
I believe that removing D60 just prevents the radio from tx on aircraft band after the VHF mod is performed. Removing Q38 or R353 would have
the same effect as cutting the yellow wire (J4). The receiver would work better if the yellow wire is rerouted to the VCO switching
transistor. So all that is left is pin 11 of IC32. This pin is the same as the orange wire next to the famous yellow wire. All this wire
does is supply 5 Volts whenever the radio is outside the 0-60MHz range. This wire labeled L8 on the schematic is the one responsible for
enableing the 2 meter bandpass filters that are located in the PA unit. It also disables the high power amplifier which consists of a pair
of MRF 255 and is used in the HF and 6 meter bands. It appears to me that all that is preventing the radio from txing outside the 144-148
range is a control pin. The PA unit appears to be fully enabled in the range 118-174. The control pin that disables the out of band TX must
be acting on one of the pre driver stages maybe IC1 or IC38. Now if we could find this missing information about the control pin, all that
would be necessary would be to rewire it to the orange wire. This would enable it in all the range 118-174 MHz.

On the receive side, it appears like the 60MHzHP/129MHzLP filter that is selected for receive anywhere outside the ham 2 meter band used to
be a (60-200) filter. This would explain why this filter would have been selected the way it is in the unmodified version.

Now that I got a copy of the schematic I am making a list of things that I'm going to change to the radio. I just wished that Icom would
have engineered the radio a little better. Although the radio is an outstanding attempt at

a tribander all-mode radio, it could have been a lot better.

73's
AC4OP
Wave@mindspring.com
http://www.mindspring.com/~wave

6243. Re: picking harmonics off of vfo inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: andy@moose.mv.com
Message-ID: <DK0w71.9yp@mv.mv.com>
Source record: 108706

In article <4bbvo6$gs7@geraldo.cc.utexas.edu>, lbraden@mail.utexas.eduu says...
>
>Is it possible to successfully pick off the 2, 3,or 5th harmonic
>off a VFO inductor by placing a coil wound for the harmonic close
>to the inductor, both wound on a form positioned vertically off the
>groundplane and trimmed with small trimmer caps? Perhaps wrapping a
>single link of insulated wire around both coils?

Here's what I've successfully done to get a 975 MHz harmonic from a 325 MHz VCO -
1. Design the VCO with tank circuit/feedback in the base-emitter.
2. Take the desired fundamental from the tank circuit.
3. Use the collector to drive a 50 ohm load. This low impedance will help minimize interaction between the collector and tank. The collector waveform will be very rich in harmonics because it's produced by the highly non-linear collector current waveform. A spectrum analyzer showed the 975 MHz at a few dB below the fundamental.
4. Filter the collector output as required to subdue the undesired spectral lines.

--
Andy Borsa -- !!!The Universe is discretely analog!!!

6244. Re: Temperature Compensating Tuning Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDK0xJ4.5By@netcom.com>
Source record: 108707

rst@tetrault.com (Bob T.) writes:

>There was a brief thread discussing the scarcity of info on this topic
>here recently.

>Have found a pertinent Motorola Application Note AN-551 which specifically
>addresses temperature compensation techniques for tuning diodes. The
>material should be available from local Motorola office or from the RF
>Device Data Book Volume II, Q4/88, DL110, Rev 3.

>Good Luck,
>Bob T.

Thank you, thank you! I remembered somebody quoting from this document a
while back, reproducing schematics and all.

You can also get these notes faxed to you, free, at
http://motserv.indirect.com/home2/fax_rqst.html -- just made a
successful request, now it's waiting for me at work :-)

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 stationdescribed in / Di dah, di dah, di dah, di dah...
> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <

6245. pre-amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: wayneb@on-ramp.ior.COM
Message-ID: <m0tTOly-000RuFC@on-ramp.ior.com>
Source record: 108708

Date: 21 Dec 1995 20:38:46 -0500
From: steps@bashful.einsteininfo.com
Subject: pre-amp?

Could someone direct me to where I might find a schematic of a small pre-amp I could build?

The Dec 95 issue of CQ illustraits the cascode preamp. Looked pretty easy and with accessable parts.

Wayne Barnhart WB7WHI Dirt is good!
Spokane, Wa.

6246. ?? Need spec sheets or source for a BB 505 (Varicap diode) ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: kevin@TerraCom.net
Message-ID: <4bguf5$2gn@homer.alpha.net>
Source record: 108709

Hi!

A couple of Italian Hams have designed a PC board for reception of HRPT weather satellite data. I bought the board from them but I have to buy all the components. The one I can't find anywhere is this variable cap diode BB 505.

I've looked all over and have had some friends check around, none can find a cross reference. My hope is that someone here might be able to find the cross reference or a source.

As to my Italian Ham friends, they're off on vacation for a couple more weeks and are not available, I hope to have this prototype built and running before I have to return to work after the Holidays.

Thanks in advance and Happy Holidays!

73,

Kevin

****
* Kevin G. Shea N9JKP *
* 4460 Dahmen Pass *
* Cross Plains, WI 53528 USA *
* 608.789.4326,voice; 608.798.1747,fax *
****

6247. Re: Ext mic mod for HTX-202 and HTX-404

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: jdv@iglou.iglou.com
Message-ID: <DK1r55.GCF@iglou.com>
Source record: 108710

SJJK62A@prodigy.com (K Short) writes:

> There is a web page that describes how to modify the ext speaker
>mic sold by Radio Shack. The modified mic will provide the proper
>level needed by the radio for good modulation. The information
>can also be applied to other brands of speaker mic's. Check out :

>http://pages.prodigy.com/CA/LA/htx202htx404/htx202htx404.html

Does this work/improve audio if you use the modified mic
with a Yaesu ft-51r?

John KF4ERV

--
****
* Defenselessness is a crime which generates it's own punishment. *
* The four boxes of Freedom: Soap, Ballot, Jury, and Ammo. *
****

6248. Re: Lowest PC Memory Prices!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: Ed_Matthews@pcis.net
Message-ID: <30d8c246.2794474@news.pcis.net>
Source record: 108711

On Wed, 13 Dec 1995 18:50:46 -0700, Rudy <kpedersn@roadrunner.com>
wrote:

>High Sales Volume = Lowest Prices!
>
>Because of high volume sales to the US Government, State
>Government, and National Laboratories, Atomic City Electronics,
>Inc. of Los Alamos, New Mexico is offering PC memory at
>outstanding prices:
>
>4 MB (1X32) $129.95
>8 MB (2X32) $249.95
>16 mb (4x32) $479.95
>
>All are new NP 70 ns 72 pin Simms.

My local Nerd junkie dealer does better than this in Springfield,
Missouri, gateway to Branson.

I suppose it is possible one or two of you have never been here...

6249. Re: ?? Need spec sheets or source for a BB 505 (Varicap diode) ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <819730077snz@lfheller.demon.co.uk>
Source record: 108712

In article <4bguf5$2gn@homer.alpha.net> kevin@TerraCom.net "Kevin Shea" writes:

> A couple of Italian Hams have designed a PC board for reception of HRPT
> weather satellite data. I bought the board from them but I have to buy all
> the components. The one I can't find anywhere is this variable cap diode BB
> 505.
>
> I've looked all over and have had some friends check around, none can find a
> cross reference. My hope is that someone here might be able to find the cross
> reference or a source.

I've found several BBxxx devices in a couple of catalogues, including a
BB405, but not the 505. They are made by Philips, apparently, which
might help.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

6250. Re: WWVB Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: jrhodes@teleport.com
Message-ID: <4bhjl7$h14@maureen.teleport.com>
Source record: 108713

In article <4b4tdr$cf9@nntp.Stanford.EDU>,
stevem@w6yx.stanford.edu (Steve Muther) wrote:

>
>Getting a satellite receiver and using the direct network feed might be
>one idea. Short term stability would be good, long term stability will
>be subject to daily satellite dirft in space. You can get very good
>NBC reception from the Satcom K2 satellite with a 4ft. dish. It would
>be interesting to compare its burst with a real standard.
>
>Steve Muther, WF6R
>stevem@w6yx.stanford.edu
>
>

The GPS constellation has extremely accurate time information. And the
propogation is _very_ predictable.

John D. Rhodes - AA7HL
Vancouver, WA
jrhodes@teleport.com

6251. Re: WWVB Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4bhpp0$6t7@nntp.Stanford.EDU>
Source record: 108714

In article <4bhjl7$h14@maureen.teleport.com> jrhodes@teleport.com (John D. Rhodes) writes:
>In article <4b4tdr$cf9@nntp.Stanford.EDU>,
> stevem@w6yx.stanford.edu (Steve Muther) wrote:
>
>>
>>Getting a satellite receiver and using the direct network feed might be
>>one idea. Short term stability would be good, long term stability will
>>be subject to daily satellite dirft in space. You can get very good
>>NBC reception from the Satcom K2 satellite with a 4ft. dish. It would
>>be interesting to compare its burst with a real standard.
>>
>>Steve Muther, WF6R
>>stevem@w6yx.stanford.edu
>>
>>
>
>The GPS constellation has extremely accurate time information. And the
>propogation is _very_ predictable.
>
>
>John D. Rhodes - AA7HL
>Vancouver, WA
>jrhodes@teleport.com

I am actually looking for a commercially made gps time and frequency
standard to distribute around the company I work for to keep counters
generators etc. on a common standard.

I only suggested using video network feeds because there are many
Ham type frequency counters etc. that use 3.58MHz crystals as the
time base. I see video genlock boxes which will lock an oscillator
to a color burst from an external source running for about $10 at
fleamarkets. It is a far more cost effective approach for a hobby
bench than a GPS system.

Steve Muther WF6R

6252. Re: ?? Need spec sheets or source for a BB 505 (Varicap diode) ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: steve@hamlab.demon.co.uk
Message-ID: <819759238.15991@hamlab.demon.co.uk>
Source record: 108715

kevin@TerraCom.net (Kevin Shea) wrote:

>Hi!

>A couple of Italian Hams have designed a PC board for reception of HRPT
>weather satellite data. I bought the board from them but I have to buy all
>the components. The one I can't find anywhere is this variable cap diode BB
>505.

>I've looked all over and have had some friends check around, none can find a
>cross reference. My hope is that someone here might be able to find the cross
>reference or a source.

>As to my Italian Ham friends, they're off on vacation for a couple more weeks
>and are not available, I hope to have this prototype built and running before
>I have to return to work after the Holidays.

>Thanks in advance and Happy Holidays!

>73,

>Kevin

Hi, they are available in the U.K. from BONEX (tel. 01753 549502 fax
01753 543812) at a price of £0.25 each! The spec. I have says PIV of 25v
and capacitace 2.5pf, but doesnt specify at what voltage. I use them to
modulate a VHF VCO. Hope thats some use.
From Steve Drury. Email steve@hamlab.demon.co.uk
G6ALU MILTON KEYNES ENGLAND

6253. Re: Low power FM transmitter ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: jgoecks <jgoecks@pacifier.com>
Message-ID: <4bi38d$b8i@news.pacifier.com>
Source record: 108716

David Skinner <david@drspc.demon.co.uk> wrote:
>Can anyone help me??
>
>Do any of the major semiconductor manufacturers make an off-the-shelf
>IC which operates as a low power FM transmitter? You know, the sort
>of thing one might use to build a cordless baby alarm or bugging
>device.

Yes. Motorola makes the MC2833 FM transmitter chip. It is
usually operated with a XTAL at 1/3 the operating frequency and
requires a bunch of caps, resistors, and inductors to make it
work.

6254. Re: VHF PLL design

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-23 00:00:00 UTC
From: tom.alldread@minfox.com
Message-ID: <9512241821078477@minfox.com>
Source record: 108717

S>Recently I've seen several postings re PLL's, I designed one using a
>TSA6057 PLL chip from PHILIPS controlled by a PIC micro.....Any body
>interested?

S>From Steve Drury. Email steve@hamlab.demon.co.uk

Greetings Steve:

I have written assembly code for the PIC 16C84 and have been
using a computer controlled DDS in some HF applications for a few years.
I would like to scale my DDS up to VHF using a modern PLL chip. I just
received a couple of PLLs from National that I would like to try.

I am very interested in your design and have the following
questions:

1) Please give a description of your VCO, low pass filter and
availability of parts and cost.

2) What is the frequency range?

3) What is the step resolution?

4) How fast does it lock up between steps?

5) Does it use a pre-scaler and what is the reference
frequency?

6) Would you e-mail your PIC source code to me so I could study
it?

7) Are you using a keypad and lcd display?

8) Which PIC are you utilizing?

73 de VE7TMA

---
* QMPro 1.53 * Very Best Regards, tom.alldread@minfox.com

6255. NEED Schematic for DTMF decoder Using SSI202P chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-24 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <4bi84v$jb7@ixnews6.ix.netcom.com>
Source record: 108718

Title pretty much says it all. Need a schematic for a DTMF decoder using the SSI202P chip (I picked up three of the chips at a swap meet for a buck each, they were still sealed in their Rat Shack packaging).

I need a unit that is handheld, uses an LCD screen, and is not connected to a computer.

Thanks!!

John
KE6TGN

6256. Re: Transverter question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-24 00:00:00 UTC
From: rstevens@voicenet.com
Message-ID: <4bk5b4$k46@news.voicenet.com>
Source record: 108719

My version of Paul's question would be (and I always wondered why this wasn't answered long ago) what would be the preferred configuration (as in a plug and play solution) for running vhf/uhf fm, ssb, am/cw using, for example, my Ranger 2950 10-meter transceiver? There are so many of these out there, someone must have an auto-sensing, auto-switching add-on transverter that goes beyond the "get in the rig and cut it apart" stage. I think I saw an ad for a TOKYO 2-meter transverter a couple of years ago that claimed this kind of capability. Anyone know of such a "module" that does it all?

73, Roger WA3FLE
Norristown, PA

In article <1995Dec20.095143.428@nad.com>, landisj@nad.com says...
>
>In article <NEWTNews.819386451.17043.Pbutterf@butter-pc.ess.mc.xerox.com>,
pmbut
>ter@wb.xerox.com writes:
>>
>> Just purchased inexpensive module to allow Icom 730 HF rig to emit low
level
>> RF signal for use with a transverter. Now am wondering where to go from
here.
>> Are there inexpensive kits available that might get me 2m or 70cm SSB and
CW?
>> Can anyone provide leads to a supplier? Anyone have any used offerings?
>> Regards,
>> Paul
>> KB2TCG
>
>Hi Paul,
>Down East Microwave
>Frenchtown, NJ
>(908) 996-3584
>
>Steve has good stuff for 50-10368mhz
>
>See ya,
>Joe - AA3GN
>--
>Joe Landis - Systems and Network Manager - North American Drager - Telford,
PA
>landisj@nad.com ..speaking only for myself, of
course..

6257. Re: WWVB Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-24 00:00:00 UTC
From: Bill Janssen <billj@calweb.com>
Message-ID: <4bkbal$jbo@calweb.calweb.com>
Source record: 108720

stevem@w6yx.stanford.edu (Steve Muther) wrote:
>
> In article <4bhjl7$h14@maureen.teleport.co
>
> I am actually looking for a commercially made gps time and frequency
> standard to distribute around the company I work for to keep counters
> generators etc. on a common standard.
>
>
>
Two companies that come to mind for this kind of equipment are;

Austron located in Austin TX

Spetracom located in Rochester NY

I don't have more info at hand but it is available if you want
Billj@calweb.com

6258. 100 W 7 MHz amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-24 00:00:00 UTC
From: stoskopf@tri.NET
Message-ID: <199512242049.OAA23370@home.tri.net>
Source record: 108721

>
>Date: Thu, 21 Dec 1995 15:52:58 -0800
>From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
>Subject: 100 W 7 MHz amp
>
>Lawrence....Let me put a flag of warning up before you go too far off
>base with the special MOSFET amp in RF Design. Those FET's are so highly
>"tweeked" for the 13 MHz frequency that they might not work on 160
>meters. You might get them on 20 meters without too much trouble..W6HDO
>
>On 15 Dec 1995, Lawrence Stoskopf wrote:
>
>> For this range of power and frequency, a look at an article in May 1995 RF
>> Design is in order. They have described in an article "High-Efficiency
>> Power Amplifiers for 13.56 ISM and HF Communications", a two (plastic)
>> MOSFET amp that puts out 400 W CW with 5 watts in using a 100 V power
>> supply. Am thinking about building one for 160 for use when I don't want to
>> turn on the big amp.

That is always a worry when using a device not specified for a certain
service such as VHF pwr fets for low-noise 6 and 2 M preamps, using
internally matched devices for frequencies well away from the design frequency.

The May 95 RF Design article I referred to also has a class D amp with a
complex front end getting 250 w output from 10 mw input rated from 1.8 to
13.56 MHz. Of course this is not class C.

Richardson sent along a data sheet with detailed specs at 13.56 including an
amp using four devices putting 1000 watts out at 20 watts drive. The 1 MHz
capacitances are Ciss 1500 pf, Coss 90 pf at Vdd 300v. Nothing here
exciting except the big cap at the gates.

Thanks for the caveat, but have already received four of the devices (at $64
ea!, still less than replacements for the Dentron MLA-2500..which I've never
lost). Am in the process of adding copper heat spreaders to a foot long
piece of 3456 waveguide which will serve as a water cooled heat sink....have
left room for another set of devices if all goes well with this model. Also
am going to do away with all of that ferrite stuff and put a regular tube
type tank on the output. Since I have plenty of drive from the home-brew tx,
will do some passive drive to the gates with some attenuation to help the
driver (one of the Communications Concepts Motorola 140 w amps that has been
in service for 20 years and that someone has already suggested to the
starter of this thread...works well).

A first look a the pwr supply indicates that I'll need about 6000 ufd in the
filter and a good, low R-on bridge with a gradual charge circuit for

turn-on. From Allied, can get the C for about $100 so should have less than $500 in the amp if it works.

Of course, the question is why? The amp will be in a shed about 300 ft from the shack at the base of a vertical. I have other amps, but only work VHF and 160 CW so why put something more complex out there?

Will let you know what happens. Suprisingly, my worries are not of wasting money and time, but of the electrolytics. I heard in a round-about manner of a major company having one fail in a tight box, blowing the lid off, breaking an arm, and with the lid ending up stuck in a wall several offices away. I was present when a 40 mfd cap @ 4500 v blew opening up a rack and it easily awoke a bunch of tired contesters. This amp will have about 10 times that much energy stored.

73
Lawrence E. Stoskopf
N0UU

6259. Re: Ham-Homebrew Digest V95 #459

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-24 00:00:00 UTC
From: John&Suzie_Rollins@pmug.ORG
Message-ID: <3504013278.40776111@pmug.org>
Source record: 108722

Cool! eMail!

6260. QST IMP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-24 00:00:00 UTC
From: cosmo@spyder.net
Message-ID: <4bkcsn$2n1@ns2.spyder.net>
Source record: 108723

Has anyone built the IMP 1200 baud modem in the newest QST magazine?
Any problems or suggestions?
Thanks...

6261. Re: New Ham Web Site with Information Content

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-25 00:00:00 UTC
From: "Peter C. McNulty" <wa1sov@localnet.com>
Message-ID: <4bmkv2$6d5@prometheus.localnet.com>
Source record: 108574
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space,re

Also see WEB Site at for interesting Ham Radio
Links.URL:http://www.localnet.com/~wa1sov/

6262. Re: Ham-Homebrew Digest V95 #459

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-25 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2512950631340001@d171.nb.interaccess.com>
Source record: 108575

In article <3504013278.40776111@pmug.org>, John&Suzie_Rollins@pmug.org wrote:

> Cool! eMail!

Tell us more!

Dave Moorman
Downers Grove,
Illinois

6263. Re: Ham-Homebrew Digest V95 #460

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-25 00:00:00 UTC
From: John&Suzie_Rollins@pmug.ORG
Message-ID: <3503971454.46050527@pmug.org>
Source record: 108576

Cool! eMail!

6264. Re: picking harmonics off of vfo inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-25 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4bmoj0$p6k@hpscit.sc.hp.com>
Source record: 108577

In article <DK0w71.9yp@mv.mv.com>, Andy Borsa <andy@moose.mv.com> wrote:
>In article <4bbvo6$gs7@geraldo.cc.utexas.edu>, lbraden@mail.utexas.eduu
>says...
>>
>>Is it possible to successfully pick off the 2, 3,or 5th harmonic
>>off a VFO inductor by placing a coil wound for the harmonic close
>>to the inductor, both wound on a form positioned vertically off the
>>groundplane and trimmed with small trimmer caps? Perhaps wrapping a
>>single link of insulated wire around both coils?
>
>Here's what I've successfully done to get a 975 MHz harmonic from a 325 MHz
>VCO -
>1. Design the VCO with tank circuit/feedback in the base-emitter.
>2. Take the desired fundamental from the tank circuit.
>3. Use the collector to drive a 50 ohm load. This low impedance will help
>minimize interaction between the collector and tank. The collector waveform
>will be very rich in harmonics because it's produced by the highly non-linear
>collector current waveform. A spectrum analyzer showed the 975 MHz at a few
>dB below the fundamental.
>4. Filter the collector output as required to subdue the undesired spectral
>lines.
>
>--
> Andy Borsa -- !!!The Universe is discretely analog!!!

Andy is absolutely right here. I have done this many times and the collector current waveform invariably looks like an impulse train. A standard technique is to put a parallel tuned circuit in the collector tuned to the desired harmonic. Works very well.

Rick N6RK
rkarlqu@scd.hp.com

6265. S Parameters for BF960/BF981

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-25 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <199512252123.HAA25180@dyson.brisnet.org.au>
Source record: 108578

Hello There from Australia. Does anyone have a set of "S" Parameters for the Philips/Siemens BF960 and BF981 dual gate fets. I am interested in the range 1 to 1000 MHz as I use them for IF amps and RF stages in my designs. Thanks Peter L. Williamson VK4AWP.

6266. Re: Ham-Homebrew Digest V95 #459

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: sfylaqc@scfn.THpl.lib.fl.US
Message-ID: <Pine.SUN.3.91.951225235915.14151C-100000@scfn>
Source record: 108579

unsubscribe

6267. Re: Ham-Homebrew Digest V95 #460

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: sfylaqc@scfn.THpl.lib.fl.US
Message-ID: <Pine.SUN.3.91.951226001341.14151W-100000@scfn>
Source record: 108580

unsubscribe

6268. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <30E037F7.21E9@arrl.org>
Source record: 108581

I got the interesting suggestion that a DSP
delay line be used to allow the DSP time to
do its signal processing. Supposedly, this
would allow the DSP to control the AGC.

This doesn't quite work, unless you didn't
really need the AGC in the first place. If
you do need it, those samples in the delay
line are worthless.

However, you ought to be able to use DSP to
combine multiple bit steams seamlessly. Suppose
you had four 16 bit A/D converters with different
amounts of gain ahead of them. Properly done, this
ought to extend the single tone dynamic range of
the system considerably.

Zack KH6CP/1

6269. SB-220 Problems/Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: n1mm@aol.com
Message-ID: <4bpcv3$bhg@newsbf02.news.aol.com>
Source record: 108582

I'm having trouble with my SB-221. Once in a while on 10 meters, more frequently if the CW/Tune - SSB switch is set to SSB, I get a loud pop. When that happens, the .82 ohm resistor in the HV meter circuit blows and I have to replace it. One time the meter went with it. It seems to be much worse since I changed the amp over from a 15A, 115v line to a 20A, 220v line. I presume because the "under-load" plate voltage is quite a bit higher now.

I have heard that this problem is either VHF parasitics, or dirty capacitors. Has anyone in this group solved this problem? Is there a FAQ on this?

Also, what is the general concensus on directly grounding the SB-221's grids?

Any help would be greatly apprciated.

Thanks.

Tom - N1MM

6270. Re: Ham-Homebrew Digest V95 #463

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: wayneb@on-ramp.ior.COM
Message-ID: <m0tUfXY-000RuCC@on-ramp.ior.com>
Source record: 108583

```
>
////////////////////////////////////////////////////
>////////////////////////////////////////////////////
>////////////////////////////////////////////////////
>////////////////////////////////////////////////////
>////////////////////////////////////////////////////
>////////////////////AP//////////////////////8AAP//AAD/////
>////////AAD/AAD///8AAP////8AAP8AAP//AAD///8AAP//////////////
```

Cant this stuff be posted somewhere where it can be accessed by those who care?
Went through about 8 pages of it last week or so and I think it is not only
a waste of my time but expensive to those who have to download the list and
are not directly connected to the net.

Wayne Barnhart WB7WHI Dirt is good!
Spokane, Wa.

6271. Need a Mod for RS DX-392

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: tcmedlin@cris.com
Message-ID: <4bplef$7k9@spectator.cris.com>
Source record: 108584

I need a mod to disable the "receiver muting while tuning" on the radio shack dx-392. i have a mod for the dx-390 but these radios appear very different inside. please email me at tcmedlin@cris.com

thanks,
Tom Medlin, WA5KUB
tcmedlin@cris.com

6272. Re: Ham-Homebrew Digest V95 #461

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: John&Suzie_Rollins@pmug.ORG
Message-ID: <3504013311.52397164@pmug.org>
Source record: 108585

>>In article <3504013278.40776111@pmug.org>, John&Suzie_Rollins@pmug.org
>>wrote:
>>
>>> Cool! eMail!
>>
>>Tell us more!

Yeah, well I had set up my auto-respond to bug someone who wouldn't stop sending me messages, and I forgot to turn it off when I subcribed to several mailing lists, and, well, it made a BIG mess. This is just one of a few mailing lists that got that message a number of times. I finally figured it out and turned it off. Sorry.

-JR

6273. Crystal Filters for Ham in Ukraine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: mkelson@chekov.corp.es.com
Message-ID: <4bpmuu$ocq@chekov.corp.es.com>
Source record: 108586

I have a friend in the Ukraine (uu0jn) who has a homemade HF transceiver who is having a problem finding crystal filters. Can someone tell me where I can find these?

I would be interested in buying new or used or in alternative methods of solving the problem. Also, any references for making a "home brew" filter might be very helpful.

Thanks in advance.

Max Kelson
email: mkelson@es.com

--
Email: mkelson@es.com

6274. SV818 need info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951226130310.31358C-100000@biggulp.callamer.com>
Source record: 108587

In the process of repairing some ham gear damaged by lightning, I came across a Transitron zener diode SV818. It was shorted so I do not have a clue as to the zener voltage. It appears to be a one watt unit. Does anyone have an old Transitron catalog? ECG does not have a reference. Many thanks...Cliff Buttschardt W6HDO

6275. Want DSP advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: 101233.226@compuserve.com
Message-ID: <4bpqdi$8mg@dub-news-svc-5.compuserve.com>
Source record: 108588

Hello there
I am looking for information on DSP kits readily available for assembly and installation. My main application would be for amtor/rtty application on HF but general audio clean up would be of interest also e.g. SSB. I will be adding it to either home brew or very old commercial eqpt so a bit of hacking is not an impediment. Any advice on suitable kits appreciated, particularly if they are backed up by some decent applications software.

Thanks

Gerry EI9FV
(Packet : EI9FV@EI7GM)

6276. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <30E0B9FD.53B9@netaxs.com>
Source record: 108589

Zack Lau wrote:
>
> I got the interesting suggestion that a DSP
> delay line be used to allow the DSP time to
> do its signal processing. Supposedly, this
> would allow the DSP to control the AGC.
>
> This doesn't quite work, unless you didn't
> really need the AGC in the first place. If
> you do need it, those samples in the delay
> line are worthless.
>
I don't think so. The problem with hardware closed loop AGC is that it's a feedback system. It has processing delay, overshoot, undershoot, and all the other problems any closed loop system is prone to.
In the DSP approach, the audio samples could be 'buffered' in a delay memory. The processor would then analyze this moving sample, and decide when to apply the mathematical gain reduction in the FORWARD direction. The onset and amount of gain reduction could be perfectly matched to the requirement because you'd know what has to be done before the audio ever gets to the speaker. Kind of like knowing the future, and altering its outcome. Of course, it only works to the extent that there is reserve 'headroom' between the desired audio signal level and the overload point of the DSP.

> However, you ought to be able to use DSP to
> combine multiple bit steams seamlessly. Suppose
> you had four 16 bit A/D converters with different
> amounts of gain ahead of them. Properly done, this
> ought to extend the single tone dynamic range of
> the system considerably.

This sounds interesting. Please explain what it means.

Joe
WA3CMQ

6277. Re: picking harmonics off of vfo inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: daveb@connect.net
Message-ID: <4bq1dk$3dj@dallas1.connect.net>
Source record: 108590

rkarlqu@scd.hp.com (Richard Karlquist) wrote:

>In article <DK0w71.9yp@mv.mv.com>, Andy Borsa <andy@moose.mv.com> wrote:
>>In article <4bbvo6$gs7@geraldo.cc.utexas.edu>, lbraden@mail.utexas.eduu
>>says...

>Andy is absolutely right here. I have done this many times and the collector
>current waveform invariably looks like an impulse train. A standard technique is to
>put a parallel tuned circuit in the collector tuned to the desired harmonic.
>Works very well.

>Rick N6RK
>rkarlqu@scd.hp.com

Another suggestion is to use another stage at the output of the VCO
simply to do the frequency multiplication. In this case, I have always
set up the impedances so that there is a short to ground at the output
frequency at the input, and a short at the input frequency at the
output. This is supposed to make the conversion effeciency higher, and
so get the output at a higher level. Look out for stability and drive
level though. I battled that for 5 months on the last program I was
on. Of course, I was doing a quadrupler in a single stage at 1 Volt
Bias voltage, and I also has only about 1 mA to spend to do it. It's
working now, though.

Regards

Dave Bengtson
David Bengtson
Yes, these are my opinions
Looking for Old HP-41 Calculators and Accessories

6278. Re: SB-220 Problems/Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: Barrie Britton <bbritton@prolit.llu.edu>
Message-ID: <Pine.BSD/.3.91.951226213541.23455A-100000@prolit.llu.edu>
Source record: 108591

On 26 Dec 1995, N1MM wrote:

> I'm having trouble with my SB-221. Once in a while on 10 meters, more
> frequently if the CW/Tune - SSB switch is set to SSB, I get a loud pop.
> When that happens, the .82 ohm resistor in the HV meter circuit blows and
> I have to replace it. One time the meter went with it. It seems to be

What you describe is a VHF parasitic. Send a SASE to Rich Measures, AG6K,
at 6455 La Cumbre Road, Somis, CA 93066 or call him at (805) 386-3734.

Rich wrote several articles for QST describing the parasitic problem,
particularly in SB-200/221 amplifiers. He sells very inexpensive (about
$15) parasitic suppressor kits for most amps. Get his article reprints also,
and buy the other SB-220 mods such as the meter protection diodes, and the
lower heat bleeder resistors.

Good luck with this excellent amplifier.

__{__ |
/ \ | Barrie G. Britton, K0WWG ARRL Life Member
| | | Electronic Engineering Done Cheap
| (o)(o) | Your Place or Mine.
@ .---_) |
| | __| | Snail Mail: 5034 Rockledge Drive
| __/ | Riverside, California 92506
/_____\ |
/_____/ \ | E-Mail : bbritton@prolit.llu.edu
/ \ |
k0wwg | What one fool can do, another can.--S. P. Thompson

6279. QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-26 00:00:00 UTC
From: cingersn@bdam.win.net
Message-ID: <128@bdam.win.net>
Source record: 108592

Hello there,

Would anyone be willing to copy and mail me the article from QST
concerning the automatic tuner? I am not presently a member of
ARRL so therefore do not get QST. I am more than willing to pay
for copying and postage. Plese send me e-mail if you would be
willing to do this for me.

73 de Carl N1DXM
cingersn@bdam.win.net

6280. Re: Crystal Filters for Ham in Ukraine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: gerhard@netmbx.netmbx.de
Message-ID: <4bsjed$gqk@newsun.netmbx.de>
Source record: 108524

In article <4br037$gle@ixnews2.ix.netcom.com>,
Wanda M Desmond <ke6tgn@ix.netcom.com> wrote:
>In <4bpmuu$ocq@chekov.corp.es.com> mkelson@chekov.corp.es.com (Max
>Kelson) writes:
>>methods of solving the problem. Also, any references for
>>making a "home brew" filter might be very helpful.
>>
>
>The '95 and '96 ARRL Handbooks have schematics for crystal filters.

Jacob Makhinson, N6NWP:
Designing & Building High-Performance Crystal Ladder Filters
QEX, Jan. 95, 15 pages

There was another good article in the german "Funktelegramm" in 1995
I cannot find it right now but if you are interested i'll look for it.

73, Gerhard

--
Gerhard Hoffmann # phone: +49 30 782 02 33
Gleditschstr. 79 # fax: +49 30 782 02 63
D10823 Berlin # on the air: dk4xp
Germany # in the air: d-1441, d-kick

6281. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: gerhard@netmbx.netmbx.de
Message-ID: <4bsk0i$h58@newsun.netmbx.de>
Source record: 108525

In article <4brm1t$tsm@mgate.arrl.org>, Zack Lau <zlau@arrl.org> wrote:
>
(somebody else:)
>>> However, you ought to be able to use DSP to
>>> combine multiple bit steams seamlessly. Suppose
>>> you had four 16 bit A/D converters with different
>>> amounts of gain ahead of them. Properly done, this
>>> ought to extend the single tone dynamic range of
>>> the system considerably.

>One bit stream handles -140 to -60 dBm
>another bit stream handles -120 to -40 dBm
>another handles -100 to -20 dBm
>the last handles -80 to 0 dBm
>You can switch to less sensitive bit streams as the signals get
>louder.
>
>Thus, the system ought to handle signals from -140 dBm through
>0 dBm without overloading. Of course, loud signals will prevent
>you from hearing weaker signals simultaneously.

But that's what dynamic range is all about. The above setup
is exactly equivalent to one 16 Bit ADC plus 3 attenuators/AGC.

Gerhard

--
Gerhard Hoffmann # phone: +49 30 782 02 33
Gleditschstr. 79 # fax: +49 30 782 02 63
D10823 Berlin # on the air: dk4xp
Germany # in the air: d-1441, d-kick

6282. Re: picking harmonics off of vfo inductor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4bq452$5ri@hpcvsnz.cv.hp.com>
Source record: 108593

Andy Borsa (andy@moose.mv.com) wrote:

: Here's what I've successfully done to get a 975 MHz harmonic from a 325 MHz
: VCO -
: 1. Design the VCO with tank circuit/feedback in the base-emitter.
: 2. Take the desired fundamental from the tank circuit.
: 3. Use the collector to drive a 50 ohm load. This low impedance will help
: minimize interaction between the collector and tank. The collector waveform
: will be very rich in harmonics because it's produced by the highly non-linear
: collector current waveform. A spectrum analyzer showed the 975 MHz at a few
: dB below the fundamental.
: 4. Filter the collector output as required to subdue the undesired spectral
: lines.

I think Andy's advice is sound. An example I saw was in the LO chain in a
450MHz pager receiver: 6V supply. 49MHz 3rd overtone xtal; tuned b-e
circuit. Tank in collector tuned to 3rd harmonic, 150MHz. DC comes down
through another transistor, which has its base driven by that 3rd harmonic,
and has a tank in its collector tuned to 450Mhz. Compact, and efficient use
of limited available power.

--
Cheers,
Tom
tomb@lsid.hp.com

6283. Re: New Ham Web Site with Information Content

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4bsh9c$ft9@news.accessone.com>
Source record: 108594
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space,re

In article <4bmkv2$6d5@prometheus.localnet.com>, wa1sov@localnet.com says...
>
>Also see WEB Site at for interesting Ham Radio
>Links.URL:http://www.localnet.com/~wa1sov/
>
>

Check out Ham Radio Online at
http://www.accessone.com/~vbook/hronline.htm

Newsletters, Feature Stories, Real-time solar and radio propagation conditions, real-time disaster communications news (world wide earthquake, volcanic and severe weather reports). In short, real content, not just pointers to hyperspace.

73, Ed, KF7VY
---
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free, at
http://www.accessone.com/~vbook/hronline.htm

6284. Help with Icom 720A on Amtor A.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: UGH@UGH.UGH
Message-ID: <4bshcn$mvb@midland.co.nz>
Source record: 108595
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

>ZL1ANY/TPK 1.82 Msg #:259 Date:19-11-95 Time:11:08Z
>
>
> Trying to use icom 720a on amtor mode a.
>I note in the instruction manual (p16 5.2.3) they say it has a fast
>attack/slow release agc system. I have adjusted the vox delay pot
>to a minimum (no. 37 in photo on page 9) and am keying and feeding the
>tx drive audio via the mic socket a la fig. on page 19.
>
> 1/ amtor mode b and rtty work fine but any arq operation (amtor
>pactor ... have not tried clover) causes problems ...the
>transceiver keys on and off but it seems the agc recovery even
>with the agc button in fast position is so slow that the receiver is
>severely desenced ....
> 2/also although the transceiver keys with the
>vox button turned off no power is transmitted(despite mic gain well up)
>.. need the vox activated to produce power out.This is puzzelling
>as it seems to me that it should behave just like the microphone (which
>does not need the vox activated to transmit a signal.
> Does any one have a fix for the first problem ...and/or an
>explanation for the second?
>
> many thanks
> Stephen
>
>

6285. Atlas 210X power output Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: "Michael G. Reiney" <mreiney@hevanet.com>
Message-ID: <4bsigj$o4j@vista.hevanet.com>
Source record: 108596
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I have an Atlas 210X that works fine on 40 meters and up. On 75 meters, I can only get about 40W out of it.
I hypothesize that if the high freq power out is ok, the transistors are good.
The 80M filters are not tunable, so they've probably not been tweeked.
Ideas?

The only thing I can think of is that one of the broadband transformers in the final have a cracked core and insufficient inductance to get to 80M. They look ok. I don't have any idea how to check it out without disassembling the transformer and checking each core. High risk of breaking something.

Any guidance would be appreciated. I do have access to equipment, GHz scope, spectrum analyzer etc. Don't be shy with wild test ideas.

thanks, miker

6286. Re: Atlas 210X power output Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <820123178.20343@pinetree.microserve.com>
Source record: 108597
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

"Michael G. Reiney" <mreiney@hevanet.com> wrote:

>I have an Atlas 210X that works fine on 40 meters and up. On
>75 meters, I can only get about 40W out of it.

That could be many things besides the final amplifier circuitry.
Have you looked at the RF amplitude feeding the drivers or PA?

73,
Jack WB3U

6287. Re: VHF PLL Home brew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: stevebragg@aol.com
Message-ID: <4bqslf$qk0@newsbf02.news.aol.com>
Source record: 108598

Steve,

I've designed a 1296 MHz PLL using the Phillips TSA5511. What do you say
we swap designs ? If you want it, E-mail me and I'll send you a .GIF file
with
my schematics & notes. Please E-mail me your VHF PLL design.

Tnx,

Steve Bragg
KA9MVA
Stillwater, Oklahoma, USA

P.S. Yes, we HEARD the Oklahoma City Bomb (aprx 100 km away!)

6288. Amateur-band distance measurement (radar, etc.)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: stevebragg@aol.com
Message-ID: <4bqslt$qke@newsbf02.news.aol.com>
Source record: 108599

I am a radio amateur experimenting with distance/velocity/acceleration measurement using a digital-code transit-time method. I have had some limited success, using a direct-FSK system with 223 MHz uplink and 1300 MHz downlink. If you're interested, the SPECS are below. If not, see the
PLEA below.

SPECS:
ANTENNAS: 6-el YAGI for the 223 Mhz uplink, and a 23-turn HELICAL for the 1300 MHz downlink. 1/4 wave vertical on transponder downlink, loop antenna on uplink.
GROUND RX: .95 dB noise figure. Downconvert to 28 MHz; use FM receiver (Ramsey) to decode FSK.
MEAS SCHEME: Used a simple PN code to lock the air-to-ground loop, and measure the 2-way transit time. A microcontroller averages and filters the distance data, and differentiates it to get velocity and acceleration.

TRANSPONDER: Linear transverter; does not demodulate data, only preselects,
amplifies, filters, and upconverts to 1300 MHz. Transponder output @ 1300 Mhz: 17 dBm. Sensitivity @223 MHz for 20 dB quieting: 0.2 uV.
Tap-off for
command receiver (remote control) @ 10.7 MHz IF.
USE/RANGE: Tracking amateur rockets. Range: 50,000+ ft. Up to Mach 2.
SHORTCOMINGS: Fading. Loss of loop lock on air/gnd loop. Acquisition. Too little power on downlink path. No auto-tracking ability. Measures in one
axis only (RX ant axis).

PLEA:
I am interested in hearing from EXPERIENCED
experimenters doing measurement work with HAM-BAND equipment.
Specifically, I would like to know:

1. What was the range of your system ?
2. What object were you tracking (rocket, ballon, plane, glider, etc.)
3. What was your modulation method ?
4. What characteristic of the signal did you use for measurement (transit time, Doppler, etc.) ?
5. What bands did you use ?
6. What power levels and antennas ?
7. Did you use a transponder, or a reflective/passive system ?
8. Does your system track the source? How (monopulse, conical scan, etc.) ?

... and anything else you think I should know. E-Mail me if you want more details about my system. I think hams should share successes (and failures!)

73,
Steve Bragg KA9MVA
Stillwater, Oklahoma
stevebragg@aol.com

6289. Heat Sink's-Where??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: Rick Perry <kg7a@wolfenet.com>
Message-ID: <30E1286E.563C@wolfenet.com>
Source record: 108600

Does anyone know where I can buy large heat sinks for high power solid state amps? Only place I know of is CCI and they only have one size.

TNX,
Rick, KG7A

6290. Re: Heat Sink's-Where??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <4br00j$nlp@ixnews5.ix.netcom.com>
Source record: 108601

In <30E1286E.563C@wolfenet.com> Rick Perry <kg7a@wolfenet.com> writes:
>
>Does anyone know where I can buy large heat sinks for high power solid
>state amps? Only place I know of is CCI and they only have one size.
>
>TNX,
>Rick, KG7A

Try RF Parts, 435 South Pacific St., San Marcos, CA 92069. 800-737-2787
or 619-744-0700. Fax 619-744-1943. They list heat sinks in their
catalog ranging in size from 4.125" x 3" to 7.875" x 16". Prices range
from $9.00 to $56.65.

John
KE6TGN

6291. Re: Crystal Filters for Ham in Ukraine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <4br037$gle@ixnews2.ix.netcom.com>
Source record: 108602

In <4bpmuu$ocq@chekov.corp.es.com> mkelson@chekov.corp.es.com (Max Kelson) writes:

>
>
>
>I have a friend in the Ukraine (uu0jn) who has a homemade HF
>transceiver who is having a problem finding crystal filters.
>Can someone tell me where I can find these?
>
>I would be interested in buying new or used or in alternative
>methods of solving the problem. Also, any references for
>making a "home brew" filter might be very helpful.
>
>Thanks in advance.
>
>Max Kelson
>email: mkelson@es.com
>
>--
>Email: mkelson@es.com

The '95 and '96 ARRL Handbooks have schematics for crystal filters.

John
KE6TGN

6292. Crystal sets

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: graphix@iastate.edu
Message-ID: <graphix.820053477@sdg.cc.iastate.edu>
Source record: 108603

For some reason crystal sets have fascinated me since I was a kid.
Could someone give me some references as to where to get some good
information on the subject? I am very interested in the design of the
set and details as to why certain components where used and placed.

Thanks for any input.

P.S. Please email me response as well to insure that I see your input.

--
Kent Vander Velden
graphix@iastate.edu

6293. Re: SB-220 Problems/Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4br9i8$7o@newsbf02.news.aol.com>
Source record: 108604

Hi Tony,
In article <4bpcv3$bhg@newsbf02.news.aol.com>, n1mm@aol.com (N1MM) writes:

>I'm having trouble with my SB-221. Once in a while on 10 meters, more
>frequently if the CW/Tune - SSB switch is set to SSB, I get a loud pop.

You could be loosing the tubes, or another component. Sometimes the RF chokes arc through to the mounting screw, but usually its the tubes.

>When that happens, the .82 ohm resistor in the HV meter circuit blows and
>I have to replace it. One time the meter went with it.

Put a diode protection circuit from the negative end of the electrolytics to the chassis. The cathode of the diode (band end) goes towards the electrolytics. Use two diodes in series and bypass them with a .1 uf 50 volt disc cap. It also doesn't hurt to add a 20 ohms 25 watt HIGH VOLTAGE type resistor in series with the positive supply lead. The SB220-221 RF choke has very low surge limiting resistance.

>much worse since I changed the amp over from a 15A, 115v line to a 20A,
>220v line. I presume because the "under-load" plate voltage is quite a
>bit higher now.

The problem is likely peak voltage related.

>I have heard that this problem is either VHF parasitics, or dirty
>capacitors. Has anyone in this group solved this problem? Is there a
FAQ
>on this?

The parasitics thing is sort of a "fairy tale", the capacitor thing is sometimes true, but the tubes are the most likely cause.

>Also, what is the general concensus on directly grounding the SB-221's
>grids?

That should be done if you can do it. That circuit was a design mistake. It adds unwanted feedback and decreases the performance of the amp. By all means, ground each grid pin directly to the chassis by drilling a hole near EVERY grid pin and adding a lug. Remove the tubes first!

But the tubes may just be "gassing up". If so, they will arc once in a while when plate voltage peaks are reached. Ten meters has the highest Q and most touchy tuning, so it's more likely the PA peak anode voltages reaches a few times the dc supply voltage there. When that happens, if the tubes or some other component is "on the edge" and the peak voltage goes past the safe point.....pop!

By the way, if the tubes are metal anode types, do you get the tubes red once in a while to de-gas them?

73 Tom

6294. Re: Making PC boards from laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: mds@lexis-nexis.com
Message-ID: <4brm1m$78v@meaddata.lexis-nexis.com>
Source record: 108605

In article <30da564f.89541169@news.solo.pipex.co.za>, timj@solo.pipex.co.za says...
>
>>I have a bunch of TEC-200 transparency material from Meadowlake Corp. This
>>stuff was to be used in a copier and then ironed onto a bare PC board.
>>
>>Has any one tried it in a laserprinter??
>>
>>Mine is an HP-4L and has an envelope mode that feeds straight through.
>>
>>Will it work??
>
>You can definitely feed it through your 4L. I have done it on mine
>without any problem. The process the printer uses is essentially the
>same as that of a plain paper copier.
>
>The problem is that I couldn't get a good transfer from the film onto
>the PCB.
>

I tried using the TEC-200 on a Laserjet 4 plus. It ran through the printer fine, but the traces left on the film had drop outs in the center of the wider traces. I had no problems getting the trace to stick to the copper board as long as the PC board was CLEAN. More on that latter. The drop outs were the same as I see on clear transparency film that is designed for a copier but used on a laserjet printer, or vice versa. With that in mind, I tried using transparency film DESIGNED FOR LASERJETS. Just the regular stuff you get at the office supply store used to make overheads. I got much better results as far as printing from the printer, but would it stick to the board? I was concerned that it may be stuck to the film so well that it would not pull off. To my surprise it did pull off and stick to the copper. I was making a very small board (1" x 1.5"). I don't know if I would have had the same results on a large board. By the way, in both cases I set the print density to HIGH via the control panel on the printer. This gave the darkest image.

The key here is a clean pc board and proper heat. I cleaned the boards used in this test by dipping them into my etchant solution (Ferric Chloride) for about 20 seconds. This gave them a pink appearence. Clean off any residue that remains. My heat source was an iron.

If you are going to do a lot of boards this way, DynaArt makes a heater that the PC board will pass through to give proper heat and pressure.

The print, iron and peel process does work, but you will need to experiment with various films, print density, board cleaning techniques, heat, and

pressure.

I still like the photo process for larger, more complicated boards. I use pre-coated boards from PCB Kits in Michigan. They are coated with positive acting resist. I use the laserjet to make the positive artwork. Expose it to a photoflood in a white box, develope and etch.

Mike Suhar WB8GXB
Dayton, OH

6295. Re: SB-220 Problems/Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.6.0026FB9D@azstarnet.com>
Source record: 108606

In article <Pine.BSD/.3.91.951226213541.23455A-100000@prolit.llu.edu> Barrie Britton <bbritton@prolit.llu.edu> writes:
>From: Barrie Britton <bbritton@prolit.llu.edu>
>Subject: Re: SB-220 Problems/Mods
>Date: Tue, 26 Dec 1995 21:43:21 -0800

>On 26 Dec 1995, N1MM wrote:

>> I'm having trouble with my SB-221. Once in a while on 10 meters, more
>> frequently if the CW/Tune - SSB switch is set to SSB, I get a loud pop.
>> When that happens, the .82 ohm resistor in the HV meter circuit blows and
>> I have to replace it. One time the meter went with it. It seems to be

>What you describe is a VHF parasitic. Send a SASE to Rich Measures, AG6K,
>at 6455 La Cumbre Road, Somis, CA 93066 or call him at (805) 386-3734.

>Rich wrote several articles for QST describing the parasitic problem,
>particularly in SB-200/221 amplifiers. He sells very inexpensive (about
>$15) parasitic suppressor kits for most amps. Get his article reprints also,
>and buy the other SB-220 mods such as the meter protection diodes, and the
>lower heat bleeder resistors.

Before you do this, locate the "Technical Correspondence" letters in QST regarding these articles. I don't have them at hand, but they were written by a couple of knowledgeable people, including one from EIMAC. They basically debunk the articles. Don't try to contact the EIMAC guy, however; I tried, including a SASE and never got the courtesy of a reply :(

W8JI Tom has better advice.

>Good luck with this excellent amplifier.

73, Wes

6296. 10 metre band antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: stirling@tandm.u-net.com
Message-ID: <4brm90$pp3@oveja.u-net.net>
Source record: 108607

Does anyone have any designs for a small antenna for use on the 10 metre band (Rx and Tx). The antenna would need to be only a few feet long for mounting in the loft.

6297. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <4brm1t$tsm@mgate.arrl.org>
Source record: 108608

Rocci <rocci@netaxs.com> wrote:
>before the audio ever gets to the speaker. Kind of like knowing the
>future, and altering its outcome. Of course, it only works to the
>extent that there is reserve 'headroom' between the desired audio
>signal level and the overload point of the DSP.
>

I didn't realize there was any "headroom"--a lot of people seem
to want more dynamic range than is available from A/D chips.

>> However, you ought to be able to use DSP to
>> combine multiple bit steams seamlessly. Suppose
>> you had four 16 bit A/D converters with different
>> amounts of gain ahead of them. Properly done, this
>> ought to extend the single tone dynamic range of
>> the system considerably.
>
One bit stream handles -140 to -60 dBm
another bit stream handles -120 to -40 dBm
another handles -100 to -20 dBm
the last handles -80 to 0 dBm
You can switch to less sensitive bit streams as the signals get
louder.

Thus, the system ought to handle signals from -140 dBm through
0 dBm without overloading. Of course, loud signals will prevent
you from hearing weaker signals simultaneously.

BTW, this probably isn't the best way to do it, but ought to
convey the idea.--Zack KH6CP/1

>This sounds interesting. Please explain what it means.
>
>Joe
>WA3CMQ

6298. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: Edouard Elizee <elizee>
Message-ID: <4bs004$juh@news.cuny.edu>
Source record: 108609

this is a test>
> --
>
> Newsgroup: rec.radio.amateur.homebrew
>
> (Earliest articles...)
> (Earlier articles...)
>
> * Re: RS-232 Specification - Kein{nen Paul (52)
> * Making PC boards from laser printer - Rhyolite95 (8)
> o Tim Jackson (16)
> + Mike Suhar (55)
> * picking harmonics off of vfo inductor?
> o Wes Stewart (33)
> o Andy Borsa (24)
> + Richard Karlquist (34)
> + David Bengtson (33)
> + Tom Bruhns (25)
> * ALC ?? - Tony Angerame - Sun SE (14)
> * ECP/EPP bidirectional PC parallel ports - Johan Forrer (14)
> * Re: Transmitting loop near miss - Don Huff (22)
> o GDentHouTX (10)
> + W8JI Tom (25)
> * Re: Printing to PCB material from a laser printer - Peter LePage (32)
> o Filip M Gieszczykiewicz (12)
> * Re: Pls Help with Digital Display - "Thomas C. J. Sefranek" (7)
> * Re: 3 phase mains supply - Jim Potter (22)
> * Wanted Vhf Rx Schematic - Carlo Gregori (8)
> * Re: Single-chip FX xmitters? - Jeff Duntemann (33)
> * Any idea's for building a good antenna for my home stereo - chad@mail (8)
> o WB3U (13)
> o WB3U (13)
> + Randall Bradley (9)
> * Re:Phono Preamp needed - WB3U (5)
> * 90 ohm cable on 300 ohm antenna - Loren Coe (17)
> o WB3U (14)
> o Donald J. Miller (13)
> * Re: 3 Phase power - mack@mails.imed.COM (35)
> o Chuck Harris (52)
> o Clifford Buttschardt (48)
> * Looking for Amplifier Plans - Brent Childers (7)
> o James Garland (5)
> o Kerry Miller (32)
> * ? Design GS35B/3CX1500 for 2m and 70cm - Koellner, Guenter (22)

> o Kerry Miller (18)
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> * picking harmonics off of vfo inductor? - William L. Fuqua III (24)
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> * Re: 3 Phase - mack@mails.imed.COM (17)
> * Re: design transfer - Harry H. Brown (4)
> * Re: HW 8 HW9 - Tom Meudt (21)
> * VHF PLL Home brew designs - Steve Drury (7)
> o Tom Alldread (43)
> o SteveBragg (14)
> * Re: DC Rcvr w/DSP backend - Zack Lau (24)
> o Rocci (33)
> + Zack Lau (18)
> + Rocci (37)
> + Zack Lau (37)
> * CB to 10m/6m conversions... - Marcos Antonio Gallego (10)
> * Re: RIAA Preamp for Mag Cartridge - Paul Grohe (30)
> * Impedance matching HELP
> o Ilkka Kontola (22)
> o dave eckhardt (12)
> * Re: HF installation in Toyota pickup - TANTONR (21)
> * Re: Temperature Compensating Tuning Diodes - John Seboldt (25)
> * pre-amp - wayne barnhart (17)
> * ?? Need spec sheets or source for a BB 505 (Varicap diode) ?? - Kevin Shea
> (27)
> o Leon Heller (21)
> o Steve Drury (31)
> * Re: Ext mic mod for HTX-202 and HTX-404 - John Vause (19)
> * Re: Lowest PC Memory Prices! - Ed Matthews (20)
> * Re: WWVB Receiver? - John D. Rhodes (22)
> o Steve Muther (39)
> + Bill Janssen (18)
> * Re: Do DSP's really help? - Conway Yee (63)
> * VHF MARS mod for IC-706 - Pieter Ibelings (43)
> * Re: Un francï¿½s estï¿½ buscando contacto - estrella@calvin.usc.edu (33)
> * Re: Low power FM transmitter ICs - jgoecks (14)
> * L.O.S.A Contribution Form - Christer Johansson (74)
> * NEED Schematic for DTMF decoder Using SSI202P chip - Wanda M Desmond (11)
> * High Dynamic Range, Low Phase Noise Front End - Randall L. Rathbun (8)
> * Re: Transverter question - Roger Stevens (44)
> * 100 W 7 MHz amp - Lawrence Stoskopf (66)
> * Ham-Homebrew Digest V95 #459
> o John&Suzie Rollins (1)
> + Dave Moorman (9)
> o richard smith (1)
> * Ham-Homebrew Digest V95 #460
> o John&Suzie Rollins (1)
> o richard smith (2)
> * Re: New Ham Web Site with Information Content - "Peter C. McNulty" (4)

> * S Parameters for BF960/BF981 - Peter L. Williamson (5)
> * SB-220 Problems/Mods - N1MM (20)
> o Barrie Britton (30)
> + Wes Stewart (34)
> o W8JI Tom (52)
> * Re: Ham-Homebrew Digest V95 #463 - wayne barnhart (18)
> * Need a Mod for RS DX-392 - tcmedlin@cris.com (8)
> * Re: Ham-Homebrew Digest V95 #461 - John&Suzie Rollins (15)
> * Crystal Filters for Ham in Ukraine - Max Kelson (17)
> o Wanda M Desmond (25)
> * SV818 need info - Clifford Buttschardt (5)
> * Want DSP advice - Gerry Lawlor (14)
> * Amateur-band distance measurement (radar, etc.) - SteveBragg (53)
> * Heat Sink's-Where?? - Rick Perry (5)
> o Wanda M Desmond (15)
> * Crystal sets - Kent A Vander Velden (14)
> * QST Automatic Tuner Article - Carleton C. Ingerson (11)
> * 10 metre band antenna - Mike Stirling (6)
>
>

>

6299. amidon associates ' fax number

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: Edouard Elizee <elizee>
Message-ID: <4brvf1$juh@news.cuny.edu>
Source record: 108610

If anyone has Amidon Associates ' fax number , please EMAIL it to me at elizee@ees1s0.engr.ccny.cuny.edu

thanks

6300. Re: Want DSP advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <820060460snz@lfheller.demon.co.uk>
Source record: 108611

In article <4bpqdi$8mg@dub-news-svc-5.compuserve.com>
101233.226@compuserve.com "Gerry Lawlor" writes:

> Hello there
> I am looking for information on DSP kits readily available for
> assembly and installation. My main application would be for
> amtor/rtty application on HF but general audio clean up would be of
> interest also e.g. SSB. I will be adding it to either home brew or
> very old commercial eqpt so a bit of hacking is not an impediment.
> Any advice on suitable kits appreciated, particularly if they are
> backed up by some decent applications software.

I've got the Analog Devices EZ-KIT Lite, which sells for 65 UK Pounds.
It uses the ADSP-2181, which is compatible with the ADSP-2115 used on
the PSA sound cards, for which there is a lot of amateur software
around; it won't be long before this software has been ported to the
EZ-KIT. It's not really a kit, as it comes as an assembled board,
together with development software. It interfaces to a PC serial port.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

6301. Re: Crystal Filters for Ham in Ukraine

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <820059954snz@lfheller.demon.co.uk>
Source record: 108612

In article <4bpmuu$ocq@chekov.corp.es.com>
mkelson@chekov.corp.es.com "Max Kelson" writes:

> I have a friend in the Ukraine (uu0jn) who has a homemade HF
> transceiver who is having a problem finding crystal filters.
> Can someone tell me where I can find these?
>
> I would be interested in buying new or used or in alternative
> methods of solving the problem. Also, any references for
> making a "home brew" filter might be very helpful.

Xtal ladder filters are quite easy to design and build. W1FB's Design
Notebook (ARRL) has lots of info.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

6302. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: Edouard Elizee <elizee>
Message-ID: <4bs0ed$juh@news.cuny.edu>
Source record: 108613

this is a test>
> ---
>
> Newsgroup: rec.radio.amateur.homebrew
>
> (Earliest articles...)
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> * Re: RS-232 Specification - Kein{nen Paul (52)
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> o Tim Jackson (16)
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> * picking harmonics off of vfo inductor?
> o Wes Stewart (33)
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> + Richard Karlquist (34)
> + David Bengtson (33)
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> * ALC ?? - Tony Angerame - Sun SE (14)
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> * Re: Transmitting loop near miss - Don Huff (22)
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> * Re: Printing to PCB material from a laser printer - Peter LePage (32)
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> * Re: Pls Help with Digital Display - "Thomas C. J. Sefranek" (7)
> * Re: 3 phase mains supply - Jim Potter (22)
> * Wanted Vhf Rx Schematic - Carlo Gregori (8)
> * Re: Single-chip FX xmitters? - Jeff Duntemann (33)
> * Any idea's for building a good antenna for my home stereo - chad@mail (8)
> o WB3U (13)
> o WB3U (13)
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> * Re:Phono Preamp needed - WB3U (5)
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> o WB3U (14)
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> * Re: 3 Phase power - mack@mails.imed.COM (35)
> o Chuck Harris (52)
> o Clifford Buttschardt (48)
> * Looking for Amplifier Plans - Brent Childers (7)
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> * Re: Temperature Compensating Tuning Diodes - John Seboldt (25)
> * pre-amp - wayne barnhart (17)
> * ?? Need spec sheets or source for a BB 505 (Varicap diode) ?? - Kevin Shea
> (27)
> o Leon Heller (21)
> o Steve Drury (31)
> * Re: Ext mic mod for HTX-202 and HTX-404 - John Vause (19)
> * Re: Lowest PC Memory Prices! - Ed Matthews (20)
> * Re: WWVB Receiver? - John D. Rhodes (22)
> o Steve Muther (39)
> + Bill Janssen (18)
> * Re: Do DSP's really help? - Conway Yee (63)
> * VHF MARS mod for IC-706 - Pieter Ibelings (43)
> * Re: Un francï¿½s estï¿½ buscando contacto - estrella@calvin.usc.edu (33)
> * Re: Low power FM transmitter ICs - jgoecks (14)
> * L.O.S.A Contribution Form - Christer Johansson (74)
> * NEED Schematic for DTMF decoder Using SSI202P chip - Wanda M Desmond (11)
> * High Dynamic Range, Low Phase Noise Front End - Randall L. Rathbun (8)
> * Re: Transverter question - Roger Stevens (44)
> * 100 W 7 MHz amp - Lawrence Stoskopf (66)
> * Ham-Homebrew Digest V95 #459
> o John&Suzie Rollins (1)
> + Dave Moorman (9)
> o richard smith (1)
> * Ham-Homebrew Digest V95 #460
> o John&Suzie Rollins (1)
> o richard smith (2)
> * Re: New Ham Web Site with Information Content - "Peter C. McNulty" (4)

> * S Parameters for BF960/BF981 - Peter L. Williamson (5)
> * SB-220 Problems/Mods - N1MM (20)
> o Barrie Britton (30)
> + Wes Stewart (34)
> o W8JI Tom (52)
> * Re: Ham-Homebrew Digest V95 #463 - wayne barnhart (18)
> * Need a Mod for RS DX-392 - tcmedlin@cris.com (8)
> * Re: Ham-Homebrew Digest V95 #461 - John&Suzie Rollins (15)
> * Crystal Filters for Ham in Ukraine - Max Kelson (17)
> o Wanda M Desmond (25)
> * SV818 need info - Clifford Buttschardt (5)
> * Want DSP advice - Gerry Lawlor (14)
> * Amateur-band distance measurement (radar, etc.) - SteveBragg (53)
> * Heat Sink's-Where?? - Rick Perry (5)
> o Wanda M Desmond (15)
> * Crystal sets - Kent A Vander Velden (14)
> * QST Automatic Tuner Article - Carleton C. Ingerson (11)
> * 10 metre band antenna - Mike Stirling (6)
>
> * a test - edouard elizee

>

6303. Re: Amateur-band distance measurement (radar, etc.)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: alf@kaiwan.com
Message-ID: <8uQumClg1udP068yn@kaiwan.com>
Source record: 108614

In article <4bqslt$qke@newsbf02.news.aol.com>,
stevebragg@aol.com (SteveBragg) wrote:
> I am a radio amateur experimenting with distance/velocity/acceleration
> measurement using a digital-code transit-time method. I have had some
> limited success, using a direct-FSK system with 223 MHz uplink and
> 1300 MHz downlink. If you're interested, the SPECS are below. If not,
> see the
> PLEA below.
>

deleted

>
> ... and anything else you think I should know. E-Mail me if you want more
> details about my system. I think hams should share successes (and
> failures!)
>

I totally agree with you that hams should share. But I disagree with
the E-Mail part; POST IT IN THE NEWSGROUP.

> 73,
> Steve Bragg KA9MVA
> Stillwater, Oklahoma
> stevebragg@aol.com

Happy New Year.

73,

Alfred Lee alf@kaiwan.com
KE6KGV 'The answer is (e^i&#65533; + 1) ? "No" : "Yes"'

6304. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4bsdp7$ed8@hpcvsnz.cv.hp.com>
Source record: 108615

Zack Lau (zlau@arrl.org) wrote:
: >
: One bit stream handles -140 to -60 dBm
: another bit stream handles -120 to -40 dBm
: another handles -100 to -20 dBm
: the last handles -80 to 0 dBm
: You can switch to less sensitive bit streams as the signals get
: louder.

Except for a very small advantage in the ability to switch quickly
and with minimum transient, this should be no different than
switching gain ahead of the ADC. Unless you have money to toss at
ADCs, it seems like the switched gain (or just controlled gain) would
be a more reasonable way in the typical ham application to do it.

: Thus, the system ought to handle signals from -140 dBm through
: 0 dBm without overloading. Of course, loud signals will prevent
: you from hearing weaker signals simultaneously.

Another way to get almost all of that is start with something like
the Burr-Brown 20 bit delta-sigma converter, assuming we are talking
about baseband converters to go with direct conversion front ends.
Then you don't have to worry about switching anything. That system
has something around 90dB of dynamic range: that is, if you put in
a full-scale signal, distortion products appear at about the -90dB
level, but if you drop the input level, the distortion products go
down. However, noise starts to get you at the 120dB below full scale
level, depending on how you are looking at it.

These 20-bit (stereo) converters aren't exactly dirt cheap yet, but
it does seem like they are in striking range of hobbiests. Better plan
to do better than 16 bit arithmetic with the results, though! And to get
this sort of dynamic range, you must be very careful in your construction
techniques, and provide very clean power.

--
Cheers,
Tom
tomb@lsid.hp.com

6305. Re: SB-220 Problems/Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: n1mm@aol.com
Message-ID: <4bs7k3$b9o@newsbf02.news.aol.com>
Source record: 108616

Thanks for the advice to both Barrie & Tom. I have tried the AG6K
parisitic mods, and they did not seem to help. I'll give the other advice
a try. Anyone else have experience taming a '220?

Tom

P.S. Thanks again.
Tom - N1MM

6306. Sound Blaster 16 as a DSP unit ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: Sean McDonald <seanmcd@iaccess.za>
Message-ID: <4bs9q5$cal@grovel.iafrica.com>
Source record: 108617

Hi. I would like any information / programmes that about/use
the Creative Labs Sound Blaster 16 as a DSP unit, similar to
the MFJ-784 unit.

Does anyone have any information in this regard ?
Any programmes available ? Commercial / Shareware ?

I would appreciate any information on DSP.

Thanks, 73s

Sean McDonald, ZS5TM
email: seanmcd@iaccess.za

6307. Re: RAMSEY kits - converting from battery - Problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: rburgan@detroit.freenet.org
Message-ID: <4bsh10$3e9@detroit.freenet.org>
Source record: 108618

AC Power Supplys have a very low impedance compared to batterys.
Put a 22 ohm resistor in series with the power lead. This is
especially true if using the LM286 audio chip.
--

6308. Re: Heat Sink's-Where??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <4bs88e$b7t@ixnews4.ix.netcom.com>
Source record: 108619

In <30E1286E.563C@wolfenet.com> Rick Perry <kg7a@wolfenet.com> writes:
>
>Does anyone know where I can buy large heat sinks for high power solid
>state amps? Only place I know of is CCI and they only have one size.

Newark has many pages of heat sinks. Last I heard they had a $25
minimum order. Their number (at least for a catalog) is 800-298-3133.

You might also try the Hosfelt, MP Jones and All Electronics catalogs.
If you need phone numbers I can look them up for you.

73,
Mike, KK6GM

6309. Re: SB-220 Problems/Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: "C. J. Hawley Jr." <hawley@aries.scs.uiuc.edu>
Message-ID: <30E1A985.E85@aries.scs.uiuc.edu>
Source record: 108620

W8JI Tom wrote:

snip:

> By the way, if the tubes are metal anode types, do you get the tubes red
> once in a while to de-gas them?

What happens here to the gasses? Do they change chemically and become attached to something? Something like the getter? How did that work? Wasn't it Magnesium or some such which was vaporized inside the tube and chemically or mechanically bonded or absorbed the gas and stuck somewhere? If the plates are made hot, then this would work against the getter residue, so they must not use getters in transmitting tubes? But, the plates would absorb gases if they are made out of Tantalum (and what other materials?) and became very hot. I read that (Terman) Zirconium will absorb Hydrogen up to 350C but will give it back above that. Then if you have Zirconium also at 1400C it will greatly absorb other gasses. They can put two Zirconium filaments in at these two temps to clean up continuously. What does Eimac make.....say the 3-500 plates out of and if there are hydrogen and other gasses inside the tube over time then what is the analysis if you raise the tube plate to cherry red. All hydrogen? Is that better or worse than never going above 350C? Is that impossible in a transmitting tube? How hot is just below any color change? I suppose Eimac has studied this?

Sorry....just triggered my interest, cause it sounded like a well known fact that I am ignorant of.

Chuck, KE9UW

6310. 144MHz Crystal Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: C Jefferson <cjeffers@204.248.112.2>
Message-ID: <4bsjij$pen@wavefront.wavefront.com>
Source record: 108621

I'm looking for a crystal controlled 2-meter receiver that would be
fairly cheap. I'm going to use it for a permant repeater monitor. If
anybody has anything of the sort send a reply please. Thank you very much
73's from KB0THN.
(:)=)

6311. Re: Modiying an old tube AM radio with pencil tubes, results

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4bsbgi$gjd@globe.indirect.com>
Source record: 108622

wa2ise@netcom.com (Robert Casey) wrote:

>I've thought of using some of these sub-mini tubes in an AM BC band
>radio, like the old AC/DC "AA5" tube radios. So I took an
>otherwise ordinary AA5 tube radio (AA5 = "All American 5 tube")
>and decided to modify it to use some pencil tubes.

This is seriously cool. If I recall correctly (and I'm at work and have none of my catalogs handy) Antique Electronics Supply here in the Phoenix area (Tempe, Arizona, actually) now sells a simple AM radio kit that uses subminiature tubes. They seemed to indicate that they made the kit up because of an *overstock* of submini tubes, so they're a good supplier option if you ever need one for this kind of research.

It's good to recall that the AA5 as we knew it in the late 50's was the product of over 35 years of product evolution and relentless competition. I would guess it's a good design. The flipside is that submini tubes were also created for AA5-style applications. I dismantled a late 50's RCA portable years back that used submini tubes, so it's quite possible that the general characteristics of the 12AV6 and the submini you used were pretty close.

Wish I'd kept that portable now, sigh. It had a wonderful 50's late deco case in red plastic.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

6312. Re: amidon associates ' fax number

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-27 00:00:00 UTC
From: U40241@uicvm.uic.edu
Message-ID: <95361.164611U40241@uicvm.uic.edu>
Source record: 108623

For reference, Amidon, Inc. > P.O. Box 25867,Santa Ana, CA. 92799.
Vox: 714-850.4660 & Fax: 714-850.1163.
They are selling "over 9 types of UNUNs" UNbalenced to UNbalenced Transformer.
This looks like it could be useful for off-beat or unusual antenna designs.
Of course, they are otherwise the Iron-Powder and Ferrite coil-form people.
K9ZAT

6313. Re: ALC ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: "I.M. (\"Irv\") Finkleman" <finkirv@cadvision.com>
Message-ID: <4bsnh1$m8o@huey.cadvision.com>
Source record: 108526

I Don't see any reason why your choice should not work. It certainly would not take long to install and test it ... the only problem I can think of would be if the output of the circuit was too large a voltage for the controlled circuit. Should this occur, all you have to do is put in a resistive voltage divider. Almopst any old pot should do the trick since the feedback circuit is basically a low voltage very low current arrangement. Go for it .... if you have problems Get back to me .. I'll be glad to help.

Irv VE6BP

6314. I need help\advice on homebrew device

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: VCBN48B@prodigy.com
Message-ID: <4bstlv$m4g@usenetp1.news.prodigy.com>
Source record: 108527

I am looking for a kit or device or circuit which can be built into a desk microphone that will send the letter "K" when the PTT button is released. This would signify that you are now ready to receive. If anybody has any Ideas, please let me know.
Brian

Please reply via E-Mail

6315. 2 stage amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: wayneb@on-ramp.ior.COM
Message-ID: <m0tV9G7-000RubC@on-ramp.ior.com>
Source record: 108528

When building a 2 stage transistor audio amp how do you keep the first stage from overdriving the final? I have been running simulations on workbench and it says that if I try to do this I be gett'n a big case of the ugly's. I tried and it was right...well it could of been wrong.

I have been experimenting with 2n2222's and I suspect that it must be the way the final is biased as compaired with the bias of the driver but I have no lititure around here as to how to set it up.

I have no trouble designing single transistor audio amplifiers (class A mostly) but it never occured to me that there would be a problem tieing two of them together (RC coupleing). Only wanted a few watts out but beginning to suspect that I need another type of transistor for the final, one that is capable of handling the input from the driver.

Yes, I know I can stick an opamp in there and be done with the whole thing but this is supposed to be a learning experience. :)

What I eventually want to do is slightly modify the HW-8 for speaker output. It currently is using an MPS A-20 transistor (what ever that is) for audio out into headphones. Was wondering if the A-20 would serve as a driver for a second stage?

God I get windy...I go away now.

Wayne Barnhart WB7WHI Dirt is good!
Spokane, Wa.

6316. Re: Atlas 210X power output Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: leigh@rain.org
Message-ID: <4btb41$cm7@news.rain.org>
Source record: 108529
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I've found my Atlas 210 to be EXTREMELY SWR sensistive, so you might take a closer look at your 75 meter antenna.

I sometimes do 40 meter mobile with a Hustler 40 meter coil and a SWR around 1:1.5. My Icom 735 will put its full 100 watts into this antenna, but the Atlas 210 will drop to QRP levels, unless I have a tuner inline, then I get full power out.

Even though it is a little drifty on warm-up, has no CW sidetone and awkward CW TX/RX switching, I like my little old Atlas 210. I bought it from a newer ham for a mere 50 bucks, one of the best radio deals I've stumbled upon.

73. --Leigh/KM6JE.

6317. 2 Channel Maxtrac to 16 Channel Maxtrac Conversion?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: scanner119@aol.com
Message-ID: <4bthol$s16@newsbf02.news.aol.com>
Source record: 108530

I saw a posting on here the other day on converting a 2 channel Motorola Maxtrac(VHF High Band) to a 16 channel. I have access to both the software and hardware I need some technical advice on how to do it. I have
4 mobiles and 1 base station I use for my construction company and would like to convert them to 16 channel radios. I priced out new radios from a local guy and he wants $425 a pop for 16 channel ones(used, no less) and I spoke to a friend who says the hardware is only about $25 for each radio so I
figured this was the way to go. I really could use some help from you guys.
I'm really not a radio-guy, I'm a scanner-guy myself. Any help would be greatly appreciated. Thanx in advance.

Scott
SCANNER119@AOL.COM
Scanner119@AOL.COM

6318. Wanted: Info on SB and AM sync det chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: Cal Eustaquio <ceustaqu@farad.elee.calpoly.edu>
Message-ID: <Pine.ULT.3.91.951228024006.20727C-100000@farad.elee.calpoly.edu>
Source record: 108531

Anyone have information on chips that I can use to build a combination sideband adaptor and AM synchronous detector? Any help on this matter will be greatly appreciated. Cal, N6KYR.

6319. Re: I need help\advice on homebrew device

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4bubgn$caf@cc.iu.net>
Source record: 108532

In <4bstlv$m4g@usenetp1.news.prodigy.com>, VCBN48B@prodigy.com (Allan Moyse) writes:
>desk microphone that will send the letter "K" when the PTT button is
>released. This would signify that you are now ready to receive. If

how about just having the operator saying something like "go ahead" or "over"?

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

6320. Re: 2 stage amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4bu8uj$i9@news.iii.net>
Source record: 108533

Wayne,
Perhaps your second (Power) stage should be an emitter follower.
What you need is POWER not voltage gain.

And yes, do plan on a bigger transistor.

Tom

6321. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <4bu9se$rq2@mgate.arrl.org>
Source record: 108534

tomb@lsid.hp.com (Tom Bruhns) wrote:

>Except for a very small advantage in the ability to switch quickly
>and with minimum transient, this should be no different than
>switching gain ahead of the ADC. Unless you have money to toss at
>ADCs, it seems like the switched gain (or just controlled gain) would
>be a more reasonable way in the typical ham application to do it.

I admit I have a weird viewpoint on this. To me, the minimum
transient allows me to hear just a little bit more--a distinct
advantage in competitive pursuits such as pileups and contests.
Particularly from a 2nd floor apartment, where you are first
first or somewhere at the bottom of the pile.

Like the extra dB of gain from a bigger beam or better feedlines,
the extra expense is hardly worthwhile for talking to someone
who is ridiculously loud all the time.

Actually, if you are just interested in weak stations, one
alternative is to just clip out the strong signals. On the
other hand, you are now tossing out information that might
be useful.

Zack KH6CP/1 zlau@arrl.org

6322. Re: 144MHz Crystal Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDKB8Gx.437@netcom.com>
Source record: 108535

C Jefferson (cjeffers@204.248.112.2) wrote:
: I'm looking for a crystal controlled 2-meter receiver that would be
: fairly cheap. I'm going to use it for a permant repeater monitor. If
: anybody has anything of the sort send a reply please. Thank you very much
: 73's from KB0THN.

Try finding one of those cheap weather radios that RadioShack sells
or used to sell. Replace the crystal, and tweak the coils. I think
the weather frequencies are around 160 Mhz.

Actually, I've seen basic VHF/UHF scanner radios for under $100. That
would be a bit easier, all things considered.

Thomas
ars KI4N

6323. Re: VHF PLL Home brew designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4buqkd$us3@hg.oro.net>
Source record: 108536

stevebragg@aol.com (SteveBragg) wrote:

>Steve,

>I've designed a 1296 MHz PLL using the Phillips TSA5511. What do you say
>we swap designs ?
Sorry, fellers, the only thing I've got to swap is an old parallel
thumbwheel switch design using the Motorola MC145152 but I'd love to
get the files you guys have on the newer stuff.

Any posts would be appreciated.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen. Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

6324. Re: DC Rcvr w/DSP backend

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4burbk$b0@hpcvsnz.cv.hp.com>
Source record: 108537

Gerhard Hoffmann (gerhard@netmbx.netmbx.de) wrote:
(Zack's scheme for multiple ADCs fed by different
attenuations of the input signal deleted...)

: But that's what dynamic range is all about. The above setup
: is exactly equivalent to one 16 Bit ADC plus 3 attenuators/AGC.

No, it's not _exactly_ the same. It's close, but there is always
at least 1 sample delay between the attenuators and the signal
processor connected to the ADC, and if the ADC is a delta-sigma
(an economical choice these days), the delay can be more than
30 samples. So, if you have to switch attenuators, the horse has
escaped from the barn before you have closed the door, so to speak
(write?). You end up with a period of some number of samples
where the ADC may be overloaded, because you didn't switch the
attenuator soon enough. (BTW, be sure to let a delta-sigma
recover long enough from an overload...)

But I'm still of the opinion that a decent 20-bit converter will
not be the limiting factor in an HF DC receiver signal path: the
mixer stage is most likely going to be the place where the largest
distortion products are generated, and if you set the gain such
that the 20 bit converter full scale is something like 0.5 volts at
the RF input, then in the HF bands at least I'd expect the RF noise
floor to be greater than the ADC noise floor, just from noise
received by the antenna. Maybe Zack has to deal with in-band
RF levels above 0.5 volts, but so far at least, I don't. And again,
I'd have to start worrying about the mixer dying at about that level
anyway. In summary, I think that using a decent 20 bit ADC with
proper level scaling in a DC receiver will give you performance good
enough that you will have to start looking at things other than the
ADC if you want further improvement.

--
Cheers,
Tom
tomb@lsid.hp.com

6325. VHF PLL Home brew design..WORD 2.0 DOC - pll_info.zip (0/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: steve@hamlab.demon.co.uk
Message-ID: <820183028.5072@hamlab.demon.co.uk>
Source record: 108538

I've tried to Email to several individuals the attatched file without
success, so everyone can benefit from it now.
From Steve Drury. Email steve@hamlab.demon.co.uk
G6ALU Milton Keynes England

6326. VHF PLL Home brew design..WORD 2.0 DOC - pll_info.zip (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: steve@hamlab.demon.co.uk
Message-ID: <820183162.5072@hamlab.demon.co.uk>
Source record: 108539
Body handling: Inline uuencoded payload not displayed: pll_info.zip

```
[Inline uuencoded payload not displayed: pll_info.zip]
```

6327. Re: SB-220 Problems/Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4bva3v$e8u@newsbf02.news.aol.com>
Source record: 108540

Hi Chuck,

In article <30E1A985.E85@aries.scs.uiuc.edu>, "C. J. Hawley Jr." <hawley@aries.scs.uiuc.edu> writes:

>What happens here to the gasses? Do they change chemically and become >attached to something? Something like the getter? How did that work? <snip>

That's my understanding. The gas attaches to the getter and move it down the periodic chart a bit. Different materials work at different temperatures. I'm not up on small tubes that work at room temp. 3-500Z's have Moly anodes coated with Zirconium. That's the gray powdery looking stuff you see. It's built to run at around 1000 deg C, so the red color of the anode activates the getter! If you don't run "em red, they can eventually fail from gas!! That also limits shelf life, because how do you de-gas a gassy tube if the anode has to be operated at color to activate the getter?? (Well I know how, but it takes a variable HV supply and an adjustable positive grid bias, hi).

>If the plates are made hot, then this would work against the getter residue, so they >must not use getters in transmitting tubes?

Yes they use getters, just different getters with higher temp ranges.

> But, the plates would absorb gases if they are made out >Tantalum (and what other materials?) and became very hot. I read that >(Terman) Zirconium will absorb Hydrogen up to 350C but will give it back above that.
>Then if you have Zirconium also at 1400C it will greatly absorb other gasses. They
>can put two Zirconium filaments in at these two temps to clean up continuously.

Gotta watch mixing the wrong materials. The 8877 uses a heat dam of Tantalum discs on the fil/cathode assembly because Zirconium would poison the oxide cathode.
If they used a Tantalum anode as the exclusive getter in the 3-500 it would not cover the temp range. Everything gets too hot.

They do stuff differently depending on the application. I'm sure they often use a material just because they are comfortable with it, and they know it worked in other similar tubes, hi.

Phew.

Anyway, here's the rule Chuck. If you have a Eimac thoriated tungsten power triode with a gray powdery looking anode you betta keep that anode red. If you don't, you'll probably get gas in the tube. (and if you think a kindney stone hurts, wait til that happens)

>Is that better or worse than never going above 350C? Is that impossible in a >transmitting tube?

It is in a 3-500! The filament operates around 1500c and the anode should be run at around 1000c!

73 Tom

6328. Re: 2 stage amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4bval2$edi@newsbf02.news.aol.com>
Source record: 108541

And feedback is a wonderful tool. Try not bypassing part of the emitter resistor ina common emitter amp to lower the gain.

73 Tom

6329. Rick Campbell's T2 Module Kit For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: Jeffrey Yuan <yuan@phoenix.princeton.edu>
Message-ID: <30E35AE0.703B@phoenix.princeton.edu>
Source record: 108542

I have an unassembled complete T2 Module kit for sale. This is the kit that Kanga has put together. It is complete, unopened with all the parts and PC board. If you are unfamiliar with this kit, it is a multimode phasing exciter that was written up in the April 1993 QST. I am asking $60 for it and it includes COD shipping. Email yuan@phoenix.princeton.edu or call 609-924-7611 and leave a message for Jeff.

Jeffrey Yuan
N2NXC

6330. Re: Wanted: Info on SB and AM sync det chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: Christopher Trask <ctrask@primenet.com>
Message-ID: <4bvf5a$qii@nntp3.news.primenet.com>
Source record: 108543

Cal Eustaquio <ceustaqu@farad.elee.calpoly.edu> wrote:
: Anyone have information on chips that I can use to build a combination
: sideband adaptor and AM synchronous detector? Any help on this matter
: will be greatly appreciated. Cal, N6KYR.

Cal,
A good place to start would be with the Exar databook. Using
any of their PLL decoder chips, such as the XR-2211, can be used as
a synchrnous AM demodulator (detector) when paired up with an analogue
multiplier, particularly the XR-2228. The data book shows the XR-2228
used with an XR-215 for synchronous AM detection, but myself I prefer
to use the XR-2211 in order to make a Costas Loop detector that will
also demodulate double-sideband suppressed carrier (DSB).

--
Regards,

Chris

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
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6331. Re: Crystal Sets

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: w4qo@america.NET
Message-ID: <Pine.SV4.3.91.951228125150.13991D-100000@atl1>
Source record: 108544

For those who may not have the catalog, Antique Radio Supply out of Tempe, AZ has quite a few books on Crystal Sets including one like called Radios That Work For Free. It is $8.50 and about 140 pages. There are many more in the ARS catalog which you can get by calling 602-820-5411. Good luck.

73/72/jim/w4qo

6332. Re: Making PC boards from laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: Gary Robison <axxon@srvr.third-wave.com>
Message-ID: <4bv1to$97f@news.third-wave.com>
Source record: 108545

The PCB must be SUPER clean I had the same trouble....do not clean it
with steel wool , it looks good but it leaves little shards of copper and
steel sticking up and the transfer will not lay flat on the board
use a light (white colored) scotch brite by its self (no clenser ie
comet) the clenser will put little ruts (scratches) all over and the
transfer will not conform to the bottom of these.

good luck.....Gary K3SJX

6333. Re: Ham-Homebrew Digest V95 #463

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-28 00:00:00 UTC
From: flanders@znet.groupz.net
Message-ID: <4buh2j$1i3@news1.sunbelt.net>
Source record: 108546

wayneb@on-ramp.ior.COM (wayne barnhart) wrote:

>Cant this stuff be posted somewhere where it can be accessed by those who care?
>Went through about 8 pages of it last week or so and I think it is not only
>a waste of my time but expensive to those who have to download the list and
>are not directly connected to the net.

>Wayne Barnhart WB7WHI Dirt is good!
>Spokane, Wa.

I want this stuff - all of it. There are some of you guys out there
with limited service, but I think most of us have it all. You want us
to "Dumb Down" the internet TOO? I hope not.

Jerry Flanders W4UKU South Carolina

6334. Re: VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951229144551.3510H-100000@biggulp.callamer.com>
Source record: 108474

Zack, I have run headlong into the very same problem! I attempted to select 7805 chips and kind of bypassed the problem that way. Then I ran into the old low dropout regulator chip, LM2930. It was much better in general probably due to the PNP pass transistor within the chip. The problemn is that this chip is no longer available. If you would like to try one, I have a few left over. 73 Cliff Buttschardt W6HDO

On 29 Dec 1995, Zack Lau wrote:

> Is there a better chip to use than the
> ancient 723 regulator chip? The National
> Databook lists its output noise as
> typically 2.5 uV rms between 100Hz and
> 10 kHz. The 78L05 and LM317 are much
> worse (40 uV, 0.003 %)
>
> I don't think it helps to run VCOs off of
> noisy power supplies if you are trying
> to minimize phase noise.
>
> Zack KH6CP/1
>
>
>
>
>

6335. Re: VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4c1rmj$1ks@hpscit.sc.hp.com>
Source record: 108475

In article <820266901.20554@hamlab.demon.co.uk>,
Steve Drury <steve@hamlab.demon.co.uk> wrote:
>Zack Lau <zlau@arrl.org> wrote:
>
>>Is there a better chip to use than the
>>ancient 723 regulator chip? The National
>>Databook lists its output noise as
>>typically 2.5 uV rms between 100Hz and
>>10 kHz. The 78L05 and LM317 are much
>>worse (40 uV, 0.003 %)
>
>>I don't think it helps to run VCOs off of
>>noisy power supplies if you are trying
>>to minimize phase noise.
>
>>Zack KH6CP/1
>
>I use a large capacitor (I.E. 470uf across 100n) in series with some
>resistance and an ordinary regulator (78L08). This provides a noise free
>supply in my designs.
>
>
>From Steve Drury. Email steve@hamlab.demon.co.uk
>G6ALU Milton Keynes England
>

The lowest noise commonly available regulator is the TL431.
If you want to go lower than this, you have to use a 1N821 reference
diode.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

6336. Re: SV818 need info

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <4c1u5i$s7q@alpha.pcix.com>
Source record: 108476

>> SV818.
Hi Cliff, My NTE and TCE don't show SV818, see other msg. Dave - AA1A

6337. Re: VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: Christopher Trask <ctrask@primenet.com>
Message-ID: <4c222e$lku@nntp3.news.primenet.com>
Source record: 108477

Zack Lau <zlau@arrl.org> wrote:
: Is there a better chip to use than the
: ancient 723 regulator chip? The National
: Databook lists its output noise as
: typically 2.5 uV rms between 100Hz and
: 10 kHz. The 78L05 and LM317 are much
: worse (40 uV, 0.003 %)

: I don't think it helps to run VCOs off of
: noisy power supplies if you are trying
: to minimize phase noise.

: Zack KH6CP/1

Zack,
I'm afraid not, at least for the moment. When I was a microwave
VCO design engineer at Omni-Spectra years ago, I was part of a long-term
test in which we evaluated SSB phase noise resulting from the use of IC
regulators. We found, after almost a year of on-and-off effort, that the
quietest regulator for a positive supply was the 723 with an NPN pass de-
vice, and for a negative supply the LM104 with a PNP pass device. I have
yet to hear anything different from those folks.

--
Regards,

Chris

Chris Trask / N7ZWY Circuit Design for the RF Impaired
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ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
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6338. 10GHz audio link

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: Michael Brown <mbrown@lilly.com>
Message-ID: <1995Dec29.193905.7269@inet.d48.lilly.com>
Source record: 108478

I'm looking for information on building a point-to-point audio
link using a pair of 10GHz gunnplexors. I've done a few
internet searches but I haven't found much.

Does anyone have any schematics, faqs, hints, etc?

Thanks,
Michael
KG9DW
mbrown@lilly.com

6339. Ramsey Reciever Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: bus5bcm@hibbs.vcu.edu
Message-ID: <4c23li$oi9@hibbs.vcu.edu>
Source record: 108479

I am thinking of buying a Ramsey reciever kit (from Radio Shack). They offer recievers for a few different bands, which band kit should I buy?

Thanks

Ben

6340. Re: Help with Icom 720A on Amtor A.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: David Johnson <david.j2@ukonline.co.uk>
Message-ID: <7h4TpLAmC04wEw86@ukonline.co.uk>
Source record: 108480
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4bshcn$mvb@midland.co.nz>, UGH <UGH@UGH.UGH> writes
>>ZL1ANY/TPK 1.82 Msg #:259 Date:19-11-95 Time:11:08Z
>>
>>
>> Trying to use icom 720a on amtor mode a.
The IC720a needs a few mods in order to work on amtor.

The following is from the ICOM newsletter 35 of June 83, article by Roy Philpott DJ0OW, G3VCH.

Quote: All mods are to the main board, easily accessible on the top of the set. The modification consists of replacing C42 and C43 with 1uF. Also replacing C40 (1uF) with 0.47uF. This effectivly shortens the T-R switching, also it is necessary to remove the AF amp mute by placing a shorting link across C69 (there will be audio present on normal operation, but it doesn't cause a problem).

I did this mod when I had an IC720a and it worked fine with an AMT-1 terminal on "SSB" mode.
--
David Johnson

6341. Re: Amateur-band distance measurement (radar, etc.)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: richeych@iastate.edu
Message-ID: <4bvsea$ol2@news.iastate.edu>
Source record: 108547

In article <8uQumClg1udP068yn@kaiwan.com>, Alfred Lee <alf@kaiwan.com> wrote:
>In article <4bqslt$qke@newsbf02.news.aol.com>,
>stevebragg@aol.com (SteveBragg) wrote:
>> I am a radio amateur experimenting with distance/velocity/acceleration
>> measurement using a digital-code transit-time method. I have had some
>> limited success, using a direct-FSK system with 223 MHz uplink and
>> 1300 MHz downlink. If you're interested, the SPECS are below. If not,
>> see the
>> PLEA below.
>>
>
>deleted
>
>>
>> ... and anything else you think I should know. E-Mail me if you want more
>> details about my system. I think hams should share successes (and
>> failures!)
>>
>
There is an article that was June 1987 p71 of QST that discusses a
simalar experiment using OSCAR satellites to DF stations. I would
suggest reading this article. It is also found on p92 of the ARRL
Satellite Anthology.
It does sound like an interesting project and I wish you the best of
luck.
Carl
--

6342. Variable Speed Motor Control Circuit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: feustel@netcom.com
Message-ID: <feustelDKDAAH.I2K@netcom.com>
Source record: 108548
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

[Article crossposted from comp.arch.embedded,rec.radio.amateur.misc]
[Author was David Feustel]
[Posted on Fri, 29 Dec 1995 20:45:26 GMT]

I'm looking for an add-on circuit to vary the speed of cassette recorder motors. I want to be able to vary the speed from 2*x to x/8 where x is the normal cassette motor speed. All suggestions & solutions appreciated.
--
feustel@netcom.com *** Web Page Access now FIXED ***
Dave Feustel N9MYI For PGP Public Key, finger feustel@netcom.com
Fort Wayne, IN Or else access http://www.mixi.net/~feustel/
219-483-1857
--
feustel@netcom.com *** Web Page Access now FIXED ***
Dave Feustel N9MYI For PGP Public Key, finger feustel@netcom.com
Fort Wayne, IN Or else access http://www.mixi.net/~feustel/
219-483-1857

6343. Using HP8690 with HP8410 Network Analyzer ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: nx7u@primenet.com
Message-ID: <4c1moh$a1d@nntp3.news.primenet.com>
Source record: 108549
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

The HP8410 Network Analyzer documentation specifically mentions the HP8620C as the sweeper of choice, even coming from the factory (at the time) with a control interconnect cable for the '8620.

Does anyone have any insight on if and/or how an HP8690 can be used as the sweeper in an HP8410 system??

Thanks in Advance,

Scott Townley
nx7u@primenet.com

6344. Re: Using HP8690 with HP8410 Network Analyzer ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: Christopher Trask <ctrask@primenet.com>
Message-ID: <4c22uj$mfg@nntp3.news.primenet.com>
Source record: 108550
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Scott Townley <nx7u@primenet.com> wrote:
: The HP8410 Network Analyzer documentation specifically mentions the HP8620C as
: the sweeper of choice, even coming from the factory (at the time) with a
: control interconnect cable for the '8620.

: Does anyone have any insight on if and/or how an HP8690 can be used as the
: sweeper in an HP8410 system??

: Thanks in Advance,

: Scott Townley
: nx7u@primenet.com

Scott,
Sounds like you finally got that 8410 that you were looking for
earlier this year. Yes, you can use the 8690 as a source. According to
HP App Note 117-1, the only requirements for the sweep oscillator for the
8410 are:

1. RF Output - -15dBm to -6dBm.

2. Spurious signals should be at least -20dBc from the
carrier.

3. Sweep Characteristics: Uniform sweep rate that is variable
from 15 to 150 MHz/mSec. In addition, it is important that
there be at least a 3 mSec pause at the start frequency
prior to each sweep to allow the 8410 to attain initial
lock.

4. Phase Lock: To improve phase-lock operation at high sweep
rates the oscillator should furnish a voltage proportional
to its output frequency.

I've got a whold bunch of literature on this monster if you're ever
in need. Still owe you for the Ham Radio photocopies.

--
Regards,

Chris

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /

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6345. Re: Making PC boards from laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: rhyolite95@aol.com
Message-ID: <4c03ls$n19@newsbf02.news.aol.com>
Source record: 108551

Thanks for the info!

6346. Re: 144MHz Crystal Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: William Kresl <wmkresl@townsquare.net>
Message-ID: <4c01tu$4cg@spectator.cris.com>
Source record: 108552

Motorola MC33142 and similar series along with
SIGNETICS TDA7000 (I think, was sold at RADIO
SHACK) will work fine...73

Bill-WB9BBC @KD9JK.WI.USA.NOAM

6347. Re: WWVB Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDKC0C5.Btv@netcom.com>
Source record: 108553

Steve Muther (stevem@w6yx.stanford.edu) wrote:
: I only suggested using video network feeds because there are many
: Ham type frequency counters etc. that use 3.58MHz crystals as the
: time base.

Note that most frequency counters which use color burst crystals for a time base "rubber" the crystal slightly, and divided down by a constant to get 100 or 60 Hz. These crystals are not run at the exact color burst frequency. There were some high quality time bases that did use the burst crystal at its real frequency and which drove a synthesizer to derive the standard frequencies. But most ham-type counters use the cruder method (e.g. the old DSI line of counters).

If you "calibrate" one of the simple divide down time bases by setting it to the exact burst frequency, you will actually be inducing error. These simple divide down time bases usually use an ASIC divider in an 8 pin dip to derive the working frequency. The divide constant is usually something like 35796 or 59660. National Semiconductor was often the manufacturer of the chip. Although I forget the part number, it can be found in NS data books.

73,

Thomas
ars KI4N

6348. Re: QST IMP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: William Kresl <wmkresl@townsquare.net>
Message-ID: <4c018a$4cg@spectator.cris.com>
Source record: 108554

QST's IMP is a BAYCOM modem design. It is also the basis for the PMP (POOR MAN's PACKET) modem that appeared about 4years ago in 73 Magazine that operated on the computer's PARALLEL PORT. BayCom and IMP are for the SERIAL PORT, and as such have access to a much broader base of SOFTWARE written to utilize this port (most programs that work with KISS modem can, with a driver use a BAYCOM modem).

Tho I briefly looked at the schematic of QST's IMP, here are my suggestions for dealing with any TI TCM3105JL based modem design. The chips RECEIVE BIAS input is a DC voltage into the chip that VERY critical to adjust for proper operation of the chip. All of the PMP/BAYCOM modems that I have built include a resistor trimpot wired as a divider, with one side of the pot to ground, other side to +5VDC and the WIPER of the trimpot goes to PIN 7 of the TCM3105JL chip (the RXB dc input). A rough DC voltage of +2.65vdc at this pin will get you started. The proper method of adjusting this voltage has been covered at length before (I wrote FEEDBACK letter to 73 Magazine describing in detail how do to it for the PMP modems using the PMPTEST program, a loopback cable and an oscilliscope). If you start with this value you should start receiving packets. I suggest you DON'T use the fixed voltage divider as it appears in the article (R7/R8). With there values of 56K and 68K ohms, I calculate approx 2.74Vdc at the RXB input...may/may not work. I base my experience on testing/building over 20 such packet modems.

I have written a program in BASIC and compiled as an EXE program called BAYTEST Version 1.00 that I distributed in a Newsletter and via some ham BBS's that will allow low-level testing of your BayCom modem transmit and PTT circuitry for various COM ports. Pawel Jalocha wrote a test program as well (I forget the name) to also test the BayCom modem receive circuitry.

Deriving power from the serial port thru the use of diodes D3 thru D6 to drive the U3 5volt regulator works for me, but MAY NOT work for ALL SERIAL PORT HARDWARE, most notably ZENITH LAP TOP serail ports. Especially with a LM78LO5 regualtor , a much better choice would be the NATIONAL SEMICONDUCTOR LM2900 series low drop-out regulators (maybe harder to obtain). If it does not work, you may need to use an external source to power the reglator (Battery/wall transformer).

Diodes D1 and D2 wired front-to-back are very important and should be wired close to the chip as they protect the RECEIVE INPUT, I've sizzled a few chips even with these diodes in place... cause unknown..but keep your receive AF level DOWN. Also, missing on the IMP is a proper 8ohm (or so) LOAD for the receive audio. I'd put a like value resistor at the junction of those diodes to ground.

Transistor Q1 supplies the PTT funtion, and the TYPE of radio you plan to tie this modem into will determine the configuration of this circuitry. Older radios with a dedicated PTT line switched to ground can simply be tied to the collector lead of Q1 (without the resistor R11). Newer radios switch the PTT in a differant way described in the article, so depending on the manufacturer of your radio will determine the final value of this resitor (typically 10Kohms).

Most of the Baycom modems utilized a special type of HIGH SPEED CMOS logic inverters to interface the +/- 12volts of the computers RS232 SERIAL port to the +5volt logic of the TCM3105JL modem chip (using 74HC14 or some such other device). The IMP uses an OP-AMP (U2) and a transistor (Q2) with a diode (D7). Should work fine.

I would suggest getting the Baycom software (version 1.5 from any ham BBS is shareware, version 1.6 is a COMMERCIAL PRODUCT sold by PACCOMM here in the USA), and starting using SERIAL PORT COM1 to play with (the default port). Changing to another port requires editing the BayCom parameter file SCC.INI and RE-COMPILING the new changed parameter file using the PARA command.

IMP looks like a nice project, but there are much better software alternatives then BayCom. Check out FBB of NPF or even NOS with the

appropriate driver software. Good Luck...73...

Bill-WB9BBC @KD9JK.WI.USA.NOAM

6349. Re: QST IMP

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: William Kresl <wmkresl@townsquare.net>
Message-ID: <4c01jk$4cg@spectator.cris.com>
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IMP looks like a nice project, but there are much better software alternatives then BayCom. Check out FBB of NPF or even NOS with the

appropriate driver software. Good Luck...73...

Bill-WB9BBC @KD9JK.WI.USA.NOAM

6350. Re: 144MHz Crystal Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: dwentz@basenet.net
Message-ID: <4c03b0$1ic@news.accessus.net>
Source record: 108556

In article <4bsjij$pen@wavefront.wavefront.com>, cjeffers@204.248.112.2
says...
>
>I'm looking for a crystal controlled 2-meter receiver that would be
>fairly cheap. I'm going to use it for a permant repeater monitor. If
>anybody has anything of the sort send a reply please. Thank you very much
>73's from KB0THN.
>(:)=)
>

Check out the ramsey 2 Meter FM kit. It is only about 30.00 and work well.
It is synthisized, not crystal controlled, but when you take into account
that a crystal for you desired freq is going to cost you about 10-15.00
you can't go wrong with the ramsey kit. Thay are even avalable from Radio
Shack, special order.

73's KB9JJA Dale

6351. Best solution ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <4bvmnh$2vo@aldebaran.sct.fr>
Source record: 108557

Hello,
I need to modulate BF with a 38Khz carrier. Two solutions (may I'm
wrong ?) :

- 4 quadrant multiplier
- switches (diodes,...)

I want
- high dynamic (it's seem difficult with 4 quadrants multiplier)
- low distorsion (not the best point of switches)
- low drift and low noise.

What is the best solution ?
Have a nice day.
Email opworld@worldnet.fr

6352. SHEMATICS RDS ENCODER

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <4bvmni$2vo@aldebaran.sct.fr>
Source record: 108558

Hi,

Can someone help me : I'm trying to make a RDS encoder.
Looking for shematics, informations, pointers...

Help !

Thanks
Will the Force Be with you for the next year.
Email opworld@worldnet.fr

6353. Re: Formulas for notch filters? Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: fpm@u.washington.edu
Message-ID: <4c1c26$fgb@nntp5.u.washington.edu>
Source record: 108559
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In article <4c11qk$eft@nyx10.cs.du.edu>,
Jonathan Sherman <jsherman@nyx10.cs.du.edu> wrote:
>Does anyone have the formulas for making notch filters? Or at least some
>examples of schematics? Thanks!
>
>-jon
>jsherman@nyx10.cs.du.edu
>sycjns@lightning.safb.af.mil
>
If you know how to design from Laplace -- take a bandpass filter. Subtract
from 1 -> band-reject.

For example, bandpass= a*s/(s^2+s*wn/Q+wn^2) ->
(Q s^2 + s(wn - a Q) + Q wn^2)

(Q s^2 + s(wn) + Q wn^2)

Or you can use an ordinary bandpass filter (e.g. standard IC), do the
subtraction with a diff amp.
There are many ways to approach this one.

-frank

6354. Re: WWVB Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951229092319.31657A-100000@biggulp.callamer.com>
Source record: 108560

Hello guys...The number of the National chip that you need is MM5369.
This chip uses a color burst crystal and has a one hundred Hertz output.
Unfornately, it has not been included in the data book for years but the
chip still can be gotten from old stock. 73 Cliff Buttschardt W6HDO

On 28 Dec 1995 tgm@netcom.com. wrote:

> Path: news.telalink.net!SANDH.COM
> From: tgm@netcom.com.(thomas@SANDH.COM (Tgm@netcom.com (thomas)
> Newsgroups: rec.radio.amateur.homebrew
> Subject: Re: WWVB Receiver?
> Date: 28 Dec 95 22:55:17
> Organization: Telalink Corporation, Nashville, TN, USA
> Lines:
> Message-ID: <001D222C012A77EC@SANDH.COM>
> NNTP-Posting-Host: ng.sandh.com
> Mime-Version: 1.0
> Content-Type: text/plain; charset=ISO-8859-1
> Content-Transfer-Encoding: 8BIT
>
> Newsgroups: rec.radio.amateur.homebrew
> Path: news.telalink.net!news.sprintlink.net!newsfeed.internetmci.com!nntp-hub2.barrnet.n
et!news1.digital.com!decwrl!amd!netcomsv!uu4news.netcom.com!netcomsv!uu3news.netcom.com!ix
.netcom.com!netcom.com!tgm
> From: tgm@netcom.com (Thomas G. McWilliams)
> Subject: Re: WWVB Receiver?
> Message-ID: <tgmDKC0C5.Btv@netcom.com>
> Organization: Jot-Em Down Store and Library
> X-Newsreader: TIN [version 1.2 PL1]
> References: <4b4nla$a44@nonews.col.hp.com> <4b4tdr$cf9@nntp.Stanford.EDU>
<4bhjl7$h14@maureen.teleport.com> <4bhpp0$6t7@nntp.Stanford.EDU>
> Date: Fri, 29 Dec 1995 04:55:17 GMT
> Lines: 29
> Sender: tgm@netcom3.netcom.com
>
> Steve Muther (stevem@w6yx.stanford.edu) wrote:
> : I only suggested using video network feeds because there are many
> : Ham type frequency counters etc. that use 3.58MHz crystals as the
> : time base.
>
> Note that most frequency counters which use color burst crystals for a
> time base "rubber" the crystal slightly, and divided down by a constant
> to get 100 or 60 Hz. These crystals are not run at the exact color
> burst frequency. There were some high quality time bases that did use
> the burst crystal at its real frequency and which drove a synthesizer

> to derive the standard frequencies. But most ham-type counters use the
> cruder method (e.g. the old DSI line of counters).
>
> If you "calibrate" one of the simple divide down time bases by setting
> it to the exact burst frequency, you will actually be inducing error.
> These simple divide down time bases usually use an ASIC divider in an 8
> pin dip to derive the working frequency. The divide constant is usually
> something like 35796 or 59660. National Semiconductor was often the
> manufacturer of the chip. Although I forget the part number, it can
> be found in NS data books.
>
> 73,
>
> Thomas
> ars KI4N
>
>

6355. Re: I need help\advice on homebrew device

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: "Michael G. Reiney" <mreiney@hevanet.com>
Message-ID: <4c0nag$3qd@vista.hevanet.com>
Source record: 108561

c'mon, the guy asked a legitimate question. We don't have to care
why or agree with the motivation. I'm just bored enuff to try to
answer it.

You need two oscillators, one for the tone and one to clock the counter.
You need a counter that sits at 0 while the mic ptt is down, counts to 10 and hangs
there when PTT is up. Gate the tone off when the counter is at 0,4,6,10 giving a K
when PTT is released. Buffer PTT and hold it asserted while the counter is not at
state 10.

It will almost fit in a 20V8. I'm not sure you can build a reliable oscillator
without using two of the 8 logic blocks. Need to think more about that.

If you'd settle for a courtesy beep, it could be done with a dual one-shot.
It's a five minute hack. It's at least a start.
Have fun, miker

wnewkirk@iu.net (Bill Newkirk) wrote:
>In <4bstlv$m4g@usenetp1.news.prodigy.com>, VCBN48B@prodigy.com (Allan Moyse) writes:
>>desk microphone that will send the letter "K" when the PTT button is
>>released. This would signify that you are now ready to receive. If
>
>how about just having the operator saying something like "go ahead" or "over"?
>
>Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
>Melbourne, FL duty now for the future of amateur radio
>Lombardi's 1st Law of Business:
>Companies succeed in spite of their best effort. If they succeed at all.
>

6356. Re: Sound Blaster 16 as a DSP unit ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: ZK3-3/S21 <cranston@zk3.dec.com>
Message-ID: <4c0sai$2ah@nntpd.lkg.dec.com>
Source record: 108562

Check out 'fftmorse'. You can find it at several FTP sites in the hamradio area (try ftp.cdrom.com or http://www.arrl.org/).

There is little I have found with source code. You can also try 'svgafft'. This is Linux program that uses the Sound Blaster for a digital oscilloscope and includes all the sources... the FFT routines are in fortran.

Scott
KB1NW

6357. Formulas for notch filters? Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: jsherman@nyx10.cs.du.edu
Message-ID: <4c11qk$eft@nyx10.cs.du.edu>
Source record: 108563
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

Does anyone have the formulas for making notch filters? Or at least some examples of schematics? Thanks!

-jon
jsherman@nyx10.cs.du.edu
sycjns@lightning.safb.af.mil

6358. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: griffithj@ricks.edu
Message-ID: <DKCuLt.Itt@ricks.edu>
Source record: 108564

In article <128@bdam.win.net>, cingersn@bdam.win.net says...
>
>Hello there,
>
>Would anyone be willing to copy and mail me the article from QST
>concerning the automatic tuner? I am not presently a member of
>ARRL so therefore do not get QST. I am more than willing to pay
>for copying and postage. Plese send me e-mail if you would be
>willing to do this for me.
>
>73 de Carl N1DXM
>cingersn@bdam.win.net
>
>QST is sold at most major news stands and magazine racks now. You might want to try that. The artical is not that big a deal. It's an advertisment so its writer can make money. It would be difficult to duplicate without buying their kit. QST is going same way Popular Electroncs went years ago, selling kits with articles.

Jim, WA7NDD

6359. Reception in your teeth

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: russ.wuertz@spacecoast-bbs.com
Message-ID: <8B7D1FB.0091000EA3.uuout@spacecoast-bbs.com>
Source record: 108565

The Station Manager of WELI radio in Hamden, CT. said I had a wire tap in my tooth. People including children were repeating things that I was saying and that is how he explained it.

People recieving... are recieving my thoughts I discovered in much the same way a modem works decoding that frequency into thoughts and are very accurate. Children do this all day long here as I sit.

I pick up the phone when modeming and hear that sound, and during the night as I sleep I hear that same sound, but at a higher frequency in my head.

I was told by the FCC that radio telephone is doing that and that they are not licensed to recieve but only to broadcast.

6360. CLEANING SHACK

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: qa2696@email.mot.com
Message-ID: <4c1i7c$2pg@newdelph.cig.mot.com>
Source record: 108566

```
CLEANING OUT THE SHACK:
I've finally called it quits after 30 years
of homebrewing. (No..still will keep the Lic.)

Willing to almost give-away the goodies.

I have parts cabinets with parts, other misc goodies
I'll sell off in lots cheap. Call for time to see
the goodies if interested. If you like what you see
make an offer!

Located in north side of Hoffman Estates, IL.

\|/
^ ^
( O O )
___.ooO__U__Ooo.___
Hmmmm...Could Be!
=====================================================
| KD9JQ 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 qa2696@email.mot.com |
=====================================================
```

6361. Re: Formulas for notch filters? Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DKD7x1.K28@ncifcrf.gov>
Source record: 108567
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

In article <4c11qk$eft@nyx10.cs.du.edu> jsherman@nyx10.cs.du.edu (Jonathan Sherman) writes:
>Does anyone have the formulas for making notch filters? Or at least some
>examples of schematics? Thanks!

Try the index in your university library. It's a pretty mature field. Don Lancaster has a good introductory book on (audio) filters. Nov 95 QEX (ARRL, Newington CT) has an article on a notch filter to remove an AM BC station.

Joe Mack NA3T
mack@ncifcrf.gov

>
>-jon
>jsherman@nyx10.cs.du.edu
>sycjns@lightning.safb.af.mil
>

6362. Re: Formulas for notch filters? Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4c1jor$jal@hpcvsnz.cv.hp.com>
Source record: 108568
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

Jonathan Sherman (jsherman@nyx10.cs.du.edu) wrote:
: Does anyone have the formulas for making notch filters? Or at least some
: examples of schematics? Thanks!

Umm, what sort of notch filter? Audio? RF? What power level?
Analog or digital? Passive or active? What sort of specs are you
looking for? (Attenuation, stop-band width, flatness of the non-
rejected portion, ...)

Cheers,
Tom
tomb@lsid.hp.com

6363. VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <4c1cn5$4pq@mgate.arrl.org>
Source record: 108569

Is there a better chip to use than the ancient 723 regulator chip? The National Databook lists its output noise as typically 2.5 uV rms between 100Hz and 10 kHz. The 78L05 and LM317 are much worse (40 uV, 0.003 %)

I don't think it helps to run VCOs off of noisy power supplies if you are trying to minimize phase noise.

Zack KH6CP/1

6364. Re: VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: steve@hamlab.demon.co.uk
Message-ID: <820266901.20554@hamlab.demon.co.uk>
Source record: 108570

Zack Lau <zlau@arrl.org> wrote:

>Is there a better chip to use than the
>ancient 723 regulator chip? The National
>Databook lists its output noise as
>typically 2.5 uV rms between 100Hz and
>10 kHz. The 78L05 and LM317 are much
>worse (40 uV, 0.003 %)

>I don't think it helps to run VCOs off of
>noisy power supplies if you are trying
>to minimize phase noise.

>Zack KH6CP/1

I use a large capacitor (I.E. 470uf across 100n) in series with some resistance and an ordinary regulator (78L08). This provides a noise free supply in my designs.

From Steve Drury. Email steve@hamlab.demon.co.uk
G6ALU Milton Keynes England

6365. Re: 10 metre band antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: kg7hq@paccar.com
Message-ID: <4c0j85$3vf@ender.techcenter.paccar.com>
Source record: 108571

Hello,

In article <4brm90$pp3@oveja.u-net.net>, stirling@tandm.u-net.com says...
>
>Does anyone have any designs for a small antenna for use on the 10
>metre band (Rx and Tx). The antenna would need to be only a few feet
>long for mounting in the loft.

There is a in apartment antenna kit out on the market for the 11 Meter CB band. It uses fiberglass loaded whips for the main radiating element and ground planes. You might want to adapt the same idea for your 10 Meter station.
Hope this helps..... :)

--
"Handcrafted From The Finest ASCII"
73's de KG7HQ

6366. Re: VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4c1kiv$jal@hpcvsnz.cv.hp.com>
Source record: 108572

Zack Lau (zlau@arrl.org) wrote:
: Is there a better chip to use than the
: ancient 723 regulator chip? The National
: Databook lists its output noise as
: typically 2.5 uV rms between 100Hz and
: 10 kHz. The 78L05 and LM317 are much
: worse (40 uV, 0.003 %)

: I don't think it helps to run VCOs off of
: noisy power supplies if you are trying
: to minimize phase noise.

Yep, it's a problem. In fact, it can even be a
problem for power or references for audio amplifiers,
if you are trying to get to really low noise performance.
It's a problem with voltage references as well as for
regulators. What I've done with some success is filter
the output of a voltage reference with an RC filter and
feed this to an op amp follower; the op amp might include
an emitter follower buffer in its feedback loop, in order
to get enough output current. You might also get by with
an LC filter on the output of a regulator, but I've never
had the space for large enough L's to do much good in the
10s of Hz range. If you use the op-amp follower approach,
use a low-noise op amp, and make sure its power supplies
are reasonably clean. If you use a single pole RC as the
filter between the reference and op amp, you can get it
to settle faster if you put a diode across the R. If you
aren't worried about filtering down to the 1Hz range, this
might not be a problem but it can be if the RC time constant
is several seconds. Of course, you can make the filter
a 2-pole active one, feeding the op amp output back
appropriately, and that helps a lot in getting good filtering
but reasonable turn-on times.

--
Cheers,
Tom
tomb@lsid.hp.com

6367. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-29 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.951229144038.3510F-100000@biggulp.callamer.com>
Source record: 108573

Yes Jim, you are right. I wanted to build the tuner as well but found
that the source code was not about to be released even though it could be
duplicated simply by buying one microchip from the author and reading it
out. This just irritates me to no end and should not be QST policy! W6HDO

On Fri, 29 Dec 1995, James Griffith wrote:

> In article <128@bdam.win.net>, cingersn@bdam.win.net says...
> >
> >Hello there,
> >
> >Would anyone be willing to copy and mail me the article from QST
> >concerning the automatic tuner? I am not presently a member of
> >ARRL so therefore do not get QST. I am more than willing to pay
> >for copying and postage. Plese send me e-mail if you would be
> >willing to do this for me.
> >
> >73 de Carl N1DXM
> >cingersn@bdam.win.net
> >
> >QST is sold at most major news stands and magazine racks now. You might
> want to try that. The artical is not that big a deal. It's an
> advertisment so its writer can make money. It would be difficult to
> duplicate without buying their kit. QST is going same way Popular
> Electroncs went years ago, selling kits with articles.
>
> Jim, WA7NDD
>
>
>

6368. Re: Using HP8690 with HP8410 Network Analyzer ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-2912952050500001@amber1.ultranet.com>
Source record: 108481
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4c1moh$a1d@nntp3.news.primenet.com>, nx7u@primenet.com (Scott Townley) wrote:

> The HP8410 Network Analyzer documentation specifically mentions the HP8620C as
> the sweeper of choice, even coming from the factory (at the time) with a
> control interconnect cable for the '8620.
>
> Does anyone have any insight on if and/or how an HP8690 can be used as the
> sweeper in an HP8410 system??
>

Scott,

My 8410 manual is apparently older than yours, and has instruction for using the 8690. I recently aquired the latter, but haven't had a chance to fool with them yet. If you send me your address, I'll copy the relevant manual pages pages and send them to you. I could also fax them if you would prefer.

Cheers,

Jon

6369. I need help, for Kansas City Tracker.

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: Geert Pirens <Geert.Pirens@ping.be>
Message-ID: <30E508A0.FB0@ping.be>
Source record: 108482

Hello all,

Can anybody help me on:

I am looking for a schematic of a Kansas City Tracker, or compatible.

If aneyone have some kind of schematic or PCB layout ?

Or if you have better stuff than this? plaese send me more information.

I like to send commands via my computer to the antenna rotors.

The program I use is INSTANT TRACK v1.0b.

Who is so kind to help me with this ? I wil pay if needed!

PLAESE contact me!! by sending e-mail, or fido mail.

Greetings

Geert Pirens

E-Mail Geert.Pirens@ping.be
or Geert.Pirens@p9.f115.n292.z2.fidonet.org
Fidonet Geert Pirens / 2:292/115.9

6370. Re: 144MHz Crystal Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: mkelly@brisbane.DIALix.oz.au
Message-ID: <4c2b7g$31j$1@brisbane.DIALix.oz.au>
Source record: 108483

C Jefferson <cjeffers@204.248.112.2> writes:

>I'm looking for a crystal controlled 2-meter receiver that would be
>fairly cheap. I'm going to use it for a permant repeater monitor. If
>anybody has anything of the sort send a reply please. Thank you very much
>73's from KB0THN.
>(:)=)

Could you change the crystal and retune a Radio Shack weather
radio? They're pretty simple inside.

Murray Kelly. vk4aok.

6371. PLL information

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: t.nelson@ix.netcom.com
Message-ID: <4c2eiv$c8d@cloner3.netcom.com>
Source record: 108484

I am looking for some information on PLL and Loop filter designs. I am also looking for the book by floyd gardner Phaselock Technicques 2nd edition, 1979. Anyone know where I can find this book? Is there information somewhere on the internet on PLL designs?

Tim KE9IG
Email info at t.nelson@ix.netcom.com

6372. Re: 10GHz audio link

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: pbutlalj@ia.net
Message-ID: <4c2k24$9t4@hera.ia.net>
Source record: 108485

In article <1995Dec29.193905.7269@inet.d48.lilly.com>, mbrown@lilly.com says...
>
>I'm looking for information on building a point-to-point audio
>link using a pair of 10GHz gunnplexors. I've done a few
>internet searches but I haven't found much.

Michael,

In the older Handbooks there was a schematic and plan for a 2 million bit per second digital link. Would you be satisfied with a setup that would take the audio, turn it into digital data. Then send it and convert it back to audio? This way multiple audion channels can be sent over the same link. Also if this is to be used as a link between a repeater transmit and receive sight, the control signals from the receiver don't have to be encoded as tones.

This unit can operate either at 10 GHz like you mention or it could be made to operate at the K band at 24 GHz. Claimed range with parabolic antennas is approximately 20 to 30 miles, line of sight.

--
Allan Butler KA0IES
ajbutler@ia.net

6373. Re: Transverter question

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: pbutlalj@ia.net
Message-ID: <4c2jlb$9t4@hera.ia.net>
Source record: 108486

In article <4bk5b4$k46@news.voicenet.com>, rstevens@voicenet.com says...
>
>My version of Paul's question would be (and I always wondered why this
wasn't
>answered long ago) what would be the preferred configuration (as in a plug
>and play solution) for running vhf/uhf fm, ssb, am/cw using, for example,
my
>Ranger 2950 10-meter transceiver? There are so many of these out there,
>someone must have an auto-sensing, auto-switching add-on transverter that
>goes beyond the "get in the rig and cut it apart" stage. Anyone know of
such a "module" that does it all?

Roger,

I believe that there is such a device that can be added to the down
east microwave modules. It has a 25 watt attenuator and an autosense switch
built into it. This device is included in the price list that Down East
sends out to your request of information.

I hope this is what you were looking for Roger.

--
Allan Butler KA0IES
ajbutler@ia.net

6374. MRF-240 & MRF-240A Transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: randyk@emf.net
Message-ID: <4c2jj7$l2t@emf.emf.net>
Source record: 108487

[Article crossposted from rec.radio.amateur.misc]
[Author was Randy Kielich]
[Posted on 30 Dec 1995 05:38:34 GMT]

Our repeater has blowin it's finals. We desperately need these transistors for our finals.

No one seems to have them at Motorola etc. Anyone have some or a 'solid' lead on where to find these?

Many thanks;

_Randy Kielich N6WDV

6375. Opening Moto Radius HTs??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <4c3iqd$kms@lamar.ColoState.EDU>
Source record: 108488
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Hi, I have a VHF and two UHF Radius HTs that I'd like to get in to and maybe change freqs. I've tried the two little clips in the top of the battery compartment with no success. Any suggestions?

Galen, KFoYJ

6376. Re: Opening Moto Radius HTs??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: peterg4@ibm.net
Message-ID: <4c3s2u$u0k@news-s01.ny.us.ibm.net>
Source record: 108489
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In <4c3iqd$kms@lamar.ColoState.EDU>, galen@lamar.ColoState.EDU (Watts) writes:
>Hi, I have a VHF and two UHF Radius HTs that I'd like to get in to and
>maybe change freqs. I've tried the two little clips in the top of the
>battery compartment with no success. Any suggestions?
>
>Galen, KFoYJ

Which specific Radius units?

6377. Re: Opening Moto Radius HTs??

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: Brian Kitaoka <bk104@hgea.org>
Message-ID: <4c4aeo$bov@hgea01.hgea.org>
Source record: 108490
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

1) WHAT RADIUS MODEL DO YOU HAVE.

2) CLIPS IN THE BATTERY COMPARTMENT MIGHT MEAN P-50. IF SO, PULL THE CLIPS AND THE RADIO PULLS FROM THE HOUSING BY PULLING ON THE ANTENNA.

73'S

6378. Re: Variable Speed Motor Control Circuit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <820362631.4371@pinetree.microserve.com>
Source record: 108491
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

feustel@netcom.com (David Feustel) wrote:

>I'm looking for an add-on circuit to vary the speed of cassette recorder
>motors. I want to be able to vary the speed from 2*x to x/8 where x
>is the normal cassette motor speed. All suggestions & solutions
>appreciated.

In order to double the speed, you will either need to replace the
motor or change the mechanical relationship between the motor and
capstan. While some reel/reel machines have used sleeves over
the capstan for this purpose, that may not be a viable option with a
cassette recorder due to space limitations in the cassette shell
itself. The only other options are to either install a larger motor
pulley or a larger flywheel. Neither is easy, although of the two,
having a custom motor pulley machined is the least difficult.

Once the tape speed is mechanically doubled, an adjustable voltage
regulator circuit can be used to reduce it as necessary.

This advice is offered relative to the typical DC motor-powered,
belt driven cassette mechanism. Other types, particularly direct
drive transports, those based on AC motors, or those that are
belt-drive servo-controlled, may not be readily adaptable.

73,
Jack WB3U

6379. Re: Reception in your teeth

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: wired@genes.pl.my
Message-ID: <820329734.21813snx@genes.pl.my>
Source record: 108492

In article <8B7D1FB.0091000EA3.uuout@spacecoast-bbs.com> russ.wuertz@spacecoast-bbs.com writes:
>
>
> The Station Manager of WELI radio in Hamden, CT. said I had a wire
>tap in my tooth. People including children were repeating things that
>I was saying and that is how he explained it.
>
> People recieving... are recieving my thoughts I discovered in much
>the same way a modem works decoding that frequency into thoughts and are
>very accurate. Children do this all day long here as I sit.
>
> I pick up the phone when modeming and hear that sound, and during
>the night as I sleep I hear that same sound, but at a higher frequency
>in my head.
>
> I was told by the FCC that radio telephone is doing that and that
>they are not licensed to recieve but only to broadcast.

R u serious?

6380. Need Heathkit replacement part numbers

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: joe@westonia.com
Message-ID: <DKDp4t.6Lt@westonia.com>
Source record: 108493

I am repairing a Heathkit Active Antenna HD-1424A

Would anyone know the replacement numbers for the MOSFET and
transistors

Heath Number Part

417-290 Dual Gate MOSFET

417-931 Transistor (Amp)

Thanks and 73's

VE3FMQ

6381. Re: Drilling PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: thb@thegle.demon.co.uk
Message-ID: <820336476.15755@thegle.demon.co.uk>
Source record: 108494

Bob,

Many thanks for the additional information, and for the diagram worth a thousand words.

I don't know what response you have had to your posting, but you have certainly got me interested, and I'd be most grateful for any further info you can find time to post, please.

You triggered the memory cells, and over the Christmas period I dug out an old copy of a UK magazine, Wireless World (Jan 1984 !) which had an article on a home made X-Y plotter. This provided some alternative ideas for the X and Y mechanism. using aluminium (sorry, aluminum!) u-shaped channeling and ball bearings instead of ground rods for one side of the table , and tap (faucet) washers as wheels for the other side, thus avoiding the need for accurate alignment of the rods. I guess at that time scrap printer mechanisms were not available.

Being a plotter it used only a solenoid for pen up/down.
I have been thinking about how to make the Z axis control with the limited facilities I have. The movement required is only a little more than the PCB thickness, but I see problems with limiting sideways play whilst at the same time keeping the mass down. (Until I saw your diagram I wondered if you were moving the board in the X-Y planes whilst keeping the drill position fixed, which is another way of doing it - but there is still the problem of Z axis sideways play). I'd be interested in your solution to this.

I also downloaded a useful stepper motor tutorial file from armory.com/pub/user/rstevew. Wonderful thing, this Internet.

I would be very interested in the pcb/software idea, but I think there might be problems with the multitude of different stepper motor types around, with their differing drive requirements. A kit to cover all kinds would be tricky, I would think. However, anything you can make available, diagrams or software, would save a lot of effort reinventing the wheel so to speak, but I appreciate your boss would probably not be too keen!

Anyway, thanks again, it's good to know that in this black-box, throw-away age there are still people prepared to have a go at making things themselves.

Best wishes for 1996.

Tom Bratton

(reposted to newsgroup)

6382. Re: VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: russ@gslink.net
Message-ID: <4c43g6$9m9@ddi2.digital.net>
Source record: 108495

```
->At these levels, you'll need to pay
->particular attention to circuit layout
->and electronic package (crosstalk, EMC,
^^^^^^^^^^^^^^^^^^

ooops, that should say electronic packaging!

RL
```

6383. Re: VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: russ@gslink.net
Message-ID: <4c43ai$9m9@ddi2.digital.net>
Source record: 108496

In article <4c1cn5$4pq@mgate.arrl.org>, zlau@arrl.org says...
>
>Is there a better chip to use than the
>ancient 723 regulator chip? The National
>Databook lists its output noise as
>typically 2.5 uV rms between 100Hz and
>10 kHz. The 78L05 and LM317 are much
>worse (40 uV, 0.003 %)
>
>I don't think it helps to run VCOs off of
>noisy power supplies if you are trying
>to minimize phase noise.

There's an ultra low-noise and stable
regulator design featured on page 375 of
"The Art of Electronics" by Horowitz and
Hill (2nd edition). It features the
following specs:

Noise and ripple < 1 uV
Temp coeff < 1 ppm/degree C
Output Z < 1 uohm
Drift < 1 ppm/day

At these levels, you'll need to pay
particular attention to circuit layout
and electronic package (crosstalk, EMC,
etc.)

Russ LeBlanc

6384. Mods for the Yaesu FRG-7 receiver needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: russ@gslink.net
Message-ID: <4c43sa$9m9@ddi2.digital.net>
Source record: 108497

Any info or pointers would be appreciated.

Russ

6385. Transmitting 300baud data on 27/49Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: warhurst@aol.com
Message-ID: <4c49gn$6a3@newsbf02.news.aol.com>
Source record: 108498

Julian Warhurst
warhurst@aol.com

I am in the process of designing a low baud rate data link for a remote instrumentation station. I had considered using the 49Mhz RC/Cordless Telephone or the 27Mhz "Citizens Band" frequencies simply because of the availability and low cost of the hardware. However the range of about 2 miles proved inadequate for a 100mW 49Mhz transmitter, but a 3 watt 27Mhz hand held transceiver worked perfectly.
Here are my questions:

Are there any restrictions on transmitting data (300 baud FSK) on 27Mhz above the 100mW power threshold?

Is the 49Mhz band limited to < 100mW or are there exceptions?

This would be a intermittent duty application, so it wouldn't be "hogging a channel".

I would sincerely appreciate any feedback you can offer.

6386. Re: Notch filters, Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: clifpenn@airmail.net
Message-ID: <4c4adb$t22@news-f.iadfw.net>
Source record: 108499
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew

jsherman@nyx10.cs.du.edu (Jonathan Sherman) wrote:

>Does anyone have the formulas for making notch filters? Or at least some
>examples of schematics? Thanks!

>-jon
>jsherman@nyx10.cs.du.edu
>sycjns@lightning.safb.af.mil

Since this is probably of general interest, I decided to post as well
as email.

You did not specify a frequency range so I will give you two common
circuits which have a genuine null (0 transmission) at a single
frequency. These are three terminal networks. In both cases the
selectivity skirts are very steep, the phase shift goes quickly from
-90 to +90 degrees near null, the driving impedance is ideally 0 and
the output impedance ideally infinite. You can however compensate for
real input and output impedance if you wish.

At radio and high audio frequencies a Bridged-T has been used. This
consists of an inductor L, two capacitors each with a value of 2C and
a resistor R. The input and output terminals are the two ends of the L
with a common ground for both terminals. The two capacitors are in
series and bridge the inductance. The junction of the two capacitors
is tied to R whose other end is tied to ground. The null frequency is
the parallel frequency of the equivalent LC network, i.e. where the
reactance of the inductor is equal to the reactance of the two C's in
series. This gives:

2*pi*null-frequency*L = 1/(2*pi*null-frequency*C).

Since the inductance has a finite resistance, the resulting undesired
phase shift is compensated by R as follows:

4R = 2*pi*null-frequency*L * Q where Q is the inductor reactance
divided by its resistance.

At audio and supersonic frequencies, a network that is referred to in
the literature by two different names is used--the Twin-T and the
Parallel-T.
This consists of three resistors and three capacitors. One T is made
up of 2 resistors of value R between the input and output terminals
and a capacitor of 2C tied between the junction of these two resistors
and ground. The other T has two capacitors of value C between input
and output and a resistor of value R/2 between the juction of the two

capacitors and ground. The null frequency is where R equals the reactance of C, i.e.

R = 1/(2*pi*null-frequency*C).

Speaking from experience, it is very difficult to get the null frequency of the Twin-T exactly where you want it due to the tolerance of components. A little known fact is that you can make the resistor (that has a value of R/2) a potentiometer and vary the null frequency (still a true null). The wiper of the pot goes to ground. One of the other ends of the pot is connected at the junction to the two series capacitors and the other end goes to the capacitor which has a value of 2C. I saw this long ago in a Russian technical journal, but have used it many times.

Although there are other null networks, these two are the most common.

<clifpenn@airmail.net> 3:11PM 12/30/95

6387. Re: VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <820363181snz@lfheller.demon.co.uk>
Source record: 108500

In article <4c1cn5$4pq@mgate.arrl.org> zlau@arrl.org "Zack Lau" writes:

> Is there a better chip to use than the
> ancient 723 regulator chip? The National
> Databook lists its output noise as
> typically 2.5 uV rms between 100Hz and
> 10 kHz. The 78L05 and LM317 are much
> worse (40 uV, 0.003 %)
>
> I don't think it helps to run VCOs off of
> noisy power supplies if you are trying
> to minimize phase noise.

Colin Horrabin, G3SBI, designed a low-noise 8V-9V regulator for some experiments he's been doing with with low-phase noise oscillators. The circuit is described on p 55 of the RSGB Radio Communication mag., July 1994. It uses a couple of VN10KM FETs and a BC184L. Zack should be able to find a copy at the ARRL. Colin's oscillator circuits are also described, which are well worth looking at; they use stripline resonators.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

6388. 4$ale - Tek Spectr Analyz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: morkbj%DFC@dfmail.usafa.af.mil
Message-ID: <morkbj%DFC.6@dfmail.usafa.af.mil>
Source record: 108501
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,rec.radio.swap

A rare golden bird - super condition!

Tektronix spectrum analyzer, composed of the following components:

- 7L12 1.8 GHz spectrum analyzer in a 7613 frame, selectable
storage scope or normal trace.
- a spare 7603 frame, but display tube is cracked.

Covers 100 KHz to 1.8 GHz with internal mixer.

Resolution Bandwidths of 300 Hz to 3 MHz, with Frequency Spans
(dispersion) from 500 Hz/div to 100 MHz/div.

On screen vertical dynamic range: 80 dB. Log 10dB/div, Log 2dB/div,
and Linear settings selectable.

Sensitivity is +30dBm to -100dBm at 300 Hz resolution bandwidth.

Sweep time is 10mS/div to 1uS/div, or automatic depending on the
resolution and dispersion settings.

Tucker sells just the 7L12 plug-in for $3995, but street prices seem to
check out at 1/2 to 1/3 of Tucker's --about $1300 for the 7L12 alone in
recent issues of Nuts & Volts. I offer the entire package for $1199,
including the second mainframe for spare repair parts.

Ask for Brian at 719-472-0707 (Mountain time).

6389. Sending digital data on 27/49Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: warhurst@aol.com
Message-ID: <4c4kkd$9s4@newsbf02.news.aol.com>
Source record: 108502

Julian Warhurst
warhurst@aol.com

I am in the process of designing a low baud rate data link for a remote instrumentation station. I had considered using the 49Mhz RC/Cordless Telephone or the 27Mhz "Citizens Band" frequencies simply because of the availability and low cost of the hardware. However the range requirement of about 2 miles proved excessive for a 100mW 49Mhz transmitter, but a 3 watt 27Mhz hand held transceiver worked perfectly.
Here are my questions:

Are there any restrictions on transmitting data (300 baud FSK) on 27Mhz above the 100mW power threshold?

Is the 49Mhz band limited to < 100mW or are there exceptions?

This would be a intermittent duty application, so it wouldn't be "hogging a channel".

I would sincerely appreciate any feedback you can offer.

6390. !SUPER KEYER II - MYSTERY SOLVED!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-30 00:00:00 UTC
From: tom.alldread@minfox.com
Message-ID: <9512311820198630@minfox.com>
Source record: 108503

Greetings All:

I built the now superseded CMOS SUPER KEYER II from the Nov.
1990 issue of QST. I use it with a Bencher paddle and have been very
pleased with its operation with the exception that occasionally it
seemed to discharge the batteries pre-maturely.

I have checked the battery drain several times in the past to
confirm that the micro controller was in fact going into the power
down sleep mode when left idle. Each time I did this test was after
replacing the batteries and I observed the drain fall off to a few
microamperes a few seconds after connecting the the new battery.
Of course in the process of changing the battery I reset the
controller and did the test in the normal power up keyer mode.
Everything appeared fine and I remained mystified.

Finally I discovered the cause. I had been away on a trip for
five weeks and had just put in a new set of batteries prior to
departure. Upon returning I found the batteries (3 AA alkaline cells,
BTW) discharged. I remembered last using the keyer in the hand key mode
for finalizing my ladder line antenna tuner adjustment (conveniently
done with momentary ~key down~ in the hand key mode). I had left the
SUPER KEYER in the HAND KEY mode.

I have found that my SUPER KEYER II does not switch into power
down when it is left in the HAND KEY mode. I wonder if anyone
else has identified this in the past or if anyone knows of a change of
firmware in later chips that corrected this bug? I wonder if the new
version III has a similar problem?

73 de VE7TMA

---
* QMPro 1.53 * Very Best Regards, tom.alldread@minfox.com

6391. TRC-505 (49 MHz) to 6m mod?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: kk5ni@rapidramp.com
Message-ID: <4c4pb6$jmn@alterdial.UU.NET>
Source record: 108504

I picked up a TRC-505 FM Transceiver at the Radio Shack outlet in Ft. Worth last week for $3. Strangely enough, it's in working condition.

It's my understanding that it would be possible to modify this radio by "simply replacing some crystals...etc." Can anyone provide a little more detail and/or explain the function of the different components? Here's a partial listing from Tandy's support pages:
L2 CA1179 COIL,RX RF 50MHZ
L3 CA1180 COIL,DETECTOR 455KHZ
L4 CA1181 COIL,RECEIVER OSCILLATOR
L5 CA1182 COIL,TX POWER 48MHZ
X1 CX0044 CRYSTAL,10.245MHZ
X2 CX0045 CRYSTAL,39.130MHZ
X3 CX0046 CRYSTAL,16.610MHZ

10.245+39.130+0.455 = 49.830 MHz = frequency on label
I have now summarized the extent of my knowledge concerning the inner workings of this radio ;)

Followups or e-mail on this subject would be greatly appreciated
Thank you kindly,
Robert Clark
kk5ni@rapidramp.com

6392. Re: 10GHz audio link

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: "William W. Janssen" <billj@calweb.com>
Message-ID: <4c4vmg$639@calweb.calweb.com>
Source record: 108505

Michael Brown <mbrown@lilly.com> wrote:
>I'm looking for information on building a point-to-point audio
>link using a pair of 10GHz gunnplexors. I've done a few
>internet searches but I haven't found much.
>
>Does anyone have any schematics, faqs, hints, etc?
>
>Thanks,
>Michael
>KG9DW
>mbrown@lilly.com
>
>
There has been information in one of the Microwave Update documents
that are available from ARRL. The way to do this is to FM modulate
the transmitter by using the varactor or by varing the gunn voltage.
the receiver operates as a converter to an FM receiver. the two
gunn oscillators are offset by the FM receiver frequency. This works
great for one way transmission. For two way operation it still works
as you can use the gunn to transmit and receive at the same time but
you will hear your own transmissions as well as the distant end. This
arrangement has been used by many microwave operators
Bill K7NOM

6393. Audio Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: mason@earth.planet.net
Message-ID: <4c4ucs$i1g@jupiter.planet.net>
Source record: 108506

Does anyone have any schematics/info on building an audio
amplifier for a standard microphone?

6394. Re: 10GHz audio link

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: "William W. Janssen" <billj@calweb.com>
Message-ID: <4c52s2$8dv@calweb.calweb.com>
Source record: 108507

I forgot to mention that you should use wide band FM. The Gunn units
will drift too much for narrow band. You might look for the old style
TVRO receiver units. They used a tuneable converter at the antenna
and a fixed frequency IF receiver at the TV set. The IF was usualy
70 MHz and the bandwidth was about 20 MHz. Even though they were intended
for TV you should be able to use them for voice.

The Microwave Update artice was in the Microwave Update 1991 on page
259. It described modification of a Radio Shack FM receiver to change the
frequency to 30 MHz for use with a Gunn unit.

Bill K7NOM

6395. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: lelanda@atcon.COM
Message-ID: <199512311428.KAA26567@loki.atcon.com>
Source record: 108508

unsubscribe
Lee Anderson.

6396. Re: Variable Speed Motor Control Circuit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <546505719wnr@ifwtech.demon.co.uk>
Source record: 108509

In article: <feustelDKDAAH.I2K@netcom.com> feustel@netcom.com (David Feustel) writes:

: [Article crossposted from comp.arch.embedded,rec.radio.amateur.misc]
: [Author was David Feustel]
: [Posted on Fri, 29 Dec 1995 20:45:26 GMT]
:
: I'm looking for an add-on circuit to vary the speed of cassette recorder
: motors. I want to be able to vary the speed from 2*x to x/8 where x
: is the normal cassette motor speed. All suggestions & solutions
: appreciated.

European meteor-scatter operators have been doing this for years, receiving Morse at 200+ wpm and slowing the tape down for playback.

Some cheap cassette motors are mechanically governed and there's very little you can do to change the speed electronically. However, some models are controlled by a constant-voltage regulator and there's generally a trimpot to set the speed. By bringing the feedback potentiometer out to a front-panel control you can often adjust the speed within the kind of range you want.

The maximum speed depends on the risks you want to run by overloading the motor. The minimum speed depends on friction, mainly within the tape cassette itself. You can often reduce the minimum speed by using a pulsed-DC system; for circuits, check out the books on electronics for model railroads.

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

6397. Converting Cellular to 902MHZ band

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: TSJV87A@prodigy.com
Message-ID: <4c6e6n$24d8@usenetp1.news.prodigy.com>
Source record: 108510

Does anyone have any advice, recomendations, information or pointers to information on converting cellular telephone equipment to the 902 MHZ amateur band? Is it possible? Post or Email me at TSJV87A@prodigy.com. Thank You Very Much.

-
ERNIE TSJV87A@prodigy.com

6398. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: Ed Hare <ehare@arrl.org>
Message-ID: <4c6es2$394@mgate.arrl.org>
Source record: 108511

griffithj@ricks.edu (James Griffith) wrote:

>>QST is sold at most major news stands and magazine racks now. You might
>want to try that. The artical is not that big a deal. It's an
>advertisment so its writer can make money. It would be difficult to
>duplicate without buying their kit. QST is going same way Popular
>Electroncs went years ago, selling kits with articles.

Hello, Jim,

I don't kwow if I would go *that* far. First, ARRL doesn't sell the kits; the authors do. From the feedback we have received from readers, most readers *prefer* construction articles that have kits. And, in most cases, even if a construction project has a kit, the builder can still dead-bug it, if he or she chooses. This tuner article is almost an exception to the rule, in that it requires a part that is available only from the author. However, the author will gladly sell the progrmammed IC only for those who want to locate all the other parts themselves. (I wonder if *anyone* will take him up on the offer; I want the kit! :-)).

>Jim, WA7NDD
>

6399. PLEASE HELP!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: sbrownjr@aol.com
Message-ID: <4c6hvd$141@newsbf02.news.aol.com>
Source record: 108512

I recently bought a used Motorola speaker mic. The model number is NTN4849A. I want to use it with my Radio Shack HTX-202, but I don't know how to wire it up!! If someone out there could provide me some instructions, it would be greatly appreciated!

73 de N1VLV
E-mail:Sbrownjr@aol.com

6400. silver plating, help

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: dallen@cei.net
Message-ID: <4c6na7$68j@ren.cei.net>
Source record: 108513

I am attempting to silver plate a brass strip 1"x9". It is to be
used as a 1/4 wave strip line in the output of an amplifier I'm building. I
dimly remember reading an article once describing the use of exhausted
black and white photographic fixer as the electrolyte for silver plating.
I do a bit of photograhy and have old fixer available. The fact I can't
find the article only made me determined to figure out what the method
outlined was. I have played around a bit and found that I can sucessfully
deposit a nice even coat of silver on a piece of brass. My problem is mixed
results getting the silver to adhere well. I have managed to get
what I'd consider proper plating on an object, but later using the same
parameters the silver film can be rubbed off. I have played with varing voltages,
currents, and methods of cleaning the brass prior to plating. Here are the
parameters I'm using:
1) Voltage source is a 1.5v dry cell.
2) Series resistance of 12k in circuit giving a current flow of 1 milliamp
or so.
3) Fixer saturated by loading it up with old photographic paper prior to
plating.
4) Silver donor is an old piece of solid silver silverware.
5) Cleaning the brass with a scotch-brite pad then wiping down with alcohol
to de-grease.

Using the above, I can get a wonderful even deposit of silver. As I wrote
above the only problem is with the silver being bonded well to the
brass item. Probably half the time things work well, the other times not so
well. Mr Murphy allows me to plate a scrap perfectly but the item I need to
plate is giving me fits. Any ideas, suggestions or even pointing and laughing
in my direction are welcome.

Allen kb5sqk

6401. Mod for FL-101/FR-101

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: Francois Berube <fberube@mediom.qc.ca>
Message-ID: <30E70C89.1475@mediom.qc.ca>
Source record: 108514

Hello to you ,i have a FL-101 and FR-101 yaesu tx and rx, i want to know
if there is some mods for this equipments ???

thank you
Frank
VA2RC
FBERUBE@MEDIOM.QC.CA

6402. Re: ECP/EPP bidirectional PC parallel ports

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: pbunch@Walden.MO.NET
Message-ID: <4c71v4$r52@Twain.MO.NET>
Source record: 108515

Johan Forrer (forrerj@ucs.orst.edu) wrote:
: Hi all,

: Does anyone perhaps know how to use/program the new ECP/EPP parallel
: ports that one see nowadays on PC parallel interface cards?

: I understand that they support the older nybble-based printer standard,
: but in addition also support a full bidirectional interface, which of
: course will make them that much more attractive for interfacing to
: ham-radio projects.

: Any information or pointers would be much appreciated.

: --Johan Forrer, KC7WW

Hi Johan,

I seem to remember seeing an article this past summer in
Micro Computer Jornal (formerly Computer Craft). I think
I have the correct name for the magazine, if not I'm sure
I'll be corrected... :)

BTW, enjoyed your presentation here in St. Louis back in
the spring.

Hope this helps,

--
Phil Bunch N0MFC

pbunch@mo.net
or
phil@slacc.com

6403. Re: 10GHz audio link

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4c5ega$687@nntp.Stanford.EDU>
Source record: 108516

In article <1995Dec29.193905.7269@inet.d48.lilly.com> Michael Brown <mbrown@lilly.com> writes:
>I'm looking for information on building a point-to-point audio
>link using a pair of 10GHz gunnplexors. I've done a few
>internet searches but I haven't found much.
>
>Does anyone have any schematics, faqs, hints, etc?
>
>Thanks,
>Michael
>KG9DW
>mbrown@lilly.com
>
>

Most of the late '80s Radio Amateur's handbooks have a detailed description of what you are looking for. The design is actually equivalent to the system sold by Advanced Receiver Research. Full duplex audio is one of its more interesting features. ARR sells a search and lock board so the system recovers from fades etc.

Steve Muther WF6R

6404. Re: VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <4c5jui$5im@proffa.cc.tut.fi>
Source record: 108517

Zack Lau (zlau@arrl.org) wrote:
: Is there a bette chip to use than the
: ancient 723 regulator chip? The National
: Databook lists its output noise as
: typically 2.5 uV rms between 100Hz and
: 10 kHz.

The Fairchild data sheet for uA723C lists 2.5 uVrms with Cref=5 uF in the reference divider and 20 uVrms without Cref. It seems that the real culprit is the voltage reference and not the error amplifier and output stage. However, I could not find at what output voltage these noise voltages are measured. If the main sourc of noise is the voltage reference, you get much prettier figures at 2 V output than at 36 V output.

Tom Bruhns (tomb@lsid.hp.com) wrote:

> What I've done with some success is filter
> the output of a voltage reference with an RC filter and
> feed this to an op amp follower; the op amp might include
> an emitter follower buffer in its feedback loop, in order
> to get enough output current.

The 723 contains a separate voltage reference and a differential amplifier and an emitter follower in a smaller package count. Filtering can be inserted between the reference voltage source and the differential amplifier.

> Ifou use te op-amp follower approach,
> use a low-noise op amp, and make sure its power supplies
> are reasonably clean.

Agreed. It is no use to clean up the refeence and then connect a noisy op-amp (such as 741 or TL081) as the regulator, since the noise from the op-amp alone can be greater than 2.5 uV at 10 kHz BW. Fortunately, op-amps with noise densities below 3 nV/sqrt(Hz) are available at reasonable prices, so you could get 0.3 uV at 10 kHz BW if you had a clean reference.

Paul OH3LWR

--
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X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

6405. Re: 10GHz audio link

Newsgroup: rec.radio.amateur.homebrew
Date: 1995-12-31 00:00:00 UTC
From: Michael Brown <mbrown@lilly.com>
Message-ID: <1995Dec31.060909.7270@inet.d48.lilly.com>
Source record: 108518

Thanks for the information. I reviewed the 2GHz data link
design in the 1994 handbook before but this seemed like a lot
of overkill for what I need. I'll try to get a hold of the ARRL
Microwave note that was mentioned. Hearing both ends of the
audio in full duplex would not be that big of a problem.

Michael
KG9DW